

# AUSTAAAM

AUGUST 2021

## COVID-2019: AN OVERVIEW

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IN INDIA,  
ABOUT 7%  
OF THE  
TOTAL  
POPULATION  
IS FULLY  
VACCINATED  
TILL NOW...

## AUSTAA CARE

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"A CRISIS OFTEN  
BRINGS OUT THE  
BEST IN PEOPLE AND  
ORGANISATIONS ,"  
SAID WHO DIRECTOR-  
GENERAL  
DR TEDROS  
ADHANOM  
GHEBREYESUS.

ASSOCIATE, INTEGRATE & DISSEMINATE

ALLAHABAD UNIVERSITY STATISTICS ALUMNI ASSOCIATION

# From the Chairperson

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Once known as the Oxford of the East, the University of Allahabad has been successful in living up to its reputation to produce leaders of exceptional caliber in all disciplines and all walks of life for over a century and a quarter now. Alumni of the University have carried forward the proud legacy of the Banyan Tree, as the University is fondly referred to synonymous with its logo, in a way rarely found elsewhere.

The eternal togetherness of, and bond amongst, the alumni of the University adds special strength to the capabilities of the alumni scattered all over the world. One such gathering of the alumni of the University happens to be AUSTAA, the association of the alumni from Statistics Department of the University. Of late, AUSTAA, under the able leadership of some of the most capable and energetic alumni, including, but not limited to, Mr. Sanjay Mishra, Mr. Himanshu Katyan, Dr. Niyati Joshi, under the active guidance of Prof. Anoop Chaturvedi, Mr. O. N. Pathak and Prof. Alok Pandey, has achieved newer milestones in its journey to public service with excellence and innovation. The contribution of members of AUSTAA in the particular difficult time period of the pandemic in India has been truly amazing and exemplary.

Encouraged with its success in the recent endeavours, AUSTAA has justifiably decided to establish an institutionalised channel of communication amongst its members with the purpose of documenting its activities, propagating thoughts and ideas, and encouraging involvement of maximum number of its members in contributing to the society, in the form a digital Magazine, the AUSTAAM!

I have been assigned with the duties of a chairperson for this purpose - solely by virtue of my being the oldest, not to be mistaken as the wisest, graduate of Statistics Department of the University and I consider this to be a great privilege, howsoever accidental it might be.

As the Chairperson, it is my pleasure to thank all those, particularly Dr. Ashutosh Shukla, the Editor in Chief, and his team, who have made it possible to bring out the inaugural edition of AUSTAAM on the auspicious occasion of the 75th Independence Day of the country. I also call upon all the members of AUSTAA to keep doing the good work they have been doing and keeping the flame alive in the shape of AUSTAAM!

My good wishes for the success of AUSTAAM with cooperation and support of all of esteemed members!



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

## From the EDITOR-IN-CHIEF

Welcome to the First Edition of the quarterly magazine "AUSTAAM". We are proud and exuberant to acclaim that we are ready with all new hopes and hues to bring out the first issue of the magazine, which is going to surely unfold the unravelled world of the most unforgettable and precious moments of our alumni association at the University of Allahabad (AUSTAA) family. **Helen Keller** rightly says that the world is moved along not only by the mighty shoves of its heroes but also by the aggregate of the tiny pushes of each honest worker. This herculean task of editing this magazine would not have been possible without the sincere support of the members of the Editorial Board. The magazine is to be viewed as a launchpad for the senior's and youngsters' creative urges to blossom naturally. As the saying goes, the mind, like a parachute works best when opened. This humble initiative is to set the budding minds free allowing them to roam free in the realm of imagination and experience to create a world of beauty in words. The enthusiastic write-ups of our editors are indubitably sufficient to hold the interest and admiration of the readers. I am thankful to all my seniors, especially Shri O. N. Pathak sir, Shri Arvind Singhal Sir, Shri Sanjay Mishra sir, Shri Niyati Joshi sir, Shri Paritosh Sir, and Shri Himanshu Katyan.

In the present issue, several core articles contributed by our seniors and youngsters. Our cover story on COVID Pandemic examines what has changed for millions of Indians caught in this most unusual health emergency. Everybody is talking and thinking about nothing but the coronavirus. The entire humanity today is fighting this enemy which is invisible and tricky. While governments are struggling to control this deadly pandemic, a pall of uncertainty and fear has descended upon the world. Unprecedented lockdowns and severe restrictions, it have brought a change in every sphere of life.

India is particularly vulnerable. With a population that is the second-largest in the world and much more densely packed than other countries, it is going to be a Herculean task to contain the spread of the virus. India has 420 persons per square Kilometre. Most of our cities have slums crammed with people living cheek by jowl in very unhygienic conditions. The other issue with India is our tottering medical infrastructure. We have an estimated 2.718 beds per 1,000 people and 0.62 doctors per 1,000. Our expenditure on healthcare is also among the lowest in the world -1.3 percent of GDP. COVID-19 is likely to have a social, economic, and political impact. The United Nations Conference on Trade and Development (UNCTAD) estimates a \$ 1 trillion setback to the global economy. This is likely to have enormous consequences for the Indian economy which has already been amid a slowdown, with a recession in exports and manufacturing, even before the virus struck. Undoubtedly, prevention is better than cure. Vaccines are key to many of our global health successes - smallpox was eradicated in 1979 following a global immunization campaign while other serious diseases like polio and measles were controlled largely by mandated immunization programs. Governments of the world are trying their best to tackle the menace. What is required is the adoption of necessary precautions and to strictly follow the guidelines prescribed by the authorities. Each one of us has to take proper care of himself or herself. Maintaining social distancing till the time scourge is defeated is necessary. If every one of us becomes conscious and takes necessary measures to keep the invisible foe at bay, the battle will certainly be won. Let us now, one and all, take a pledge to decimate the pestilence by contributing our best, by acting in the desired direction. Our lives will never be the same again, but perhaps some good will come out of this crisis too.

This magazine is before you with the combined efforts of the Editorial Board. I take the opportunity to thank all the dignitaries for sparing their valuable time to send their best wishes for the magazine in the form of 'Messages'. **I heartily wish all the readers my best wishes and hope this souvenir will enjoy your critical acclaim and prove itself to play a vital role in the all-round development of the youngsters.**



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# AUSTAA: The Journey So Far and Initial Days

*"Some people want it to happen, some wish it would happen, others make it happen."*

-Michael Jordan

When altruism, affection and association conjugate on a canvas of optimism, distilled through a prism of ideas, a concept like AUSTAA germinates. Allahabad University Statistics Alumni Association or AUSTAA is an Alumni Association of Department of Statistics at University of Allahabad. Since many years, Statistics Department of University of Allahabad had produced and witnessed the success of many of its Alumni. However, it always lacked a strong alumni network that could guide the future generation in their endeavours. Therefore, it was a need of the hour to have an alumni association where people of diverse fields could connect and become a part of the family. Few alumni understood this need and proceeded to cover the gap between the old and the new. With the vision of building a bridge between college life and professional life, the journey of connecting people and showing right path to the next generation thus, began.

## The Journey:

Thomas Carlyle rightly said, "Go as far as you can see; when you get there, you'll be able to see further". That is what happened when one fine evening in Bombay, two men with a vision, Prof. Anoop Chaturvedi and Mr. Sanjay Kumar Mishra, former alumni of University of Allahabad, Statistics Department, met and came up with an idea of connecting people and having an alumni association. Hardworking, dedicated, compassionate is what defines Prof. Anoop Chaturvedi, ex-HoD of Statistics Department at University of Allahabad. Likewise, Mr. Sanjay Kumar Mishra is serving Government of India, Madhya Pradesh in Panna district as District Magistrate. These men wanted to connect people of diverse fields, who could become a part of AU Statistics Family. It was a mammoth challenge to propagate further and set a modus operandi that needed to be adhered. But challenges become easier when you have the company of fair-minded people with you. Mr. Sanjay Kumar Mishra knew one such perfect man who could overcome any gauntlet thrown at him. He communicated the idea to Mr. Himanshu Katyan, alumni of batch 2008, currently working at United Kingdom as a Data Scientist. Rare is it to find people who gets the same excitement as you get by the thrill of any idea. Mr. Himanshu Katyan was ecstatic about the idea and right away proceeded to connect people who had been in his contact since his college days. He connected Dr. Niyati Joshi, ISS, University batch 1998, and working as a director in Ministry of Finance, Government of India who further connected Mrs. Hema Jaiswal, ISS, University Batch 2002, Director at Ministry of Finance, Government of India. Dr. Joshi worked ardently towards the progress of this group. Mr. Katyan also connected other alumni such as Dr. Ashutosh Shukla, Senior Statistical Officer at National Statistical Office, Sitapur; Dr. Ram Chand Tiwari, Director at Division of Biostatistics, USA; Mr. Onkar Nath Pathak, Additional Commissioner of Income Tax (Retd.), Lucknow; Prof. Alok Pandey, Professor at College of Southern Nevada, USA; etc., to name a few.

Amalgamation of such dedicated and hardworking people was bound to cause domino effect. No sooner had these people united than the 1<sup>st</sup> online meeting was setup dated 14<sup>th</sup> of June, 2020. This was the 1<sup>st</sup> meeting that was going to be held online after the proposed idea. However, it was sceptical about the number of people that would attend this meeting. But good causes find and attract people from far corner of the world. Nearly, 70 people attended this meeting and gave a solid consent for the proceeding of further action plan. These participants included current and retired faculty members, students from batch of 1970 to the batch until recent years, and currently enrolled students in the Department of Statistics, University of Allahabad. The lively atmosphere of the meeting resonated that no barrier can withhold the alumni from forming this association. This meeting laid the foundation of Allahabad University Statistics Alumni Association (AUSTAA) and resolved to give firm allegiance to the cause. It was nostalgia all over when ex-students met and recalled the memories of their time at the University. The 3 hours long session was thus convened by Dr. Niyati Joshi and Mrs. Hema Jaiswal.

Things escalated promptly and new members joined the association. They were all connected through WhatsApp and a group was formed in the name of “AU Statistics Family”. Today, more than 400 students are united all over the country, which is a great achievement in itself for the association.

#### **Main Objectives of AUSTAA:**

1. AUSTAA is a non-government, non-political, non-profit organization, composed of alumni from University of Allahabad on a voluntary basis, to preserve and carry forward the fine traditions of AU. It also aims at strengthening the bond between alumni at home and abroad and to develop India’s Statistical Sciences and education.
2. To provide a platform for the members of the association to interact among themselves and also with the Professors, Research Scholars, and current students of Statistics Department, University of Allahabad and to promote fellowship and bonding amongst them.
3. To create awareness among students about the scope of their subject in the professional world.
4. To conduct academic meets such as conferences, workshops, seminars, webinars, virtual meets, lectures from eminent personalities, for the members and present students of the Statistics Department.
5. To felicitate awards, fellowships, academic chairs and prizes to the meritorious students of the institution and to any other interested in the field of academics, sports or other extracurricular activities.
6. To institute merit cum means based scholarships for the needy and deserving students or alumni of the Statistics Department.
7. To come up with an academic research on the misuse of data, that creates a lot of problems for users as well as for the policy makers and disturbs the population in general.
8. To mobilise donations from the members and others for charitable purposes for the benefit of citizens of this country in the event of natural calamities like earthquakes, floods, etc.
9. To establish a permanent “Corpus Fund” for providing need based financial assistance to the members and present students / alumni of Statistics Department for the treatment of terminal diseases and ailments of heart, kidney, etc., and any other emerging disease unknown at this point of time.
10. To publish magazines, journals, academic publications and newsletters highlighting the activities and achievements of the association.
11. AUSTAA registration process is underway under Delhi Jurisdiction.

#### **Achievements:**

1. Official website of the alumni association was inaugurated on 1<sup>st</sup> of August, 2020, on the birth anniversary of Late Prof. S. K. Bhattacharya by Prof. Madhulekha Bhattacharya (W/O Late Prof. S. K. Bhattacharya), HoD, Department of Community Medicines, SGT University, Gurugram, Haryana. Prof. Madhulekha Bhattacharya was also the director at National Institute of Health and Family Welfare, Government of India. The website is accessible to the link [www.austaa.org](http://www.austaa.org). It is a space for alumni to easily access the current events, news, information required, and everything related to the AUSTAA organization.
2. AUSTAA also created an official email ID for the means of communication. You can reach AUSTAA at [austaa68@gmail.com](mailto:austaa68@gmail.com).
3. In the memory of Late Prof. S. K. Bhattacharya, first Head of Department at University of Allahabad, AU administration has approved of a “Gold Medal Award” felicitated to the meritorious student of each batch. Prof. S. K. Bhattacharya was a Ph.D. scholar from University of Delhi in 1965. He was also a Defence Scientist at Defence Science Laboratory, New Delhi in 1967, Lecturer at Dr. Samir Kumar Bhattacharya University of Adelaide, South Australia in 1967, Reader at University of Connecticut, North Carolina in

1970. Furthermore, he was also a Referee at Indian and International Mathematics and Statistics Journal, Board member and an honorary examiner at Public Service Commission.

4. Prof. Alok Pandey, Professor at University of Southern Nevada, USA, donated 1 Lakh Rupees in memory of Late Prof. S. K. Bhattacharya Gold Medal Award in the Department of Statistics, University of Allahabad.
5. AUSTAA is leaving its impression even on Social Media platforms such as LinkedIn, Twitter, Facebook, Instagram, etc.
6. Monetary help was provided to the Alumni member, Mr. Manish Upadhyay for his kidney transplant through crowd funding. AUSTAA members also encouraged and suggested taking all precautionary measures after the kidney transplant and provided moral support to Mr. M. Upadhyay.
7. Dr. Niyati Joshi is actively providing his guidance on honorary basis to the ISS aspirants by forming an ISS training group and offering his best support to the students wanting to appear for the examination. He is proactively working to lend a hand to the academic welfare of the students.
8. One of the greatest achievements of AUSTAA was witnessed at the time of global pandemic, COVID-19. The world was facing an ongoing history in the name of COVID-19, sparing no nation on earth from its calamity. In the wake of rising number of cases of COVID-19 in India, AUSTAA had created a Covid Care Team that focussed primarily on helping and providing resources to the distressed and affected community. Immediate responses were provided to the vulnerable groups in the uncertain scenario all over country. This team worked solely on voluntary basis, without any greed of fame or recognition. When one day, an online alumni meet was organised to discuss the idea of forming a Covid Care Group and helping the concerned being, immediate action was taken by a bunch of active volunteers. Overnight, the work started and an Excel Sheet was formed to store the verified data. It was forethought by Mr. Sanjay Kumar Mishra, Dr. Niyati Joshi, Mr. Himanshu Katyan, Mrs. Hema Jaiswal, Dr. Ashutosh Shukla, etc., to succour the distressed in any way possible. A team of vigorous and energetic volunteers consisting Nausheen Siddiqui, Anudeep Mukerjee, Sakshi Srivastava, Shikhar Jaiswal, Sumbul Sheikh, Anish Pandey, Akansha Agrawal, Shubham Mishra, Amit Pandey, etc., worked day and night to collect, verify and provide data to the needy. The team worked for more than one month in complete harmony.

Theodore Roosevelt rightly said, "Believe you can and you're halfway there". The team, without any prior experience and a firm belief in itself, was able to execute such marvellous assignment; attended and solved near about 200 cases successfully. Volunteers expressed their gratitude towards AUSTAA for providing them with the opportunity to learn and help someone, which was an amazing and satisfactory feeling for them altogether.

### Events:

With a view to increase awareness amongst students of University of Allahabad, Statistics Department and to open up vistas for their future by experience sharing and enlightening them by the talks and interaction, AUSTAA conducted a webinar and online interaction with Dr. Shailja Sharma, ISS, Director General, Ministry of Statistics and Program Implementation, Government of India and Mr. Rajiv Sharma, ISS, Additional Director General (Retd.). The interaction was conducted under the chairmanship of Mr. Sanjay Kumar Mishra, IAS, District Magistrate, Panna, Madhya Pradesh. A welcome address for the guests and alumni was offered by Ms. Anshu Singh, ISS, Deputy Director General, Ministry of Environment, Forests and Climate Change, Government of India.

In the vote of thanks to Honourable Guests, Mr. Sanjay Kumar Mishra expressed his heartfelt renderings to both the guests, who took out time from their busy schedules and offered blessings to the youngsters, who left no stone unturned during the peak of Covid-19 cases. He appreciated the team and credited them of handling the cases efficiently, working 24\*7 on voluntary basis and saving many lives, which in itself is soul stirring. Mr. Mishra further blessed and noted that these youngsters will become wonderful human beings, whether they go to private or public sector, irrespective of their geographical boundaries and offered his best wishes to the AUSTAA Family.

AUSTAA strives to reach for the sky with the collective efforts of diligent and assiduous members of the family. It is not narrowing its vision just to the social welfare of the alumni but also to the general evolution of the family members. AUSTAA's future plan of action will focus on the social, educational and person's welfare in all means possible. Following is some of the endeavours that AUSTAA aims to achieve:

1. It currently operates a COVID-19 Care Team which looks after the personal and emergency needs of the members and persons associated with the members of the family. Monetary aid, medical facilities, logistical aid, legal help, personal advices, etc., are taken care of by the COVID-19 Care Team. This team consists of empathetic members that necessitate pronto help to the needful.
2. AUSTAA is planning to bring forth 5 fellowships to be offered to the deserving candidates in order to provide academic exposure to the students. This will work towards the educational welfare and offer support to the underprivileged yet deserving students.
3. AUSTAA is presently working on a Research Project that focuses primarily on the process of help provided by the COVID-19 care group to the distressed community in the time of global pandemic. Also, it is focussing on the psychological impact on the perturbed and on the help provider of this group.
4. AUSTAA is having a team of energetic tutors who provide support and guidance to the students appearing for competitive examinations of IITs, ISI and GATE. They motivate and guide students in such a way that it brings confidence and belief within the students which makes it easier for them to crack the examination.

In the words of Karen Lamb, "A year from now you may wish you had started today", AUSTAA was an idea and today, more than 400 people, with their love and support, had made it a reality. AUSTAA strives to connect alumni from all over the world and provide guidance to the younger generation, so that the difficulty and challenges they faced, may not be faced by the youth. With an aim to bring a positive change to the society and working towards the welfare of humankind, AUSTAA is eternally geared up to reach the sky. To conclude in the words of Epicurus, "The greater the difficulty, the more the glory in surmounting it", AUSTAA is forever inclined to overcome any impediment of the time and always strive to reach for the sky.



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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 the future also.

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# COVID-2019: An Overview

Coronavirus is a giant family of viruses. Humans can be affected by seven corona viruses. SARS (Severe Acute Respiratory Syndrome) was found in Southern China in 2002. MERS (Middle East Respiratory Syndrome) was found in Saudi Arabia in 2012. Recently, discovered coronavirus is SARS-COV-2, initially originated in China and later spread in the rest of the world. COVID-19 is an infectious disease, caused by a recently discovered coronavirus. Coronavirus belongs to a large family of zoonotic viruses that can be transmitted from animals to humans. The symptoms of the disease can range from a mild common cold to severe respiratory diseases. The first case of COVID-19 was reported in Wuhan, Hubei Province, China on December 2019. The first case in India was reported in Kerala, on 27th January, 2020. Coronavirus is extremely contagious by nature. They can be easily transmitted via the respiratory route when people inhale droplets and particles which are released by an infected person. The infection can also be spread by touching surfaces contaminated with the virus. To date, there are more than 194,608,040 confirmed cases of the disease with 4,170,155 confirmed fatalities. India has more than 31,440,951 confirmed cases and 421,382 fatalities. The spread of the virus can be prevented by wearing a mask, sanitizing your hands at regular intervals, maintaining a safe distance at public places, and get vaccinated as soon as possible.



## Mutations and Variants:

A span of almost 1.5 years has seen major changes in variations that eventually make the virus more contagious than before. The changes in the variation occur when there is a mutation in the genes of the virus. However, these mutations are only natural. The World Health Organization (WHO) has classified the variants into two categories:

1. **A Variant of Concern-** The main characteristics of this variant are:
  - Rise in transmissibility
  - Increase in fatality
  - reduces the effectiveness of vaccines
  - Examples: Alpha, Beta, Gamma, and Delta
2. **A Variant of Interest-** The main characteristics of this variant are:
  - It causes a sequential community transmission
  - Risk of large proportions to public health
  - Affects disease severity, immune escape, and transmissibility
  - Examples: Eta, Iota, Kappa, and Lambda

**Impact of COVID-2019 on Economy:** The COVID-19 pandemic has led to a devastating loss of human life and eventually leads to an unprecedented challenge to public health, food systems, and employment. The unprecedented lockdowns harmed the economy. Many migrant workers returned to their villages after their job losses in search of livelihood. Transportation of raw materials and furnished goods were also affected due to travel restrictions. During lockdowns, many were unable to provide food for themselves and for their families. The pandemic had reduced jobs and placed millions of livelihoods were at risk. The most marginalized populations including small-scale farmers and people involved in micro, small and medium enterprises (MSMEs), were severely hit. It will take time for the economy to return to a stable state even after the pandemic.

**Impact of COVID-2019 on the healthcare sector:** The Healthcare sector has seen a war-like situation during this pandemic. This sector has seen a tremendous and direct impact. The pandemic points out several reforms that could improve our ability to cope up with future epidemics and also strengthen the basic healthcare needs of every individual. Many innovations and strategies were evolved for tackling this virus. Public health was among the most

neglected topic of discussion before the pandemic. India lags in making common medical equipment like masks, PPE kits, gloves, etc. After the onset of the pandemic, different industries have been set up for manufacturing medical equipment. The pandemic has provided an immense opportunity in medical research and clinical trials.

**Impact of COVID-2019 on mental health:** Mental health was severely affected after the onset of COVID-19. Social gatherings, meetings, conferences, etc were banned. People were stuck in their homes helplessly. Initially, quarantine and self-isolation were the only way to minimize the spread of the virus. Loss of loved ones, uncertainties in job opportunities, loss of liberty, and boredom are the factors that had an immense negative impact on mental health.

**Impact of COVID-2019 on students:** The pandemic resulted in the closure of schools, colleges, and other educational institutes. This unprecedented time has put students' future at its stake. Online education is the only way to keep students aware of their curriculum. Teachers are trying hard to adopt a digital platform. However, many students who don't have enough resources are lagging, and their education is adversely affected. The pandemic has also resulted in the closure of low-budget institutions. The institutions are adopting online platforms to conduct classes, webinars, and online exams but the harsh reality is that there are learning losses all over the world. We can't replace actual one-to-one learning with remote learning. These learning losses will eventually have long-term impacts like a reduction in reasoning ability, a decline in employment, fewer achievements, and low future income.

**Impact of COVID-2019 on environment:** After the onset of the pandemic, the world experienced numerous lockdowns and travel restrictions. The pandemic results in both positive and negative impacts on the environment. As the industries were shut down, there is a remarkable reduction of Green House Gases (GHGs). Reduction of fossil fuels dependence leads to lower 50% N<sub>2</sub>O and CO levels in the atmosphere. During lockdowns, the industrial wastes were negligible hence there was no dumping activity. This eventually leads to increasing the purity of rivers.

However, COVID-19 leads to an increase in medical waste generation. This is a big challenge for the local waste management authority to treat this waste properly.

#### Prospects of COVID-19:

Till now (27th July 2021), the pandemic has gone through two waves in India. The second wave was ferocious than the first one. There are also several predictions for the third wave. The concerned authorities are preparing themselves to tackle the predicted situation. There are various vaccination drives offered by the authorities. Vaccines are the only proven way to reduce the probability of contracting the virus. Various vaccines available in India are Covaxin, Covishield, and Sputnik V. They have different efficacy rates but all are used for lowering the probability of contraction. In India, about 7% of the total population is fully vaccinated.



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*The writer is an independent researcher and alumni of University of Allahabad, batch 2017-2019. This is a great initiative by our alumni association. I feel proud to be a part of AUSTAAM editorial team.*

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# Impact of COVID-19 on Economy and Social System: A Review

Infectious diseases are responsible for several devastations among societies throughout the history of mankind. Occurrence of emergence and re-emergence of these infectious diseases are now happening at unusual speed. According to the World Health Organization (WHO), over the past decade, the emergence of several disease outbreaks and epidemics caused by more than 20 infectious agents has been witnessed. Some of these epidemics were caused by novel infectious agents such as H1N1 and MERS.

According to Dan Epstein, a spokesperson for the Pan American Health Organization, a regional office of the WHO, "A pandemic is basically a global epidemic—an epidemic that spreads to more than one continent." Present time, the whole world is affected by coronavirus disease 2019 (COVID-19), which is the fifth pandemic after the 1918 flu pandemic. First few cases of COVID-19 were emerged in Wuhan, China, and subsequently spread worldwide. Since in this modern era, the whole world is now connected globally and this worked as catalyst for the virus to spread quickly across multiple countries. The International Committee on Taxonomy of Viruses (ICTV), UK, gave the official name of coronavirus as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) based on phylogenetic analysis adding this to the growing list of unwelcomed novel agents. This SARS-CoV-2 is believed to be a spillover of an animal coronavirus and later adapted the ability of human-to-human transmission. Because of the highly contagious nature, this virus spreads rapidly and evolves continuously in the human population. Currently, it has been seen that this virus is also able to mutate itself and many different variants are there which are more dangerous than the original one.

In late December 2019, area near the sea food market in Wuhan city of China was affected by mysterious cases of pneumonia. The earliest date of symptom onset was 1 December 2019. Some common symptoms of this viral pneumonia were fever, malaise, dry cough, and dyspnea. Initially, the disease was called Wuhan pneumonia because of the area and pneumonia symptoms. Later, results of genome sequencing showed that the causative agent is a novel coronavirus. Therefore, this virus is the seventh member of the coronavirus



family to infect mankind. On 12 January 2020, the new virus was termed as 2019 novel coronavirus (2019-nCoV) by the WHO and then on 12 February 2020, this infectious disease was officially named coronavirus disease 2019 (COVID-19). Later, the ICTV officially designated the virus as SARS-CoV-2 based on phylogeny, taxonomy and established practice. Initially emerged in China, it rapidly spreads to other countries worldwide as a global threat. On 11 March 2020, the WHO finally declared that COVID-19 can be characterized as a pandemic, following 1918 Spanish flu (H1N1), 1957 Asian flu (H2N2), 1968 Hong Kong flu (H3N2), and 2009 Pandemic flu (H1N1). In India, the first case of COVID-19 was reported on January 31, 2020. The first case was in Kerala and patient was returned from Wuhan.

Till now, India has been affected severally by two dangerous waves of COVID-19 resulting in huge loss of human lives as well as it has disruptive impact on economic and social activities. Almost all the sectors have been adversely affected as domestic demand and exports sharply plummeted with some notable exceptions where high growth was observed. According to Ministry of Statistics and Programme Implementation (MoSPI), growth rate of India went down to 3.1% in the fourth quarter of fiscal year 2020. This drop is mainly due to the pandemic effect on Indian economy, as said by Chief Economic Advisor. When the first lockdown of 21 days was announced on 24 April

2020, no one thought that it was the starting of worst days for the social and economic status of the country. Lockdown was implemented in four phases in the country. We cannot think about any sectors which have not been affected. Agriculture is the backbone of any country. In the first wave of COVID-19, rural part was not affected much so there was not much loss. The second wave has seen stricter and longer lockdowns in the rural parts also. Due to the closure of Mandis, vegetable vendors, and processing industries have also been hit. The average wage growth for the agriculture sector for the period of November 2020 to March 2021 has reduced to 2.9% (2nd wave) from 8.5% in April to August 2020 (1st wave). Several state governments had already allowed free movement of fruits, vegetables, milk etc. Online food grocery platforms like Zomato are heavily impacted due to unclear restrictions on movement and stoppage of logistic vehicles. During the lockdown, food wastage increased due to affected supply chains, affecting small farmers.

The contribution of the tourism and Aviation sector to our GDP stands about 9.2% and 2.4% respectively. In FY 2018-19, the tourism sector served approximately 43 million people. These two industries were hit significantly even more badly than financial crisis of 2008. Because of lockdowns and restricted rules for travelling within and outside the country, these two industries have been dealing with severe cash flow problems.

Most of the manufactured sector had to operate with lesser capacity or even had to shut down, to control the spread of corona. Non-essentials manufacturing was hit for longer and with more severe restrictions. The fear of prolonged lockdowns led to migration back to villages. This resulted in scarcity of the manpower in factories and construction works. In addition, the global and local supply chains had also not fully normalized after the first wave. This results in increased cost of raw materials for both all industries. As per the IHS Market India Manufacturing Purchasing Managers' Index (PMI) in May 2021, PMI slumped to 50.8 from 57.5 reported in February. It is at a ten-month low.

The Indian Oil and Gas industry contributes to 5.2% of the global oil demand making it to the third largest energy consumer only behind USA and China. The demand of transport fuels was slowed down due to the complete lockdown as auto & industrial manufacturing declined and goods & passenger movement fell.

The services sector in the last two decades has become the backbone of the economy contributing to more than half of the GDP. This sector includes hotels, restaurants, road side vendors, commercial transports, other essential service providers, etc. But this pandemic hit this sector badly. Many small and medium industries were closed. In the third week of March 2020, Amazon announced that it would stop sale of non-essential items in India so that it could focus on essential needs. Amazon followed the same strategy in Italy and France. On 25 March 2020, Walmart-owned Flipkart temporarily suspended some of its services on its e-commerce platform and would only be selling and distributing essentials.



On 23 March 2020, stock markets in India witnessed worst losses in history. SENSEX fell 4000 points (13.15%) and NIFTY fell 1150 points (12.98%). India's export in April 2020 was fallen by -36.65% while import in April 2020 was fallen by -47.36% as compared to April 2019.

The pharmaceutical industry is the only industry that has been on the rise since the start of the pandemic. India is the largest producer of generic drugs. It has a market size of 55 billion dollar during the beginning of 2020. We have seen how India helps entire world community by exporting Hydroxychloroquine during the starting of



pandemic. Generic drugs are the most impacted due to heavy reliance on imports, disrupted supply-chain and labor unavailability in the industry caused by social distancing. On May 31, the Indian government released the data for GDP that during the FY 2020-21, which showed that GDP contracted by 7.3%. It is the most severe contraction since independence. The reasons behind this are obvious lockdown which leads to the closing of industry, increasing unemployment rate and a significant decline in domestic consumption. For the current FY, the RBI has predicted growth of 10.5%. But the rating agencies across the world have downgraded it due to impact of the second wave. Moody's initially projected growth rate of for FY 2021-22 was 13.7% but later it was downgraded it to 9.3%. Similar phenomena applied with S&P Global rating. They have lowered growth rate to 9.8% from 11% considering the impact of second wave.

COVID-19 has become now a global health crisis. In fact, it is much more than a health crisis. It is a human, economic and social crisis. The pandemic has disturbed food supply chain across the country. When lockdown was announced in first wave, people rushed to the market to buy several essential items which resulted in shortage of goods. Due to this prices of many essential items increased rapidly which affected lower income groups badly.

Due to restrictions, education is also affected significantly. Schools and colleges are closed. Online classes and teaching have become alternatives. This affects the natural growth and understanding of students. They suffer with headache, eyes problem, stress due to online classes. Also, low income group families cannot afford mobile, internet which is essential for study now days.

Norms of social distancing and travelling restriction affected the social institutions like social gathering, wedding ceremonies etc. Even people hesitate to meet each other fearing that they get infected. People have now become self-centred which is dangerous for the society especially in country like India where we believe the whole world like one family. The social fabric of India thrives on interdependence, both emotional and economic, within families, relatives and friends. Close physical interactions like living in crowded housing and other places, pushing and jostling are extremely common and are deterrent to 'social distancing' as dictated during this pandemic. Morbidity and mortality due to COVID19 in India are largely attributable to co-morbid conditions i.e. non-communicable diseases (NCDs) like diabetes, hypertension or cardiovascular disease. Older persons are particularly susceptible to the risk of infection from COVID-19, especially those with chronic health conditions such as hypertension, cardiovascular disease and diabetes. Even at the best of times, persons with disabilities face challenges in accessing health-care services, due to lack of availability, accessibility, affordability, as well as stigma and discrimination. Besides this, it has been also seen that many COVID patients have been suffered due to post covid effects which includes fear of isolation and despondency, social ostracism, financial distress. Losses of their loved ones have left people helpless. During second wave, we have seen miserable condition of our health sector. Shortage of life saving drugs, oxygen supply and other essential medicines made the situation worst.

COVID-19 outbreak has affected every sector in entire world. Till now, there is no proper treatment for it. The only way we can prevent the virus to spread more is to follow the guidelines of government. In the first wave, we even did not have necessary items like PPE kits, sanitizers etc but now we are the largest producers of such items. We should thanks to our doctors and scientists that in this present time we have several vaccines to fight against this novel virus. The best solution to stop this damage from happening again, through the use of tests, treatments and vaccines everywhere they're needed. This will cost only a small fraction of the huge economic loss the pandemic is causing every month.

In this global era, we are unstoppable. This pandemic has made us realize that we are not supreme. We cannot build our empire on the cost of destroying nature. The best way to prevent such pandemic is to keep an eye on what we are doing and how we can help the entire community by sharing resources because we believe in “वसुधैवकुटुम्बकम्” (Source: Maha Upnishad) which means the entire world is one family.

*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 the future also.*

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# AUSTAA CARE: CONNECTING TOGETHER TO SERVE THE WORLD

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*“A crisis often brings out the best in people and organisations,”*

-Dr Tedros Adhanom Ghebreyesus (WHO DIRECTOR)

Disasters and crises sometimes bring out the best in people and sometimes bring out the best people together. The present scenario of the corona pandemic has devastated every human heart. At the time of the second wave of pandemic in India, India became the epicenter of the global pandemic. The pandemic has hit all the countries hard but it has shown its deadliest impact to India. This unprecedented crisis and lack of necessities had led to new reformations and changes in thinking of society and people. As we know, necessity is the mother of invention but this time social-societal responsibilities towards the safe survival of people and nation has become the main reason for this noble cause. The idea of forming “AUSTAA COVID CARE” comes with the urgent necessity of medical resources at the peak time of the second wave of coronavirus and with our social responsibilities towards our people.

During the second wave of the pandemic in India, when the whole nation and world were fighting against the novel coronavirus. The health-care system was coping and struggling with an explosion of Covid cases. AUSTAA realized its duty towards society and joined the “PAN INDIA MOVEMENT” to provide immediate relief to Covid victims and their families. The AUSTAA community works on the motto of “Associate, Integrate and Disseminate”. Hence the **AUSTAA CARE** is a campaign for joining or collaborating together to form one strong team to promulgate and spread its public-spirited service to every section of society. AUSTAA CARE is an initiative to build a strong and healthy community. AUSTAA CARE is not limited to the AUSTAA community or its members but provides its selfless service to everyone who needs any kind of help. On 28 April 2021 Mr. Himanshu Katyan, a senior Alumni member of the AUSTAA community laid the foundation of the “AUSTAA COVID CARE” team under the guidance of Mr. Sanjay Mishra, District Magistrate of Panna (M.P.), Dr. Niyati Joshi, Director, Ministry of Finance, GOI, Dr. Ashutosh Shukla, Sr. Statistical Officer National Statistical Office, GOI, and Mrs. Hema Jaiswal Director, Ministry of Food and Public Distribution. This “AUSTAA COVID CARE” was started with a vision to fulfill the social responsibility towards the people of our nation. It has been said, “Charity begins at home”. AUSTAA decided to help his family members against the battle from the global pandemic. But releasing the sense of social responsibility we joined hands and got connected on a platform for the sake of humanity.

*‘AUSTAA COVID CARE was started with an emotional feeling and sense of responsibility. When lot of cases was coming up, few members of AUSTAA family and their family members were getting infected and not getting proper treatment and sufficient help. So it was a personal experience of many of us which was shared with by Mr. Sanjay Mishra whose own family was infected with COVID in Delhi. Somehow he was managing at times between his family and workplace. So he decided with Mr. Himanshu Katyan laid the foundation of “AUSTAA COVID CARE”. So everyone can be helped with the vision to inform others and to give them information regarding availability of various medical resources during the pandemic. So the very next day in a meeting many members internally came to help for this initiative. They actively participated and helped others. Our team had faced many difficult challenges but simultaneously they learned and trained themselves and worked. They worked very hard. They are no words for their hard work. They have gone beyond their boundaries completely leaving behind their personal comfort. There were times when they don't slept for whole night just to help some person or to save someone's life’*

-Dr. Niyati Joshi, member of AUSTAA COVID CARE.

When the second wave of Covid-19 pandemic broke down in India and affected the Indian masses. There was a rise in no. of COVID cases and deaths in India. People were dying and unable to get proper treatment on time. Hospitals were running out of beds. There was a shortage of necessary drugs and medicines. “AUSTAA COVID CARE” Team

comprises database managers, a data verification team, and a team of database providers who were working efficiently for providing COVID support and medical relief. At that time our "COVID Help Desk" was actively participating in COVID support and providing the real time data and guiding the neediest through our database resources. Our database managers developed a real time database with location and current availability status on Google sheets for medical resources covering most of the Indian cities.

We were feeding data related to hospital beds, important drugs, oxygen and medical equipment availability like oxy flow meter, oxygen concentrator and etc., facilities of testing and tracing of the virus, quarantine and isolation, telemedicine and online consultation, we were arranging plasma and blood donors and helping the public fundraising campaigns for vulnerable cases. Every COVID volunteer of our team has allotted a city and he/she was collecting data of that particular city, after verifying these data was uploaded on our "AUSTAA COVIDCARE" group and then the data verification team re-verified it spontaneously. All the secondary data was finally sent to the team of database managers. They feed that data in Google sheets which are available on various social media platforms of AUSTAA and easily accessible for everyone. We even launched a voluntary plasma donation campaign and formed a separate database for plasma donors and now we have transformed into a voluntary blood donors database. This helped to save many COVID and non -COVID patients. We were not only working for the COVID patients but also for humanity. So we were arranging donors for cancer patients, prenatal cases and road accidents patients. "AUSTAA CARE" was an initiative for everyone who is in need. We were helping patients for public fundraising for medical aid. While working it was observed that the resources left after using things like oxygen cylinders, medicines, testing equipment, oximeters, etc. which were of no use to the recovered patient. So we launched a voluntary donation of medical resources between the recovered and needy person. We were doing our best to help others in all possible ways and to fight against this challenging time.

Ms. Nausheen Siddiqui, a M.Phil student, was the captain of the ship. "A leader is one who knows the way, goes the way, and shows the way" — John C Maxwell. She was leading "AUSTAA COVID CARE" and collaborating with different teams of our team. She was attending calls, responding to every case frequently and arranging the tasks for COVID volunteers planning roadmaps, managing the whole team and encouraging everyone. With her outstanding "AUSTAA COVID CARE" was a great success. She had worked day and night for this team. She was a leader who believed in the "going the way" she practiced what she preached to us. Her altruistic services in "AUSTAA COVID CARE" was worthy of praise and setting an example for everyone in the AUSTAA community and outside world. Everyone has equally contributed for "AUSTAA COVID CARE". But some of the young members of the team have shown the youth power of the AUSTAA community. The most remarkable contributions in "AUSTAA COVID CARE" were given by Anish Pandey, Sumbul Sheikh, Shikhar Jaiswal, Sakshi Srivastava, Shubhan Mishra, Akansha Aggarwal, Anudeep Mukherjee and Akshay Jaiswal. Anish Pandey was even working on ground level between life-threatening conditions. His effortless deeds have saved many lives. We are really proud to have him in our team. I have worked with him and have seen his ordinary acts of kindness and devotion to his social service. He even donated plasma in this difficult time. Shikhar Jaiswal also donated blood and even distributed food packets during pandemic as well as both of them actively participated with me and Ms. Nausheen in successfully tackling Covid cases. We four were actively responding to every case from any part of the country. Whether it's day or night we were helping and supporting others. We were even providing food and publicly raising funds for Covid victims on our personal level.

"AUSTAA COVID CARE" Team was able to solve 183 cases with 134 successful cases in just a time period of just days. Our team has really lived the mantra of Covid volunteers "सेवापरमोधर्म: (Seva Parmo Dharma)- To serve is the ultimate service". Selfless Service is the ultimate goal for our team. The immense faith and beliefs of our team in humanity and kindness in the challenging time of pandemic were proven fruitful. The senior members of 'AUSTAA COVID CARE' were also setting great examples of "Covid Warriors" in their lives. They were a source of inspiration and encouragement to the youngsters of "AUSTAA COVID CARE" Mr. Sanjay Mishra, District Magistrate of Panna, Madhya Pradesh is the pioneer of "AUSTAA COVID CARE" as well as "real life corona warrior" He's managing "AUSTAA COVID CARE" as well as giving his best services to Panna district of Madhya Pradesh. His achievements in

administrative services to the nation is remarkable but during the corona his role as a frontline volunteer was a catalyst for the prodding forward the initiative of "AUSTAA COVID CARE." Due to his effortless service after strict lockdown and restrictions by the administration under his leadership Panna district of Madhya Pradesh became Covid free zone. He is always renowned for his irreplaceable services and achievement .He is a man of all round excellence. At that time his family was also struggling from coronavirus in Delhi but it didn't affect his altruistic service. He is always known for helping others. He's a man of great deeds. During the pandemic he helped thousands of people. He arranged hospital beds, provided oxygen cylinders, food and medicines, proper treatment and arranged plasma donors in all possible ways and saved lives .His sacrifices, virtues and principles are a source of immense inspiration and motivation to the next generation of India. He's role model to every citizen of India.

Mrs. Hema Jaiswal, was one the very active members of AUSTAA COVID Care. She was the leading lady of this great campaign .Her Excellencies are worthy of praise and her altruistic services have inspired everyone. She was managing her job, family and home as well as working and monitoring "AUSTAA COVID CARE". She was actively attending calls from the patient's side, sharing cases and leads, and trying all possible ways to help the patients. She was a source of inspiration for the young team and an example of "Woman Power " in our team. She was the strongest support system of "AUSTAA COVID CARE" TEAM. As a girl I am really influenced by her strong determination, courage and amazing ability to deal with any challenge. She's distinguished lady and great orator. When the team was panicking or psychologically overburdened by workload she along with other members organized sessions or small group talks and discussed and tried to solve our problems. Mr. Amit Pandey and Mr. Shivendra Agrahari were also the most active seniors who had actively participated and helped many patients and saved many lives. Mr. Pandey was working in Tata Consultancy Services as a Software Engineer in Melbourne, Australia. Apart from working in "AUSTAA COVID CARE" he was working with other teams like **"Covid Australia Group , "Covid Delhi " , "Covid Uttarakhand"** and handling his busy job too . He even helped in raising funds for a cancer child in Chennai, arranged many plasma donors and provided assistance to "AUSTAA COVID CARE". Despite time differences in India and Australia he was ready to help others. His effortless service is remarkable.

Mr .Shivendra Agrahari is a senior executive, Tata Life AIA Insurance Company. He with his busy profession and life was investing his time in "AUSTAA COVID CARE ". He helped a lot of people in Lucknow and neighbouring places mostly in Uttar Pradesh .He had arranged hospital beds ,plasma donors and blood donors . He also raised a fund for the living and future education of kids of a Covid victim. He has done a tremendous job silently. His extraordinary acts of kindness were saving people in the time of global pandemic. Both of them had made a remarkable contribution in "AUSTAA COVID CARE " and provided their helping hands to young team members of our team. On behalf of all "AUSTAA COVID CARE" Team I want to thank our seniors for giving us the opportunities to help and serve others. We are really proud to help and to be able to save lives and make small contributions towards our nation and people through this initiative. We were able to do such extraordinary acts due to the extraordinary guidance bestowed on us. All the great personalities mentioned in above literature are real life heroes ' who have saved lives and made contributions towards society .These are future leaders and role models for future generations .

*After the pandemic "AUSTAA COVID CARE" has transformed into 'AUSTAA CARE'. That is effectively working for awareness for vaccination and Covid control. In the future we are ready for a crisis, to serve our nation and people.*

*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 the future also.*

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# ACTIVE ROLE OF STATISTICS IN PREDICTING HURRICANES

Since time immemorial, statistics has been considered as the “Science of the Common People” because of its role in addressing and providing the solutions to many everyday problems. One such problem which the world has been facing, especially in recent years, is the threat of natural disasters. These disasters, which often occur unexpectedly, can cause huge damage to life and property. One such type of natural calamity includes severe storms such as cyclones, hurricanes and tornados, which are caused when a low-pressure area develops over a body of water, usually an ocean, and winds from the surrounding high pressure areas rush into the low pressure area with great speed. The main reason for the destruction caused by cyclones, hurricanes and other tropical storms is because they are difficult to predict and monitor.

As a human body, when it falls ill, produces various symptoms which alert doctors to the patient’s condition, in the same way natural disasters are the ecosystem’s way of giving an indication about imbalance. This is the reason why the frequency of natural disasters, especially tropical storms, has increased in the recent years due to extensive ecological damage done by man. But statistics provides various tools with which minute changes in the ecosystem can be studied and hence can be used for better prediction of natural disasters. For example, by treating the incoming data regarding weather patterns and wind directions as a time series data, forecasting techniques can be applied to predict wind directions for the future in order to minimize the destruction caused by cyclones and other tropical storms.

Statistical methods can help to minimize the amount of destruction caused by cyclones by using past data and previously observed patterns to predict the formation of tropical storms. The path of such storms can also be predicted if sufficient data is available. The data which is obtained from satellites, weather observatories and other sources can be analysed in order to forecast the future weather patterns which has as high accuracy as possible.

The most recent cyclone to hit India was Cyclone Yaas, which was categorized as a Very Severe Storm. It made landfall in Odisha on May 26th, 2021 and caused massive and widespread destruction in the states of Odisha, West Bengal and Jharkhand, with the effects even reaching as far inland as Bihar and Uttar Pradesh. Mere days before that, on May 17th, the cyclone Tauktae also hit India, and caused large scale damage to the western coast of India.

During the time when the second wave of the coronavirus pandemic was at its peak, the destruction caused by the cyclones added to the people’s woes. The problem of maintaining social distancing while inside a shelter, as well as the large-scale destruction of life and property amid the coronavirus pandemic might have been reduced if statisticians were employed to analyse the data obtained from previous storms and hence predict future storms with a greater accuracy. In this regard, even the development of a more comprehensive vaccine can be done with the help of statistical analysis of the various mutations and strains of the virus.

The main use of statistical analysis in dealing with natural disasters is to predict and make forecasts about future patterns, while minimizing the error. Methods such as model fitting using regression analysis can be used to fit a model using previous observations, and then the error term can be reduced, after which forecasts can be made in order to make predictions about future situations so as to give the authorities as well as the people more time to



handle the situation in the best possible way. The main challenges which are faced by statisticians and data scientists in predicting tropical storms are that the intensity of the storm cannot be predicted with high precision, and that it is still difficult to predict smaller storms since the wind direction can change randomly. However, statistics provides various methods of dealing with random data, as well as for minimizing the error produced. Statisticians can help to develop models which can continuously monitor the intensity of winds by analyzing the data in real time as well as by using past data obtained over the years.

To conclude, it can be said that the more precise the forecast is, the better the chances for the safety and survival of the general population will be. The mass destruction caused by cyclones, especially those which occurred within a span of a week or ten days as in the case of the cyclones Tautkae and Yaas in India, could have been minimized if better prediction models could be developed which would be highly sensitive to not only the speed of the wind and its intensity, but also take into account various other factors which may or may not affect the formation of a tropical storm, such as humidity, air quality, pollution, and other activities of man which have a detrimental effect on the environment. The need of the hour is to develop statistical models which have a wider scope and consider all the above-mentioned variables and more, which are as precise as possible. Hence, statistics can be used to save the lives and livelihoods of millions of people.

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# “SDG-2, Macdonaldisation and Indian Cow END HUNGER, ACHIEVE FOOD SECURITY AND SUSTAINABLE AGRICULTURE”

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This guide highlights some key events and documents related to the evolution of the concept of development within the UN. The concept of development includes many aspects and has changed over time. The first paragraph of the Agenda for Development states:

"Development is one of the main priorities of the United Nations. Development is a multidimensional undertaking to achieve a higher quality of life for all people. Economic development, social development and environmental protection are interdependent and mutually reinforcing components of sustainable development.

"Sustained economic growth is essential to the economic and social development of all countries, in particular developing countries. Through such growth, which should be broadly based to benefit all people, countries will be able to improve the standards of living of their people through the eradication of poverty, hunger, disease and illiteracy, the provision of adequate shelter and secure employment for all and the preservation of the integrity of the environment.

"Democracy, respect for all human rights and fundamental freedoms, including the right to development, transparent and accountable governance and administration in all sectors of society, and effective participation by civil society are also an essential part of the necessary foundations for the realization of social and people-centred sustainable development.

"The empowerment of women and their full participation on a basis of equality in all spheres of society is fundamental for development." Other guides on the environment, human rights, and the documentation of the other UN organs supplement the information in this guide. The work of other organizations, especially the UN specialized agencies and programmes and funds, is central to the UN's work related to development.

## Report of the Brundtland Commission: Our Common Future (1987).

Our Common Future, also known as the Brundtland Report, was published in October 1987 by the United Nations through the Oxford University Press. This publication was in recognition of Gro Harlem Brundtland's, former Norwegian Prime Minister, role as Chair of the World Commission on Environment and Development (WCED).

Its targets were multilateralism and interdependence of nations in the search for a sustainable development path. The report sought to recapture the spirit of the Stockholm Conference which had introduced environmental concerns to the formal political development sphere. Our Common Future placed environmental issues firmly on the political agenda; it aimed to discuss the environment and development as one single issue.

The document was the culmination of a "900-day" international exercise which catalogued, analysed, and synthesised written submissions and expert testimony from "senior government representatives, scientists and experts, research institutes, industrialists, representatives of non-governmental organizations, and the general public" held at public hearings throughout the world. Now we come to Defining Sustainable Development:

The report defined 'sustainable development' as "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

**Origin and History of Sustainable Development:** The concept of sustainable development formed the basis of the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. The summit marked the first international attempt to draw up action plans and strategies for moving towards a more sustainable pattern of development. It was attended by over 100 Heads of State and representatives from 178 national governments. The Summit was also attended by representatives from a range of other organizations representing civil society. Sustainable development was the solution to the problems of environmental degradation discussed by the Brundtland Commission in the 1987 report Our Common Future.

The remit of the Brundtland Report was to investigate the numerous concerns that had been raised in previous decades, namely, that human activity was having severe and negative impacts on the planet, and that patterns of growth and development would be unsustainable if they continued unchecked. Key works that highlighted this thinking included Rachel Carson's *Silent Spring* (1962), Garret Hardin's *Tragedy of the Commons* (1968), the *Blueprint for Survival* by the *Ecologist* magazine (1972) and the Club of Rome's *Limits to Growth* report (1972).

The concept of sustainable development received its first major international recognition in 1972 at the UN Conference on the Human Environment held in Stockholm. The term was not referred to explicitly, but nevertheless the international community agreed to the notion - now fundamental to sustainable development - that both development and the environment, hitherto addressed as separate issues, could be managed in a mutually beneficial way.

The term was popularised 15 years later in *Our Common Future*, the report of the World Commission on Environment and Development, which included what is deemed the 'classic' definition of sustainable development: "development which meets the needs of the present without compromising the ability of future generations to meet their own needs".

It was not until the Rio Summit, however, that major world leaders recognized sustainable development as the major challenge it remains today.

More recently, the World Summit on Sustainable Development was held in Johannesburg in 2002, attended by 191 national governments, UN agencies, multilateral financial institutions and other major groups to assess progress since Rio. The Johannesburg Summit delivered three key outcomes: a political declaration, the Johannesburg Plan of Implementation, and a range of partnership initiatives. Key commitments included those on sustainable consumption and production, water and sanitation, and energy.

**Achievements of Millennium Development Goals:** The Millennium Development Goals (MDGs) are eight international development goals to be achieved by 2015 addressing poverty, hunger, maternal and child mortality, communicable disease, education, gender inequality, environmental damage and the global partnership. Most activities worldwide have focused on maternal and child health and communicable diseases, while less attention has been paid to environmental sustainability and the development of a global partnership. Up to now, several targets have been at least partially achieved: hunger reduction is on track, poverty has been reduced by half, living conditions of 200 million deprived people enhanced, maternal and child mortality as well as communicable diseases diminished and education improved. Nevertheless, some goals will not be met, particularly in the poorest regions, due to different challenges (e.g. the lack of synergies among the goals, the economic crisis, etc.). The post-2015 agenda is now under discussion. The new targets, whatever they will be called, should reflect today's political situation, health and environmental challenges, and an all-inclusive, intersectoral and accountable approach should be adopted.

### Global Initiatives on Sustainable Development

- **The Stockholm Conference, 1972:** It was the **first step** towards putting environmental concerns on the global agenda.
- It resulted in the **Stockholm Declaration** which contained **principles** and an **Action Plan** containing recommendations for environmental policy.
- **UNEP** was set up in 1972 to serve as a catalyst in development and co-ordination of an environmental focus in the programmes of other organisations.
- **The Earth Summit, 1992:** This was a direct consequence of the **Brundtland Commission's Report**. It was held in Rio de Janeiro. The results of the Conference were the following documents:
  - The Framework Convention on Climate Change (**UNFCCC**)
  - The Convention on Biological Diversity
  - The Statement on Forest Principles
  - The Rio Declaration
  - Agenda 21

- **Kyoto Protocol, 1997**
- **Rio +10, 2002:** A 10-year assessment of the Rio outcomes (Rio +10) took the shape of the World Summit on Sustainable Development (WSSD) held in **Johannesburg**.
- **Ramsar Convention, 1971**
- **The World Heritage Convention, 1972:** It identifies and conserves the world's cultural and natural heritage. It draws up a list of '**heritage sites**', which are cultural, natural or mixed areas of '**outstanding universal value**' and therefore need to be preserved for all humanity.
- **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973**
- **Convention on the Conservation of Migratory Species of Wild Animals (CMS), 1979**
- **Vienna Convention for the Protection of the Ozone Layer, 1985**
- **Montreal Protocol on Substances that Deplete the Ozone Layer, 1987**
- **Basel Convention, 1989**
- **Convention on Biological Diversity, 1992**
- **United Nations Convention to Combat Desertification, 1994**
- **Rotterdam Convention, 1998**
- **Stockholm Convention on Persistent Organic Pollutants, 2001**
- **Global Tiger Forum, 1993**
- **International Whaling Commission, 1946**
- **Minamata Convention, 2013**
- **Climate change mitigation strategies:** Carbon sequestration, Carbon sink, Carbon Credit, Carbon trading, Carbon offsetting, Carbon Tax, Geo-engineering.
- **United Nations Environment Programme (UNEP)**
- **UN Commission on Sustainable Development (CSD)**
- **United Nations Convention on the Law of the Sea (UNCLOS)**
- **Climate Finance Architecture:** Green Climate Fund (GCF), Adaptation Fund (AF) and Global Environment Facility (GEF)
- **Reducing Emissions from Deforestation and Forest Degradation (REDD) and REDD+**
- **Paris Agreement 2015**
- **The Clean Development Mechanism** is a way to reduce greenhouse gases (GHGs) emissions through efficient and sound technologies.
- **Global Alliance for Climate-Smart Agriculture (GACSA)**
- **Partnership for Action on Green Economy (PAGE)**
- **Sustainable Development Goals (SDGs):**
  - To bring sustainable development in the mainstream **United Nations (UN)** launched the 2030 Agenda for Sustainable Development and SDGs.
  - This **universal**, integrated and transformative agenda aims to spur actions that will end poverty and build a more sustainable world over the next 15 years.
  - There are 17 goals and 169 specific targets to be achieved by 2030. Reaching the goals requires action on all fronts – governments, businesses, civil society and people everywhere all have a role to play.
  - SDGs are **not legally binding**.
  - '**Development which meets the needs of the present without compromising the ability of future generations to meet their own needs**'.

- This most widely accepted definition of Sustainable Development was given by the **Brundtland Commission** in its report **Our Common Future (1987)**.

### The Sustainable Development Agenda:

On 1 January 2016, the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development — adopted by world leaders in September 2015 at an historic UN Summit — officially came into force. Over the next fifteen years, with these new Goals that universally apply to all, countries will mobilize efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind. The SDGs, also known as Global Goals, build on the success of the Millennium Development Goals (MDGs) and aim to go further to end all forms of poverty. The new Goals are unique in that they call for action by all countries, poor, rich and middle-income to promote prosperity while protecting the planet. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and address a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection.

While the SDGs are not legally binding, governments are expected to take ownership and establish national frameworks for the achievement of the 17 Goals. Countries have the primary responsibility for follow-up and review of the progress made in implementing the Goals, which will require quality, accessible and timely data collection. Regional follow-up and review will be based on national-level analyses and contribute to follow-up and review at the global level.



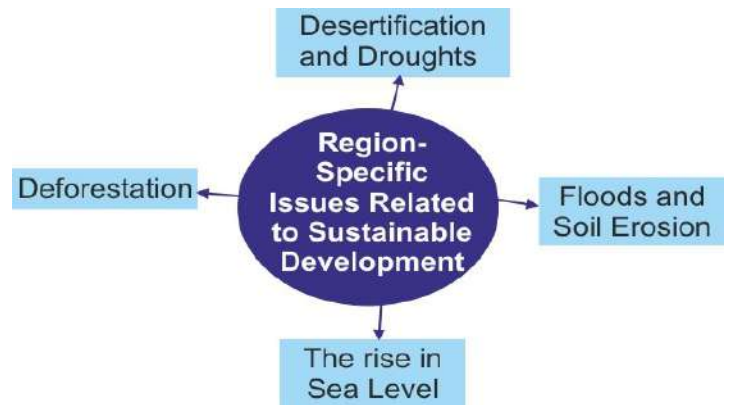
Following were the Goals:

Sustainable development (SD) calls for concerted efforts towards building an inclusive, sustainable and resilient future for people and the planet.



Core Elements of Sustainable Development

- **Three** core elements of sustainable development are economic **growth**, social inclusion and **environmental protection**. It is crucial to harmonize them.
- Sustainable economic growth, achieving sustainable livelihood, living in harmony with nature and appropriate technology are important for sustainable development.
- **Environmental Sustainability:**
  - It prevents nature from being used as an inexhaustible source of resources and ensures its **protection and rational use**.
  - Aspects such as **environmental conservation**, investment in **renewable energy**, **saving water**, supporting **sustainable mobility**, and innovation in **sustainable construction and architecture**, contribute to achieving environmental sustainability on several fronts.
- **Social Sustainability:**
  - It can foster **gender equality**, **development of people**, **communities and cultures** to help achieve a reasonable and **fairly-distributed quality of life**, healthcare and education across the Globe.
- **Economic Sustainability:**
  - Focuses on **equal economic growth** that generates **wealth for all**, without harming the environment.
  - **Investment** and **equal distribution** of **economic resources**.
  - Eradicating poverty in all its forms and dimensions.



#### Integration of Scientific and Traditional knowledge

- If the people are able to contribute their local resources and practices into the process of change, the development becomes not only sustainable but also gets accelerated.
- Combined traditional and scientific knowledge is called **community knowledge**. Moving towards SD in many areas will require community knowledge.
- **Indigenous knowledge** is also a potential source for **the conservation of biodiversity**.
- The significance of traditional knowledge has been recognized in India through initiatives such as **National Ayush Mission (NAM)** and **the Traditional Knowledge Digital Library (TKDL)**.

#### Global issues Related to Sustainable Development

- **Inequitable growth** of national economies (**North-South Divide**)
- **Loss of Biodiversity:** Despite mounting efforts over the past 20 years, the loss of the world's biodiversity continues.
- **Climate Change:** As a global problem, climate change requires a global solution. Within climate change, particular attention needs to be paid to the unique challenges facing developing countries.
- Tackling climate change and fostering sustainable development are two mutually reinforcing issues.
- **Intellectual Property Rights (IPRs):** There is a need for welfare for all rich and poor to have affordable access to the results of innovation that can lead to sustainable development.

#### Sustainable Development Goal-2

##### Sustainable Development Goal 2 -aims to achieve zero hunger.

- It is one of the 17 Sustainable Development Goals established by the United Nations in 2015.



- SDG 2 highlights the complex inter linkages between food security, nutrition, rural transformation and sustainable agriculture.
- According to the United Nations, there are around 690 million people who are hungry. One in every nine people goes to bed hungry each night, including 20 million.
- SDG 2 has eight targets and 14 indicators to measure progress. The five "outcome targets" are: ending hunger and improving access to food; ending all forms of malnutrition; agricultural productivity.

### Following are the Eight Targets of SDG-2

- Target 2.1: Universal access to safe and nutritious food
- Target 2.2: End all forms of malnutrition
- Target 2.3: Double the productivity and incomes of small-scale food producers
- Target 2.4: Sustainable food production and resilient agricultural practices
- Target 2.5: Maintain the genetic diversity in food production
- Target 2.6 - Invest in rural infrastructure, agricultural research, technology and gene banks
- Target 2.7.: Prevent agricultural trade restrictions, market distortions and export subsidies
- Target 2.8- Ensure stable food commodity markets and timely access to information

### Current Status of SDG-2:

- Despite the progress, research shows that more than 790 million people worldwide still suffer from hunger. There has been major progress in the fight against hunger over the last 15 years.
- In 2017, during a side event at the High-Level Political Forum under the theme of "Accelerating progress towards achieving SDG 2: Lessons from national implementation", a series of recommendations and actions were discussed.
- Stakeholders like the French UN mission, Action Against Hunger, Save The Children and Global Citizen were steering the conversation. It is unlikely there will be an end to malnutrition on the African continent by 2030.
- To achieve progress towards SDG 2 the world needs to build political will and country ownership.
- It also needs to improve the narrative around nutrition to make sure that it is well understood by political leaders and address gender inequality, geographic inequality and absolute poverty.
- It also calls for concrete actions including working at sub-national levels, increasing nutrition funding and ensuring they target the 1st 1000 days of life and going beyond actions that address only the immediate causes of malnutrition and look at the drivers of under-nutrition, as well as at the food system as a whole.
- Macdonaldisation of the Food Culture is also affecting nutrition and lowering the nutritional content of food intakes like, PIZZA, BURGER etc.

**Measuring Hunger and Food Security:** Following methods are globally used for measuring hunger and food security:

- Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES).
- Prevalence of stunting (height for age  $<-2$  standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age).
- Prevalence of malnutrition (weight for height  $>+2$  or  $<-2$  standard deviation from the median of the WHO Child Growth Standards).
- The volume of production per labour unit by classes of farming/pastoral/forestry enterprise size.
- Nord provided a list of surveys that contain data on both food security and weight status
- Current Population Survey Food Security Supplement (CPS-FSS)
  - American Time-Use Survey (ATUS)/Indian
- National Health and Nutrition Examination Survey (NHANES)/NFHS
  - Early Childhood Longitudinal Study (ECLS)
  - Kindergarten Cohort (ECLS-K)
  - Birth Cohort (ECLS-B)

- California Health Interview Survey (CHIS)
- Behavioral Risk Factor Surveillance System (BRFSS, in selected states)
- Canadian Community Health Survey (CCHS)
- Children's HealthWatch (formerly the Children's Sentinel Nutrition Assessment Program)

**Two other surveys are currently being developed:**

- 1. The National Health Interview Survey (NHIS), which will include the 10 adult food security items in surveys conducted in 2011 and 2012.
- 2. The National Food Acquisition and Purchase Survey (FoodAPS), which will collect information on what households are actually buying and bringing home from the store along with information on food security and weight status.
- SPATIAL DATA AND SPATIAL METHODS
- Combining GIS with Other Forms of Data
- Human-Environment Interactions (Ex: transport)
- Spatial Distances as a Measure of Social Distance for hunger projections in areas
- statistical prediction of undernourishment/hunger using nonlinear regression and data-mining techniques

**Participatory Research Methods and SDGs: Comprehensive Methodology:**

Participatory Research Methods and Local Concept of Agenda 21 are masterpiece solutions to the Global problem with Local Solutions and it also leads to different statistical distribution for different human population for solving their hunger and nutrition problems. Community Based Participatory Research Growing interest among academics and practitioners in finding new ways to study and address complex societal challenges has intersected in recent years with increasing community demands for research that is community based, rather than merely community-placed. The new focus on translational research to improve intervention outcomes within diverse cultures and contexts has also shone a spotlight on the potential of action-oriented and community-based approaches to research (CBPR),<sup>xx</sup>. CBPR is an approach or orientation to conducting research, not a method. It provides a structure and mechanism for collaborative and rigorous research, using well-established or emerging methods, with a community focus. CBPR challenges researchers to listen to, learn from, solicit and respect the contributions of, and share power, information, and credit for accomplishments with the groups that they are trying to learn about and help<sup>xxi</sup>. The W K Kellogg Foundation's Community Health Scholars Program (2001) define CBPR as "a collaborative process that equitably involves all partners in the research process and recognizes the unique strengths that each brings. CBPR begins with a research topic of importance to the community with the aim of combining knowledge and action for social change". Together, with many related action research and participatory research traditions, CBPR turns upside down the more traditional applied research paradigm, in which the outside researcher largely determines the questions asked, the tools employed, interventions developed and the kind of results and outcomes documented and valued<sup>xxii</sup>. In essence, CBPR is based on the following principles, <sup>xxiii</sup> : It is participatory. It is cooperative, engaging community members and researchers in a joint process in which both contribute equally It is a co-learning process It involves system development and local community capacity building It is an empowering process through which participants can increase control over their lives It achieves a balance between research and action CBPR: Engaging in Socially Responsible Research for Achieving SDGs In order to achieve the SDGs, a societal transformation is necessary and all actors must be mobilized. Through CBPR, there is a need to encourage strengthening of the collaborations between researchers, communities and civil society promoting the societal contribution of research. CBPR can effectively contribute towards the 'development of new knowledge and insights on various societal challenges linked to SDGs, and play an important role in providing sustainable solutions for the same'. Being community-based and involving the values of participation and research for co-learning and co-generation of knowledge, CBPR can be used for tackling local issues (such as water, sanitation, resource management, gender equality, etc.), and in the process, result in greater ownership of local problems as a step towards sustainable 'development', as compared to sustainable 'growth'. Three practical ways can be readily adopted under CBPR, for making the latter contribute to an informed understanding on SDGs: 1. Frame locally usable research Topics and questions for research abound; the key to effective local framing is 'stepping outside the boundary' of HEIs to interact with local actors so that they become stake-holders in such research. 9 Students and faculty at HEIs may frame their research questions which may produce locally useful and

actionable knowledge. Structured and regular interactions with local actors---district administration, local government, civil society, local business---may generate research questions that have relevance for achievement of SDGs locally.

For example, SDG9 is targeting resilient infrastructure and sustainable industrialization. Engineering faculty and students at HEI may study specific infrastructure gaps from a resilience lens in a city or district. Departments of energy, minerals and mining may find interesting research topics on green technologies for local industry. Students and faculty of economics and business may define their research to support small/medium businesses in that location to become resilient. Monitoring air quality and water treatment systems could be very actionable research for teams of students and faculty. 2. Build knowledge in partnership HEIs may need to create boundary-spanning structures for realizing cross-cutting partnerships, xxiv. However, when dealing with such partnerships, equally important is to be mindful of the existential power differentials among partners, their respective capacities and capabilities to contribute to the partnership, and its impacts on such collective efforts. A well thought out and calculated partnership, in turn increases the impact it has on the process as a whole. For example, SDG11 focuses on improving the quality of urban life. HEIs can partner with municipalities to contribute new knowledge for improved urbanization and governance of urban services. Most cities lack capacity to generate and maintain habitation level data, especially where rapid migration is occurring. Several faculties statistics, urban studies, planning, economics---can support such research. Studies of land use in urban areas and in-situ improvements in housing infrastructure may be carried out by faculty of architecture, geography, and engineering. Operations research faculty and students may undertake mobility analysis to provide insights into transportation design in cities. Once such partnerships are built, ongoing nurturance of relationships by HEIs may enable a wide variety of research opportunities for students and faculty in support of SDGs. 3. Learn new competencies Current training in research methodology in most universities does not prepare students to build partnerships.

Not much attention is paid to attributes like critical thinking, conscientization and ethical orientation. Furthermore, training in research methodology does not teach how to integrate disciplinary interests with local research priorities. Students and their teachers do not know how to share their research findings with local stakeholders, other than in the form of research papers written for a journal and/or a research conference. If a mutually beneficial partnership with local communities and institutions---business, government, civil society--- is built, research partnership may become supportive of new knowledge and its use. In order to be able to undertake such partnerships and locally relevant research, students and researchers at HEIs need to develop certain additional competencies. 10 It is possible to learn these competencies. Several innovative efforts have been going on in training of next generation of researchers in 'community-based participatory research methodologies. Additionally, research training can include understanding of multiple forms and sources of knowledge in society, and skills required to learn from them, understanding of ethics and values in research, power dynamics in partnerships, development of self as a researcher, etc. Competencies in knowledge mobilisation can also be learnt, as several HEI systems have begun to emphasise, xxvii. Therefore, HEIs interested in contributing to the achievement of the SDGs through their research expertise may need to invest in learning new research competencies for both students and faculty. The box below outlines such an initiative, Knowledge for Change (K4C), launched by the UNESCO Co-Chairs in Community Based Research and Social Responsibility in Higher Education, for training the next generation researchers in community based research. Moving forward: Leveraging CBPR for Achieving the SDGs Having understood the impacts and implication of CBPR in the process of sustainable development, it is now important to make efforts at forging an ecosystem where CBPR can be effectively and efficiently used for achieving the targets mentioned under the SDGs. The following are some suggested actions to take this direction: University/HEI leadership must encourage institution-wide appreciation of, and learning about, CBPR and its role in achieving the SDGs.

Platforms of Vice-Chancellors and university presidents must put this urgently on their agenda. Higher Education Institutions need to create institutional structures to facilitate community-campus research partnerships. Higher Education Institutions need to address the culture of career advancement to assure that credit for community engaged activities are recognized for merit and promotional purposes. To enable a targeted approach under CBPR, universities should commit its resources for supporting learning, generating knowledge and empowering change that have wide ramifications on "keystone problems" (whose solution would have wide impacts), such as girls and women's education or the availability of clean water. National and provincial/regional ministries responsible for higher education policy and Higher Education Councils in all countries must encourage, mandate and resource such

shifts towards linking research with the SDGs through CBPR, as part of the research function of universities. Associations of teachers, researchers and universities can play a mobilising role to generate demand for using CBPR as a tool for engaging with SDGs. Likewise, even students can become champions for furthering the cause of adopting the CBPR approach for achieving the SDGs. This feeds into their social responsibility, and gives them an opportunity to practice active citizenship, and emerge as responsible citizens, by engaging in issues of societal concern, with an objective to provide sustainable solutions. International networks and associations of universities and their leaders can likewise promote the idea of using CBPR for achieving the SDGs.

The International Association of Universities (IAU) is one such example. It has continuously reiterated the importance of higher education and research for sustainable development. A report xxviii published by IAU in 2016 titled, 'Higher Education paving the way for sustainable development', bears testimony to this fact. UNESCO has a special role to play in this regard, in particular through its UNESCO Chairs Network. Its 11 regional and national associations and offices should also be proactively convening dialogues with universities for promoting the application of CBPR for achieving the SDGs. Granting agencies at the local, national and international levels need to provide funding opportunities to build CBPR capacities within the civil society sector. Finally, civil society needs to play a pro-active role in endorsing CBPR, an area of work close to it. Civil society practitioners need to bring in their expertise on CBPR into partnerships with universities, who can then leverage it to find solutions to pressing local challenges linked to the SDGs. Much has already been done, and much more still needs to be done if we want to see CBPR evolve into an integral approach under the research function of academia, and its use for achieving the SDGs. It calls for the coming together of all like-minded stakeholders to encourage, promote and champion the cause of CBPR, as a potent tool for sustainable development.

### **Global Solution to Global/Local Problem: Importance of the Cow in the Indian Culture and Civilisation (Bhartiya Sabhyata aur Sanskriti)**

The cow is not just another animal for us, but the basic lifeline that supports us from our birth till death. We, the people of Bharat, who have been born and brought up in the traditional Sanatan/Hindu way of life share a deep bond of love and affection with the cow. We all are connected to it on the spiritual and emotional planes, unlike any other animal. In the Rig Veda, cow-slaughter has been declared a heinous crime equivalent to that of human murder and those who commit this crime shall be severely punished. The entire 28<sup>th</sup> sukta or hymn of the 6<sup>th</sup> mandala of the Rig Veda is abound with the glory of Gau-Mata (the cow). The Vedas accorded the stature of Aghanya to the cow, i.e. something which cannot be killed.

The cultural and civilisational roots of Bharatvarsha are largely rooted in agriculture and an agrarian based economy. Hence, the sacred cow and the life-sustaining milk that it provides have always played a role of vital importance in our day-to-day lives since ancient times. It not only serves as a source of livelihood but also represents the symbol of family pride. In the past, our ancestors relied heavily on milk, curd, buttermilk, and other wholesome dairy products derived from the cow for their daily nutritional requirements. It was a traditional norm in almost all households which domesticated the cow to give individual names to their cows. Thus, the cow happened to be a great asset, which depended on overall prosperity and financial status of the family. In this way, the cow became an indispensable part of the family whose basic existence was centred around the cow. This is true of many village households in India even today. Moreover, the major festivals celebrated in different parts of our country from Baisakhi in Punjab to Pongal in Tamil Nadu and Bihu in Assam, etc. are all related to the different seasons of agriculture as per their annual harvest calendars. The cow plays a significant role in most of these festivals. A versatile animal that the cow is, almost each and every product of the cow including its dung and urine can be put to some use or the other. It needs to be mentioned here that a drug developed by the Gau Vigyan Anusandhan Kendra in India had earlier bagged a patent from the US as a bioenhancer laden with antibiotics and anti-cancer properties. The research for the drug brand named Kamdhenu Ark was carried out jointly by the Anusandhan Kendra and the National Environmental Engineer Research Institute (NEERI). The research had found that Re-distilled Cow Urine Distillate (RCUD) was useful for protecting and repairing DNA from oxidative damage, which is a leading cause of ageing, cancer, and other lifestyle diseases.

When we are born, we first drink milk from our biological mother and when we grow up, we drink milk mainly from the cow. In this sense, even if we leave aside all the associated cultural and religious belief systems, the cow is almost like a second mother to us. It is an irreplaceable animal that nourishes us with every possible vitamins/minerals/nutrients during our lifetime. Thus, the cow represents the very essence and spirit of Sanatan Dharm.

Therefore, the solution to the problem of nutrition and hunger can be done by various ways as described above including following the Indian Cultural Practices.



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# विश्व जनसंख्या दिवस-2021

परिवार नियोजन कार्यक्रम के तहत विश्व बैंक, स्वीडिश अंतर्राष्ट्रीय विकास प्राधिकरण और संयुक्त राष्ट्र जनसंख्या कोष से मिला अरबों डॉलर के कर्ज के दम पर भारत में नसबंदी अभियान की शुरुआत 1970 के दशक में हुई थी। तत्कालीन जनसांख्यिकी/सामाजिक विद्वानों की भूमिका उन नीतियों के सफल या असफल होने की कहानियां आज बयां कर रही हैं।

: अधिक जनसंख्या बढ़ने पर नागरिकता समाप्ति से लेकर के तमाम सरकारी सुविधाओं से वंचित होने की चेतावनी देते हुए नई-नई जनसंख्या नियंत्रण नीतियों पर नियमित रूप से चर्चाएं हो तो रही हैं पर क्या यह नीतियाँ सर्वनिहित हो पाएंगी? उक्त व्यक्ति को सरकारी योजनाओं से वंचित रखने से उस व्यक्ति के विकास में बाधा होगा या जो बच्चे जन्म ले रहे हैं उनके विकास में बाधा होगा? जहां एक तबके को आधे मिनट के लिए बिजली कट जाने पर तकलीफ महसूस होने लगती हो के सापेक्ष दूसरे तबके को 24 घंटे में बमुश्किल 3-4 घंटे भी बिजली मिल पा रही हो। जिस स्लम एरिया में जाकर कुछ लोग एक मिनट भी खड़ा नहीं हो पाते उस वातावरण में दूसरे लोग अपना दिन रात गुजारते हैं। जिस पानी से कुछ लोग पैर धोना तक पसंद नहीं करते उस पानी को दूसरे लोग बेझिझक पी रहे हैं। स्पष्ट रूप से एक तबका दूसरे तबके के उतरन पर जी रहा है तो क्या ऐसी नीतियां सबके लिए लागू हो पाएंगी?

हम दो हमारे दो के नारों से गुजरता हुआ, बेटी बचाओ बेटी पढ़ाओ के नारों के बीच लगभग एक चौथाई लड़कियों की शादी आज भी 18 साल की उम्र से पहले हो जा रही हो तो वर्तमान के इन कानून की कौन परवाह कर रहा है? कुपोषण, भुखमरी, बेरोजगारी, बीमारी और गरीबी से निदान पाने के लिए जब शिक्षा ही मुख्य हथियार है तो वह शिक्षा सबको उपलब्ध क्यों नहीं हो पा रही है? और जिसको शिक्षा उपलब्ध हुई वे लोग बताए गए नियमों का पालन क्यों नहीं कर रहे हैं? आजादी से लेकर आज तक देश में गिने चुने करोड़ों दो करोड़ परिवार ही ऐसे हैं जिनके चार-पांच पीढ़ियाँ लगातार विश्वविद्यालय स्तर की शिक्षा ग्रहण करते आ रहे हैं, देश के अन्य 30 करोड़ परिवार जो पिछले कई दशकों से देश के मुख्य संसाधनों जैसे विश्वविद्यालयों / कालेजों तक की शिक्षा स्थल पर अपने कदम भी नहीं रख पा रही हैं, उनका क्या? प्रजनन संबंधित शिक्षा प्रणाली को और मजबूत किया जाए, हाईस्कूल-इंटरमीडिएट में ही मासिक-धर्म की उचित जानकारी, बच्चे पैदा करने का उचित समय, दो बच्चों के बीच उचित समय-अंतराल, लड़का और लड़की के भेद को मिटाने आदि पर विशेष ध्यान दिया जाए। आंगनबाड़ी स्वास्थ्य कार्यकर्ताओं के माध्यम से ग्रामीण स्तर पर जनसामान्य के बीच भी इन संदेशों को जन-जन तक पहुंचाने पर बल दिया जाए। आज के दौर में सरकारी और प्राइवेट के माध्यम से अलग-अलग जनसंख्या नीतियों के क्रियान्वयन की बात खास मायने नहीं रखती। मेरा मानना है कि अगर कोई व्यक्ति हाई स्कूल की शिक्षा ग्रहण करता है तो उसको उसी दौरान बता दिया जाये की अगर वह व्यक्ति सिर्फ हाई-स्कूल के बाद चार से ज्यादा बच्चे की इच्छा रखता है तो उसे आगे की शिक्षा से वंचित रहना पड़ सकता है और इसी तरह इंटरमीडिएट हो तो तीन, स्नातक हो तो उसे दो, परास्नातक/शोध विद्यार्थी होने पर सिर्फ एक से ज्यादा बच्चे अमान्य होंगे अन्यथा उनकी डिग्रियां उस स्तर के हिसाब से स्वतः निरस्त हो जायेंगी / अगर किसी व्यक्ति को निर्धारित बच्चे पहले से हैं तो उसे आगे की शिक्षा ही न दी जाए या जो भी हो कुछ कठोर कदम उठाये जाए।

अगर आप 2015 में जनसंख्या नियंत्रण को लेकर एक सर्वे कराते हैं, वर्ष 2021 में 6 साल बीतने के कगार पर, जनसंख्या नियंत्रण बिल को ड्राफ्ट करते हैं तो ऐसी स्थिति में (क्या नियत है और क्या नीतियां होंगी) यह समय ही निर्धारित करेगा। जो नीतियां 2017 में लागू हो जानी चाहिए थी वह हम 2021 में अभी बना रहे हैं। मेरा कहने का मत सिर्फ इतना ही है कि इतनी जटिल समस्याओं में तनिक भी देरी क्यों की जाए?

अगर पापुलेशन मोमेंटम के सिद्धांत को देखते हैं तो पिछले 5 साल में उत्पन्न जनसंख्या आने वाले कई दशकों तक अपना प्रभाव दिखाएंगी। बहरहाल राजस्थान व मध्य प्रदेश की तरह उत्तर प्रदेश सरकार द्वारा ड्राफ्ट के रूप में <http://upslc.upsdc.gov.in/MediaGallery/Bill07072021.pdf> जनसंख्या नीति के लिए वेबसाइट पर रिपोर्ट लगा दी गई है।

राज्य स्तर के बजाय पूरे देश के जिन जिलों में कुल प्रजनन दर 2.1 से ज्यादा है उन जिलों को चिन्हित कर विशेष रूप से उनकी अलग जनसंख्या नीति सार्थक और अधिक प्रभावशाली साबित हो सकती हैं। जनसंख्या वैज्ञानिकों/ नीति निर्माताओं की इन सब प्रस्तावों में कितना प्रत्यक्ष रूप से योगदान हो रहा है, इसके बारे में भी वर्तमान में एक प्रश्नवाचक चिन्ह बना हुआ है। जनसंख्या के हिसाब से सबसे बड़ा राज्य होने से उत्तर प्रदेश एक मॉडल के रूप में पूरे देश के लिए कितना कारगर साबित होगा? यह प्रदेश की सामाजिक और आर्थिक नीतियों पर निर्भर।



डॉ. धर्मराज

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# STATISTICIANS VS PEOPLE: FACTS VS PERCEPTIONS

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I remember the first time I heard the word 'Statistics' in class 6th, when I had just come back home from school, with a pale face and blood frozen like it would pop out of my veins, due to the bone-chilling cold of January. I had studied mean, median, mode that day, and with an excitement channeling through my entire body, I told my mother that I really loved Mathematics, and I was gonna study Maths for the rest of my life.

This was my perception as a kid. My sister, who was doing B.Sc. at that time with Mathematics as a subject, shouted from the adjacent room saying "That's statistics, it's not even Maths. Wait, and till you have to study the kind of boring Maths I am studying now." I laughed and said "I could never get bored of Mathematics. And what on earth is Statistics?" Looking back at this incident now, I couldn't agree more with my sister who based her prediction on facts unlike me who was completely overtaken by momentary love for Mathematics perceiving it as fact. As soon as I started studying mathematics in my Bachelor's program, I knew it would be the end of me and hence, I started hating Mathematics by the end of first semester itself. This is what most humans do, we all have a knack for making predictions and perceptions but most of us don't have enough facts or data to substantiate our theories.

This is exactly where Statistics comes in. Instead of perceptions, what the world truly needs right now is facts. And those facts are supplied by the untiring efforts of thousands of students, researchers, scholars and professors studying statistics related to various genres. These hard-working groups of highly-motivated human beings studying various types of statistics are called 'Statisticians'. I know, I know what you're thinking. How are statisticians any different from the normal students or scholars of any other subject such as Mathematics? Aren't they all equally important? Yes, you're right, every subject plays a certain role in the proper functioning and advancement of the human race but the only subject that every other subject needs to fulfill their purpose is Statistics. In short, Statistics is the fundamental building block of every new invention and discovery, or research and reviews. Instead of fumbling around with plausible possibilities, Statistics provides data to ensure success at a higher probability. If Einstein was alive in the twenty-first century, I bet he would have given us way more discoveries and theories to mug up for our exams because Statistics would have helped him do his work at a much faster pace, with much more accuracy and efficiency.

Back in 2003, the UK government carried out a survey to measure the levels of numeracy in the UK population. Once the survey was done, they were shocked to find out that for every 100 working age adults in the country, 47 lacked level one numeracy skills. Now, level one numeracy skill means the ability to deal with fractions, percentages and decimals. So this figure prompted a lot of hand-wringing in Whitehall. Policies were changed, investments were made and then they ran the survey again in 2011. Well, can you guess what happened in the new results? The number went up to 49 instead of reducing to a lower amount.

Hilarious, right? Statistically speaking, this survey can only be hilarious to 51 percent of the UK population in 2011. The reason why I found this study to be so amusing is because the UK has some of the leading Statistics colleges in the world like University of Oxford, University of Cambridge and London School of Economics. We would perceive the UK to be good at numbers as a whole community just like Indians are perceived in the UK and USA to be a set of 'Ramanujans'. Can you see how misleading our perceptions can be when Statistics and data aren't involved?

Gosh, what a scary world it would be without data, not being able to look at our old memories on Google photos, not being able to predict the stock markets, or not being able to make preparations for an upcoming tornado or tsunami. Statistics is truly a boon preventing so many people from suffering or losing their lives and providing them with so many helpful assets. Also, the world is ten times scarier today because of data, because of the readily available resources and the smart hackers presiding over the Dark Internet. Just like the entire world was bewitched under the unanimous terror of Whatsapp storing all our personal data, the same way we can never really know how our data is being manipulated if we remain blind-sided to the cons of using social media

frivolously. We all have our own perceptions about everything but basing our perceptions on data and facts makes us more confident about the rights and wrongs. Instead of blindly investing in a business with short-term success in sight or paying tens of thousands of bucks to an astrologer to find out about your remaining life-span while smoking ten cigarettes a day, or preparing for the third wave of Coronavirus pandemic while completely ignoring the strict instructions of the government by going on a trip to Manali, why not ask a Statistician for advice and be amazed at the factual answers you get which will definitely contradict your silly, uncorroborated perceptions.

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 the future also.

Matrika Shukla, Editor  
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### *Talent Corner*



AUSTAA celebrates the efforts of extremely talented Geetansh Singh, Son of Paritosh Singh (AUSTAA Member), who has performed the Indian National Anthem on Keyboard. We are delighted to share his YouTube link on the occasion of Independence Day. Enjoy his beautiful composition by clicking on the link given below. We wish him a bright future!

YouTube Link: <https://youtu.be/WhoXoP1B9J0>

## Inspiring Youth – Interview Section

**A**USTAAM has arranged an exclusive interview with Mr. D.K. Ojha, an alumni of Department of Statistics, University of Allahabad, batch, is currently serving Indian Statistical Service as Deputy Director General in Ministry of Health & Family Welfare. Hailing from Lucknow, Uttar Pradesh, AUSTAAM has arranged an exclusive interview with Mr. Ojha. 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. D.K. Ojha:** 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. D.K. Ojha:** As I was very focused on studies other problems were negligible to me. The only issue I faced was success pressure and handled that with my hard work. Improving myself day by day and getting closer to my goal was my mantra.

And Professors like Bhattacharya sir and G. S. Pandey was always there to support to any possible of kind.

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

**Mr. D.K. Ojha:** My point of joining University of Allahabad was to crack UPSC exams. After joining the university the kind of support and guidance I received kept me motivating. There was a positive competitive environment with my friends that also leads to success.

**AUSTAAM:** How much did your learnings at University of Allahabad helped you towards your service?

**Mr. D.K. Ojha:** Academic learnings at AU were best. The way professors and seniors were always there to solve your problems, answer your queries, help you with books and morally helped us a lot. Apart from that the most important lesson was *Work with sincerity and give your best helped me throughout the life.*

**AUSTAAM:** What is the secret of your success and who would you like to give credit for the same?

**Mr. D.K. Ojha:** My idea of working is to finish your work on time and efficiently. Give your best to whatever you are doing. Punctuality is my idea of success. I owe my success to the University of Allahabad. The guidance, support and their teachings of professors and seniors leads our path towards success.

**AUSTAAM:** How was your experience as an officer in the health department in the acute problem of COVID pandemic in the country?

**Mr. D.K. Ojha:** It was very challenging to deal with the pandemic. We all were not aware about that. So, firstly, we had to know about the disease and then work to control it.

I was very lucky to join as a team since beginning of the pandemic. We have setup control room, helpline call centre 1075 and MIS for infrastructure and worked for each and every section of India and even helped other countries too. And worked for 24\*7 either in the office or at home even if you are Covid positive. Approached pregnant ladies in rural areas provide help to them. Many patients who need our help, we have provided that door to door. And we have to update us daily as we get to know about new information related to disease and change our policy so we have to keep the balance and work efficiently so that the public shouldn't lose faith in the government and don't panic. Their responses made us satisfied and happy and inspired us to work selflessly.



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

**Mr. D.K. Ojha:** I love walking and it is necessary for health so I used to go for it. Yoga, meditation and worshipping the God were my idea of overcoming challenges.

**AUSTAAM:** Do you have any sweet memories of your time spent at University of Allahabad?

**Mr. D.K. Ojha:** All the time I had spent at University of Allahabad was a sweet memory to me whether it was with professors, seniors or with friends. We used to go at Sangam and chill there. We used to study together, party together, celebrating each other's success and gel with each other.

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

**Mr. D.K. Ojha:** I am very satisfied and happy with my life. Whether it is at work front (I have worked for different ministries with supportive and friendly team) or family support I'm very lucky. I'm enjoying my personal and professional life.

**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. D.K. Ojha:** Work with sincerity. You have to grab the opportunity by working hard. There is no shortcut. You should take a longer path that is full of challenges and it'll lead you to success.

#### Quick Bits:

1. *Favorite Song- Pal Pal Dil Ke Pass*
2. *Book that I like most- 5 A. M.*
3. *Idol Person- My father*
4. *Favorite hobby- Trekking and walking*
5. *Educational qualifications:*

*B. Sc from Lucknow University*

*M. Sc - University of Allahabad*

*MPS- IIPS, Mumbai*

*Certificate in project management- CIPM, PNP, PMI USA*

*Pursuing PhD from IIPS*

6. *Father's name- Late Ram Darash Ojha*

7. *Mother's name- Mrs. Madhvi Ojha*

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 the future also.

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## Inspiring Youth – Interview Section

A USTAAM has arranged an exclusive interview with Mrs. Akansha Singh, alumni of University of Allahabad, batch 2003-2008, who has received a funding grant at Durham University, United Kingdom to work as one of the leading researcher in a research project focused on methodological research in randomized control trials in social science for three years. She is also selected as a scientific committee member in the World conference for Public Health 2021 organized by Asian Metropolitan University, Malaysia. She deserves high admiration and our heartiest congratulations on his/her glorious achievement. This important, thought-provoking and highly inspiring interview is being presented here in its original form.



Mrs. Akansha Singh

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

**Mrs. Akansha:** Thank you all our AUSTAA members for your wishes and blessings.

**AUSTAAM:** How has University of Allahabad shaped you as a person and what life lessons did you learn during your academic term at the University?

**Mrs. Akansha:** I have joined Ewing Christian College of Allahabad University in 2003 to do my Bachelor in Science degree with Statistics and Mathematics as my main subjects. Further, I did my Master in Statistics for University of Allahabad main campus during 2006-2008. I was very new to Allahabad as a city, as I came from a small place Burhar in Madhya Pradesh to Allahabad for studies. I was very inspired by the fact that students in Allahabad work so hard to prepare for the administrative examinations and build their career. My fellow students and teachers were very cooperative and helped me in every way to know more about the city culture in general and in studies as well. Some of our friends, including me, created a group in Masters to study statistics together and we often discuss many relevant topics after our classes ranging from p-value to stochastic process. We were going to the Library above the Department of Statistics to make our notes from the best available book for that topic. Those statistics discussions, interaction with the aspiring students and time in Allahabad really motivated me to work hard in life and achieve my goals.

**AUSTAAM:** At what point of time did you make up your mind to pursue a career in the Research field?

**Mrs. Akansha:** As you may have seen from my response to the previous question, that I am very keen to learn more about Statistics as a subject. What fascinated me more that the techniques we learn in Statistics are so frequently applied in our day to day life. While doing my masters, I realized that I have deep interest in pursuing my career in higher research in applied statistics mainly, as I was more interested in the application of statistical methods in different disciplines. This thought was different to the other students in my Batch who were keen to apply for administrative examinations.

**AUSTAAM:** Most students struggle to find a path towards Research at Foreign Universities. What were your challenges and how did you overcome those? Also, what are the necessary steps one should take in order to pursue a career at Research field in foreign universities?

**Mrs. Akansha:** Based on my experience, I can say that I had actually started my journey by first finding a good research institute in India. I got selected in a Master of Philosophy course in Population Studies in International Institute for Population Sciences (IIPS) after my Masters in Allahabad. Further I cleared Junior Research Fellowship and did my PhD from the same institute. What is most interesting about the courses at IIPS was I was not just learning the technical methods, but also applying it to the real-world data. I got the opportunity to work on research projects with international collaborators such

as Harvard School of Public Health, WHO and CDC Atlanta. This exposure and environment at IIPS has really helped me to explore the possibilities in Foreign University. During my PhD at IIPS, I realized that I would like to advance my career in higher research in Foreign Universities. However, there were various challenges in acquiring such positions. First challenge was to accept the fact that you have to leave India and settle in a foreign country, which is very difficult but needs to be overcome if someone really wants to apply abroad. Next challenge was where to apply for such positions in abroad. Multiple questions came in my mind like which website, which university positions I should apply to. In order to overcome this challenge, I talked to some students and researchers who were doing research abroad through LinkedIn or during my short visit to a conference abroad. I also explored a lot on the internet to find the right websites where I can apply for postdoctoral research positions. Third challenge was to prepare a right set of documents for such positions. For preparing my documents, I looked at the good foreign universities WebPages, where they provide you a sample of cover letter, research statements. These examples really helped me to prepare my applications. Further, it took me a really long time to get my final position. I nearly followed this pattern of applying to various positions abroad for more than a year. From this experience, I can tell that you need to be patient to get your first position in Foreign University. But I will suggest keep applying until you get the right position. Making a direct contact to some Professor in abroad whose research matches with your interest can also be helpful sometime. Finally, after all this hard work, I got my first position in Belgium where I stayed for two years before moving finally to Durham University, United Kingdom.

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

**Mrs. Akansha:** The best time to apply for the positions and courses in abroad is after completing a Bachelor or Masters in India. The first choice should be to apply for higher research degree courses such as PhD, M.Phil or Master with some specialization in Foreign University, as a degree in foreign university can also open options to work in those Universities. I had directly applied for jobs in abroad, therefore it took me a long time to get my position. However, process of either applying for jobs or courses is the same as I said in my previous question response.

**AUSTAAM:** 'Time Management' is a key factor during preparations. Did you come across such difficulties during your preparation period? How did you manage it?

**Mrs. Akansha:** I agree, time management is really important to obtain any position either administrative positions in India or research positions abroad. I have started my preparation after submitting my PhD thesis for evaluation. As there is a time between your thesis examination and obtaining your degree. In this transition time, I took a job as a researcher in my PhD institute and started applying for the positions during this period. I used my free time on Saturday/Sunday or evenings after office every day for two hours to focus on my ambition to work in abroad.

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

**Mrs. Akansha:** This is a difficult question to answer. At each stage of life I got the right persons to guide me. In my childhood, my parents have always supported me to work hard for my education. During PhD, my PhD guide has always motivated me to work hard. His advice was there is no shortcut in research, you have to work hard to publish paper in good journals to create a strong research profile. My husband has also supported me to continue my research work and was very supportive while I was planning to apply for positions in Foreign Universities. For my research grant, I would like to give credit to two senior Professors in Durham University one from education and one from statistics background who have provided me this opportunity to be part of such a big project. They had always believed in my research capability and provided me with the best research environment.

**AUSTAAM:** Were you confident of your success in this task and how did you react to this news of your success?

**Mrs. Akansha:** I joined Durham University in 2018 to work on a research project. During this project, I had developed appropriate statistical and data science models to estimate the effect of educational and health interventions in randomized control trials and causal inference. During this project tenure, our team had managed to publish research papers and develop a statistics software package. With our work, we wanted to scale this research to a larger scale now for another three years. We, prepared a big research proposal in collaboration with different department in University. I took the role of co-investigator in this proposal and formulated this proposal in collaboration with experienced researchers from different departments so that we have an expert team of statistician, education and health researchers. Since we already had published our work on the similar topics, this has helped us to prepare this proposal and obtain this new grant. After obtaining this grant, I was very excited as this was my first such massive grant with such a large team. My earlier grant in Belgium or India was mostly my individual projects. Further, I am also very active in collaborating with researchers in different countries like the USA, Belgium, South Korea, Malaysia and India of course. I have published various international level articles in application of statistics in health, population and social science. With my contribution in these fields, World conference of public health conference organizers wanted to involve me as Scientific Committee member for organizing this conference.

**AUSTAAM:** How is Research different from India than at Foreign Universities? What were your struggles and how did you face it?

**Mrs. Akansha:** In terms of students and researchers capabilities in India or Foreign University, I would say there are not any major differences at both the places. People are hardworking and keen to-do research at both places. The key differences are the better research facilities available in Universities abroad, various funding organizations in Foreign countries are keen to fund projects in different disciplines, and this allows researchers to explore various interesting topics here. The researchers with whom you are working in Foreign University come from different countries, which exposes you to the research world of those countries as well and you can easily prepare big cross country proposals as well, which have higher chances of acceptance for funding. For example, my team has researchers from more than eight countries in the world. However dealing with researchers from different countries can be challenging sometimes. But, keeping yourself open to their thoughts and ideas can help you to connect with them better. Other problems can be communication with local people for administrative work and outside life, which can be overcome slowly once you know the people better.

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

**Mrs. Akansha:** Yes, it affects you to some extent. For example, the education of the parents motivates you to continue your education. But if you are motivated and passionate enough to achieve something and get the right support of family, educational institute and friends you will overcome all educational, financial and demographic status factors.

**AUSTAAM:** Any word of advice, suggestion or messages you would like to give to the future aspirants?

**Mrs. Akansha:** I would suggest all students and future aspirants to have faith and belief in their ability and constant efforts and focus on your career goal and ambition is necessary. Take your failures in a positive way and keep trying until you achieve your goal. Take the advantage of the IT advancement and internet for exploring your career options or research conducted in India and Foreign Universities. Connect to researchers through LinkedIn, Research gate platforms to know what they are doing in research. Visit university Libraries too as they play a great role in your education and research. My PhD institute provided us access to such a vast library with access to the best journals, books and statistical softwares. Lastly, I would like you to know that there are huge opportunities for researchers not only just in the field of the statistics but also in public health, biostatistics, social statistics, and data science.



## Fun bits:

1. **Favorite Movie:** *Bend it like Beckham, Swades*
2. **Favorite Book:** *The 5AM club by Robin Sharma; 7 Habits of Highly Effective People by Stephen R. Covey*
3. **Hobbies:** *Exploring new cities and places and listening to songs*
4. **Biggest Strength:** *Not afraid to do hard work and believe in consistent efforts*
5. **Song that I like most:** *Yeh jo desh hai tera in Swades*
6. **Celebrity crush:** *Barack Obama*
7. **Favorite quotation:** *Where there's a will there's a way by Pauline Kael*



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 the future also.

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# INDIAN STATISTICAL SERVICES

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**In recent years, "Statistics" has come among the one of the best choices among students to choose as their career.**

Statistics is a promising field of study which is close to economics but is more mathematical in nature, having wide range of exciting and versatile sectors to study also having numerous scope of careers opportunities like Market research, Business analytic, Data science, Actuarial statistics, Professor, Risk analyst, Biostatistics but it's more satisfying in serving our nation by joining as govt. officials **"The country can be changed from only two places, one at the grassroots level with revolutions, revolts, and one from top levels such that chair of UPSC"** among all of them one is came out as UPSC ISS The job as an Indian Statistical service officer is one of the most prestigious jobs for statistics.

ISS is the gateway to the central service as Group A officers it is the administrative inter-ministerial civil service under Group A of the Central Civil Services of the executive branch of the Government of India. Aspirants who successfully pass ISS examination are placed in various allied offices where specialists in statistics are required. ISS officers come under **Ministry of Statistics & Programme implementation. (MoSPI)** The Officers of the Indian statistical Service are posted in almost all the major Ministries, Besides Cadre posts, ISS officers go on deputation to serve in various domestic organizations like state governments and regulatory bodies. Officers from the service are also appointed on deputation to posts in the Central Ministries/ Departments under the Central Staffing Scheme.

**HISTORY & ORIGIN OF ISS:** it was all started from a committee constituted for examining the matter of establishing statistical cadres after the cabinet decision of 26 July 1952. The Committee submitted its report in September 1953 and recommended formation of 'Statistical and Economic Advisory Service'. However, Professor PC Mahalanobis (Honorary Statistical Adviser to the Cabinets) did not favor the idea of a combined Statistical and Economic Advisory Service and suggested an alternative scheme for creation of a Central Statistical Pool. After deliberating on various contradictory views, the Cabinet on 12 February 1958 decided that two separate services namely Statistical Service and Economic Service should be formed. This decision paved the way for formation of ISS and finally, the service was constituted in 1961 as a cadre of qualified professional with core discipline of statistics.

**NEED & WORKS:** The Indian Statistical Service (ISS) was constituted in November, 1961 as a Group A Central Civil Service to meet the need of professional statisticians for planning, policy formulation and decision making by the Government. The M/o Statistics and Programme Implementation (Mops) is the Cadre Controlling Authority (CCA) for ISS Cadre. Presently, the ISS Officers are spread over more than 40 Ministries / Departments / Organisations of the Government of India. Strategic Human Resource Management of ISS Cadre in a planned and transparent manner is one of the prime objectives of the Ministry.

**When Parliament session starts, ministers need only ISS officers to give them data and reports. And workload differs with department where posting is.**

**TRAINING:** National Statistical Systems Training Academy (NSSTA) The Academy, having state-of-art facilities for training and boarding and lodging, is committed to building official statistics capacities at the National and International levels. The NSSTA provides training to statistical personnel from

both within the country, mainly from the National and State Governments and foreign participants. The training programmers are meant both for fresh recruits and in-service Officers for different target groups viz. Indian Statistical Service, Subordinate Statistical Service, and many more

**JOB PROFILE** - A+ grade in terms of payment, perks benefits such as Basic Pay, HouseRent Allowance (HRA), Dearness Allowance (DA), Transport Allowance (TA), Conveyance allowance, Maternity benefits but in terms of social status and ground-level people attachment slightly lower grade because it's like In society, People easily and generally don't understand what we are and what we are doing .and what ISS is all about, But in central government, you will be respected a lot in all ministries.

**CAREER GROWTH:** ISS officers start from the field, this will enable them to appreciate how data is being collected and what are the challenges faced in the data collection process.

Thus, after completion of probation, all direct recruit ISS officers shall be preferably posted in field offices of MoSPI A candidate selected at a favorable age can expect to rise quite high in the career and touch the level of even Secretary to the Government of India, in any Ministry concerned with economic affairs.



**TRANSFER:** ISS officers shall be transferred out of the station of posting on completion of 5 years of continuous service at the same station of posting excluding Delhi. Since the majority of the ISS posts are in Delhi, it may not be feasible to transfer out all officers who have completed 5 years of continuous posting in Delhi. However, if the need arises to transfer out officers from Delhi then, based on requests from an officer for continue posting at Delhi, preference for continue posting in Delhi shall be given to the officer who has completed at least 5 years outside Delhi posting.

**DEPUTATION:** An officer may be allowed to go on deputation outside the MoSPI for not more than three terms in his/her entire career, each term not exceeding 5 years and total tenure on deputation in entire career shall not under any circumstances exceed 15 years.

There shall be a cooling-off period of 3 years after completion of each period of deputation or as prescribed by the Department of Personnel and Training, whichever is higher.

Every year approx 20k registration forms are submitted every year but approx only 4–5k ISS aspirants give the exam and no of seats varies from 10–50 every year.

So now it's time to start about how to join ISS after this all motivational so first thing as its namesuggest Statistics as your subject

### Eligibility criteria as follows:

Any Indian students obtained a Bachelor's Degree with Statistics/Mathematical Statistics/Applied Statistics as one of the subject or a Master's degree in Statistics/Mathematical Statistics/Applied Statistics from a recognized University and have attained the age of 21 years and must not have attained the age of 30 years on 1st August of the year of exam is applicable for filling the form through <https://www.upsconline.nic.in>

Now, if eligible, then appreciate the exam pattern

- Part I is written examination carrying a maximum of 1000 marks.
  1. One paper on general English, of **100 marks(6 questions)** , for three hours
  2. One paper on general studies of **100 marks (5 questions from each section of history geography economic and polity)**, for three hours.
- Total no of question = 4 (5 question in each section)
  1. HISTORY (25 MARKS)
  2. GEOGRAPHY (25 MARKS)
  3. ECONOMICS (25 MARKS)
  4. POLITY (25 MARKS)
- 3. 4 papers, on statistics, each of 200 marks. Statistics I and II are of Objective Type Questions containing 80 questions with maximum marks of 200 in each paper to be attempted in 120 minutes. **Statistics III and IV are of Descriptive** Type with Short Answer or Small Problems Questions (50%) and Long Answer and Comprehension problem questions (50%). At least one Short Answer and One Long Answer Question from each section are compulsory.

Statistics 1 having topics probability, Statistical Methods, Numerical Analysis Computer application and Data Processing

Statistics 2 having topics such as linear model, statistical inference and hypothesis testing and official statistics

Statistics 3 which is descriptive paper having topics as Sampling Techniques Econometrics Applied Statistics

Statistics 4 have choosing options as Operations Research and Reliability, Demography and Vital Statistics, Survival Analysis and Clinical Trial, Quality Control, Multivariate, Analysis Design and Analysis of Experiments, Computing with C and R

Presumably there would be some short listing of candidates, based on the marks obtained.

Part II is viva-voce of such candidates as may be called by the commission, carrying a maximum of 200 marks.



### **Tips and tricks for the exam:**

1. Practice writing essays for the General English exam. This is because you will need to write a number of long answers in little time. The only way to get better at this is through practicing essay writing.
2. To pass the General Studies paper, read the NCERT textbooks class 12.
  - HISTORY = Freedom Struggle - A brief history of modern India (Spectrum), Post-Independence India - Nitin Sangwan Notes
  - GEOGRAPHY = Geography Videos by Mr. Rajtanil (Mrunal.org) Physical and Human Geography by GC Leong
  - POLITY = Indian Polity by Laxmikanth
  - ECONOMICS = Indian Economy by Santee Vera, Budget and Economic surveys (Summaries), Online Websites like Investopedia and Arthapedia
3. make fix Time table and study plan and short notes with statistics cheats and stick to them with study wall.
4. do not choose your optional earlier first study all subjects then decide with your intrest try to choose scoring topic.
5. more focused in results and direct answer remember all the mle ,moments , unbiased, sufficient and all kind of estimators and in questions paper like ISS P1,P2 it not important to find all bydoing it just mug up all of it
6. SAMPLING AND ECONOMETRICS are most important (ISS P3) you will find that sampling econometrics, time series , index no so if you closely observe you will see that there is only one compulsory question 30 make for sump 30 for eco 20 for time series or index no total 80 marks compulsory and in next question are choosing so 120 marks in choosing so it's better to study samplingand econometrics and you can fully leave time and index Total SAMPLING = 110 MARKS ,total ECO = 70 MARKS
7. Try to score more by English and general science and in ISS P 1 ( COMPUTING ) , ISS P2
8. ( OFFICIAL STATISTICS ) For English study wren and Martin for English for GS NCERTS are sufficient good if you join a coaching for gs.
9. Make good notes for both the first two papers. This is because good notes will help you very much during the revision process.
10. Find previous years' question papers on the official website of the Ministry of Statistics and Pro- gram Implementations. Practice solving these papers to know what portions are more important to study.
11. Be thorough with all statistical concepts mentioned on the syllabus of the exam.
12. Make sure you are aware of the negative marking scheme for the exam. Be strategic in choosing which answers to attempt by making a plan while answering previous year papers.
13. Eat a healthy diet and get enough rest before the exam. Try to remain calm throughout the exam so that you can answer questions clearly.
14. Find previous years' question papers on the official website of the Ministry of Statistics and Pro- gram Implementations. Practice solving these papers to know what portions are more important tostudy.
15. Be thorough with all statistical concepts mentioned on the syllabus of the exam.

16. Make sure you are aware of the negative marking scheme for the exam. Be strategic in choosing which answers to attempt by making a plan while answering previous year papers.
17. Eat a healthy diet and get enough rest before the exam. Try to remain calm throughout the exam so that you can answer questions clearly.

### **NO OF SEATS AND CUTOFF ANALYSIS**

<b><u>YEAR</u></b>	<b><u>SEAT</u></b>	<b><u>CUTOFF</u> <b>(1000)</b></b>	<b><u>CUTOFF</u> <b>(1200)</b></b>
<b>2021</b>	11	NA	NA
<b>2020</b>	47	NA	NA
<b>2019</b>	33	432	589
<b>2018</b>	32	386	567
<b>2017</b>	29	410	580
<b>2016</b>	13	406	584

## STATISTICS IN INDIAN INSTITUTIONS AND UNIVERSITIES

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In today's world of digitization, data plays a very important role. Given the growing importance of decisions and opinions based on data, it's crucial that you can critically assess the quality of analyses that others present to you. Statistics is the key to learning from data and navigating common problems that can lead you to incorrect conclusions. Statistics is an exciting field about the thrill of discovery, learning, and challenging your assumptions. Statistics are also used in the fields such as economics, medicine, demography, psychology, advertising, etc. If you think about it, there is not a single field that does not need the help of statistics! Sports, medicine, marketing, economics- name the field and statistics find an application there!

**Statistics is taught in all different levels of education**, certificates, diplomas, PG diplomas, Bachelor's degrees, Master's degrees, and also Doctorate degrees. As the world of business becomes more globalized, the need for young talent with extensive specialized skill sets and knowledge heightens. This means an increasing amount of leading universities and business schools have to develop innovative master's programs to meet such demands

**The duration of certificate courses** is a few hours to up to 6 months. Diploma and PG diploma courses can be done in 1 year or 2 years Bachelor's, Master's and Doctorate courses are completed in 3 years, 2 years and 3 years respectively.

Some Certificate and Diploma Courses like

- Certificate in Statistical Methods and Applications & Diploma in Statistics.
- Some Bachelor/Undergraduate Courses such as Bachelor of Science (Hons.) in Statistics & Bachelor of Arts in Statistics (B.A.), Bachelor in Statistics (B.Sc.)

- Some Master/Postgraduate Courses are Master of Science (Hons.) in Statistics, Master of Arts in Statistics and Masters in Statistics.
- At end some Doctoral Courses are Ph.D. in Statistics, Master of Philosophy in Statistics
- As far we have seen some good courses through the scope of statistics it's time to know about various institutions and colleges where we can study these course, the growth of India from past some years has betterment in the education sector which leads to uplift the study pattern and widened the scope and research sector with overall nourishment of the mind of a student
- The Indian university course has been designed to provide the opportunity to broaden knowledge in several
- fields of mathematics and its applications. The learner has to do project work keeping in mind the research centricity. Top statistics colleges provide theoretical and practical knowledge to students on the research and analysis of data using various models. This course provides relevant knowledge and covers a wide array of subjects like time series analysis, linear models, design of experiments, etc.

### **ELIGIBILITY CRITERIA**

Eligibility for graduation in statistics - Being a Science Degree, candidates who have completed and cleared their class 12 board examination in the stream of science from a recognized board of education will be eligible for the course. However, all candidates must have cleared Mathematics, which is compulsory in all Statistics Colleges in India. They must also ensure that they have secured 50% aggregate score in Mathematics along with other compulsory subjects, as specified by the college.

Eligibility for masters in statistics - BSc / BSc Honors in Statistics or Mathematics or Mathematics with Computer Applications along with Statistics with a minimum of 60% marks from a recognized university or have studied statistics minimum of 2 years or 4 semesters in graduation

Eligibility for PhD or M. Phil Statistics:- Candidates must hold a Master's degree in Mathematics or Statistics with an aggregate of at least 55% marks to seek admission to this program.

### **Universities and institutions offering courses in statistics**

Choosing colleges depends on what you want. **Placements or Knowledge or Both.** These two factors help out in filtering the list of colleges. Campus placements provide the students with a foot-in- the-door opportunity, enabling them to start off their career right after they have completed their course curriculum. Placements have gradually become an integral part of an institute's offerings, which was not the scenario earlier. Nowadays, students pay special attention to placement records while selecting a college or university for the admission. so some good placements institutions are , IIT Kanpur , IIT Mumbai , ISI , Delhi University , Hyderabad University , Mumbai University , pune University and many more we will discuss further .

Second factor is academics, will it give you vast statistical knowledge which fulfill your hunger like Calcutta University, Presidency University, Banaras Hindu University, Madras Christian College Loyola College, Chennai mathematical Institute are some university which gives you a great area of knowledge.

**Indian Statistical Institute** is the first name came out when we talked about statistics study nobody goes to the Indian Statistical Institute for a better branch. They go for the love of Math's and Statistics . ISI is the Mecca for mathematics and statistics education in India. It has been declared an "Institute of National Importance". It is one of the few colleges where you get a stipend to study at an undergraduate level. That means you do not pay fees, but earn money for studying. The two courses offered, at undergrad level, are Bachelor of Statistics (B.Stat) at Kolkata campus and Bachelor of Mathematics (B.Math) at Bengaluru campus. Both the courses are three year rigorous programs. The curriculum can be seen on the website and as for toughness; it is more selective than JEE

due to the far lesser number of seats. The written exam is divided in two parts: objective and subjective. The objective part is not too difficult, in fact, easier than JEE Advance. But the subjective part just blows you away. ...?? <https://www.isical.ac.in>

**IIT MATHEMATICAL STATISTICS** Every student has a secret dream of having an IIT tag, many students want to study in top institution like IIT after class 12 life gives you another chance of getting IIT through IIT JAM exam. 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. Courses offered M.Sc., M.Sc. + PhD, M.Sc. + PhD Dual Degree, M.Sc. + M.Tech and various other integrated post-graduate programs <https://jam.iisc.ac.in>

**Calcutta University (CU)** Statistics capital of India which is none other than Calcutta, Calcutta is the Hub for Statistics. Calcutta University (CU) Calcutta is the best place for statistics is that most of the students from Calcutta are able to clear ISI MSTAT Entrance exam because of the syllabus they are studying in their under graduation. In short: If you are more inclined towards Mathematical portion of Statistics, ISI is definitely better. But in terms of learning more of core Statistics, I consider CU above ISI. Of course while in ISI you would get an average 15-18 Lpa job easily, from CU you would get nothing like it. <https://www.caluniv.ac.in>

**Lucknow university** where the dept offered MSc in 1950s Dr Huzurbazar (later of Pune University) Dr Patankar (founder of Statistical Quality Control at Ahmadabad textile industries) Dr B P Adhikari (later Director ISI Kolkata) headed the department at some times in 1950s. Capital city of Uttar Pradesh (Nawab ka shahr), known for its ISS oriented course <https://www.lkouniv.ac.in>

**Chennai mathematical Institute** have MSc data science course and Madras school of economics have PGDBA in Financial engineering and Business analytics <https://www.cmi.ac.in>

**Delhi University** Delhi is known as capital of India for a reason, Delhi NCR - Statistics is offered by only seven colleges in Delhi University, the top ones being Sri Venkateswara College, Lady Shri Ram College, Hindu College, Ramjas College, and Kirorimal College. BSc (Hons) Statistics is one of the finest courses offered by several colleges of University of Delhi. DU syllabus matches a lot with ISS so it's clear cut winner in terms of govt. exams such as ISS, RBI GRADE B. 50% seats in DU are filled on the basis of merit, i.e., your marks in graduation. (They have cutoffs for this.) And the rest of the seats are filled through an entrance test which is conducted by DU only <http://www.du.ac.in>

**BANARAS HINDU UNIVERSITY** .Bhu (course structure is a little bit theoretical), The Department of Statistics here has quality teachers, the teaching and learning techniques here are fine. Also, a no. of companies visit here and there is a fair chance of you getting a campus placement with a fair package. Some students opt for PhDs as well. IT IS CONFORMABLE FOR VARIOUS COMPETITIVE EXAMS LIKE INDIAN STATISTICAL SERVICES <https://www.bhu.ac.in> <http://bhuonline.in>

**Savitribai Phule Pune University** Faculty are too good. syllabus also nice, and 100% placement are available. <http://www.unipune.ac.in>

**Cucet** Central Universities Common Entrance Test or CUCET is a national level entrance test conducted once a year for admission to UG, PG and Research programmes in 14 central universities and 4 state universities. in which central university of Rajasthan, Punjab and South Bihar are top colleges <http://www.cucetexam.in> <https://www.curaj.ac.in>

**University of Hyderabad** In case you're looking for research, UoH has better facilities in a certain sense. It's quite good in terms of faculty and infrastructure. You get a lot of exposure over here as it is one of the best University of the country. It is also quite reputed in Science and Math's <https://uohyd.ac.in>

Some other colleges are Madras Christian College (MCC), Loyola College, Symbiosis Statistical Institute (SSI)

#### **OPTIONS FOR STUDY ABROAD AS STATISTICAL STUDENTS**

Nowadays, going to study abroad has become an easier process than ever before. The world has become a global village, with technology to talk with people from any corner of the globe and move fast to any part of the world in a matter of hours. In such a setting, Indian students who wish to study abroad have a wide variety of opportunities in front of them

You need to have a 16 year Schooling i.e. (12 yrs school + 4 years college) if you are applying for US. You could join a master's course for a year and discontinue and then pursue it there. If you are applying for the top tier universities you will need 4/4.5 GPA. You need to clear the **TOEFL/ IELTS** depending on whether you are applying for US/UK. You will need a very good GRE score. A reference letter from the statistics department of your previous college. These procedures change for different colleges.

- 1) Carnegie Mellon University
- 2) Harvard University
- 3) University of California-Berkeley
- 4) Purdue University
- 5) Brown University
- 6) Stanford University
- 7) University of Michigan- Ann Arbor



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 the future also.

**Ashish Kumar Pal, Editor**

**Email: [ashishkumar10pal@gmail.com](mailto:ashishkumar10pal@gmail.com)**



## Members' Messages

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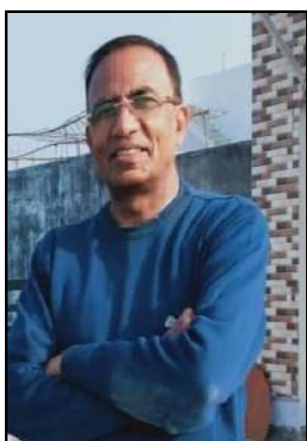
***Coming together is a beginning, staying together is progress, and working together is a success. - Henry Ford***



The launch of the AUSTAA Magazine, a culmination of the efforts of the AU Statistics family to provide a platform for active participation of every member and to benefit by the contents.

My Best Wishes for its constant progress with time.

***Prof. Dr. Madhulekha Bhattacharya, Professor and Director (Retd.), NIHFV.***



It is heartening to know that Allahabad University Statistics Alumni Association (AUSTAA) is going to publish online, the inaugural issue of their in-house magazine, AUSTAAM. The members of this newly formed association are doing excellent work in academic and social fields, and the magazine will certainly be the reflection of their brilliance. I congratulate the Editorial Team for their tireless efforts, and wish all success to them and the Magazine.

***Mr. O. N. Pathak, IRS (Retd.), M.Sc.***



***"Teamwork begins by building trust. And the only way to do that is to overcome our need for invulnerability." – Patrick Lencioni***

I have great pleasure in conveying my best wishes to Allahabad University Statistics Alumni Association to launch the first edition of 'AUSTAAM'.

My best wishes are with all the editors, contributors and youngsters who are involved in bringing out the first issue of the magazine.

I wish all success and hope that this launch will be a start of the new milestone set by current AUSTAA family members.

I hope this tradition of togetherness will be carried through by the coming generation of AUSTAA members in future.

***Mr. Sanjay Mishra (IAS) District Magistrate of Panna (Madhya Pradesh), M.Sc.***



AUSTAAM- great initiative by students of statistics- a big forum/platform for multiple activities. I hope it will energise new students who are preparing for their future and alumni's to retrospect themselves. My heartiest congratulations to all AUSTAA team for beautiful efforts.

***Dr Anand Mishra, Director, Planning Department, Govt. of U.P., Lucknow, M.Sc.***



Looking forward to experience the incredible reading journey with the novel enterprise AUSTAAM.

Best wishes to team AUSTAA

***Dr. Ranjita Pandey, Professor at Department of Statistics University of Delhi, D.Phil***



I feel blessed to have my roots at the University of Allahabad. I have a very close relationship with GS Pandey Sir, S. Lalitha Ma'am, and Bhattacharya Sir. They have always guided us, not only to score marks but also to do much better in the statistics field.

My message would be there's no shortcut to do any work. One should always have a soft approach to mentorship. Mentor your friends and juniors without telling them that they are being mentored, otherwise, they'll feel that they're changing and everybody resist change. Best wishes to AUSTAAM Team.

***Mr. D.K. Ojha , DDG. Ministry of Health & Family Welfare GOI, M.Sc.***



First of all, I would like to thank AUSTAA for welcoming me into this BIG and lovely family where everyone has respect, love, affection, and care for each other like a true family. My sincere thanks to Sanjay Mishra sir (DM, Panna) who conceived the idea and brought everyone together on a single platform. Thanks to Himanshu and Team for putting in their valuable time to take care of all the operational aspects associated with this group. This digital magazine is another effort to create a medium where we can share our professional and social experiences, mentor the younger generation to grow in their career, share our knowledge, and also showcase the creative side of self with each other.

This year has been a mix of happy and sad moments for all of us. Several members of the group have achieved personal milestones by cracking the prestigious UPSC exam. My best wishes to all of them for their bright future. At the same time, few of us have lost our loved ones in the devastating 2nd wave of Corona. I have been through this pain. We need to learn lessons from this unusual time and help each other being human and stay together always. At last, I again extend my best wishes to the whole AUSTAA group and members for any future endeavours. Stay safe, Stay together, and Stay happy.

***Mr. Paritosh Singh, Delivery Manager at TCS, M.Sc.***



I am pleased to learn about the first edition AUSTAA magazine. I came to know that team AUSTAA is working hard to serve the AUSTAA members and humanity in COVID 19 pandemic and developed a helpdesk/dashboard to provide various information about the hospitals, Doctors, etc. They helped thousands of people to come out from the risk. No doubt this creative endeavour "AUSTAAM" will bring out an array of artistic and scientific expressions with distinct dimensions of literature and research. I do appreciate Dr Ashutosh Shukla and other editorial team members and confident for their successful completion of this tedious yet daunting task of putting together the myriad thoughts of members of AUSTAA into a meaningful and delightful magazine 'AUSTAAM'.

***Dr. Jitendra Kumar, Associate Professor & HOD, Central university of Rajasthan, D.Phil***



It gives me great pleasure to know that 'AUSTAAM' is ready for publication. I take this opportunity to congratulate the editorial board for bringing out this magazine as per schedule, which in itself is an achievement considering the tireless effort and time required that have come to fruition in the form of this magazine.

I applaud the editorial team for the hard work and dedication they have invested in realizing this goal and wish my dear students success in all future endeavours.

***Mr. Himanshu Katyan, Data Scientist, United Kingdom***

With the collective team effort and tireless work, AUSTAAM (Allahabad University Statistics Alumni Association Magazine) is all set to be launched as per the decided schedule. The feeling of being a part of this magazine gives immense pleasure and happiness.

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 the future also.

**Sakshi Srivastava, Editor**  
**Email: Sakshi857788@gmail.com**



## Extrinsic and Intrinsic

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Hope, desperation, excitement, disappointment possibly those were the variety of feelings which characterized your elements in life when you entered a postgraduate class; we too were no exceptions when we joined first batch of Statistics in Allahabad University. I am talking of 1968 when I was barely 19, a bit immature coming from a modest background and freshly graduated from Ewing Christian College, Allahabad. Fortunately we were only 10 students, more or less from the similar background and feelings were given vent to without reservations which was a big tension buster. Yes A.U. provided us everything, discipline, education, a post graduate status, competitive edge, recreation ( I played Basket Ball for University ) ; all ingredients for a successful life and in my case a life companion too who was my contemporary in Zoology. I am nearing 72 now with a well settled family, in some what good shape health wise and playing Golf twice a week. I am confident that most of my successors in the Statistics who might happen to read this piece would have encountered similar or better fate. What more one can ask for, cushy life no responsibilities.

Well, not really. As parents and grandparents our responsibilities have increased manifold. It is not unique that we sacrifice our needs for the want of our children and try to provide them a security blanket. I think selective animals also do that. Literature narrates that best security value elders can provide is to present a role model whom children can emulate. I am reminded of a real life incident. After passing out from AU, I joined as a lecturer in Statistics in Ewing Christian College, Allahabad. Once travelling from Kanpur to Allahabad in a third class compartment, I observed a well to do family educating their son that when ticket checker asks you your age , tell them it is eleven and half because those days children below 12 years were eligible for half ticket. I happened to be just behind them when they came to main exit on platform no. 1. The TC stopped them and objected to half ticket as boy looked older. Father loudly insisted on him being below twelve but TC obviously skeptical made an innocuous enquiry, " Son, which class do you study". Class 11 came the prompt reply and the cat was out of bag. Some parents bring their children up while others bring them down. Character building is about imparting good values, discipline and a sense of responsibility. Son must have observed father settling the issue with TC and a new lesson in all pervading corruption was learnt. A breakdown in family values amount to systemic distortion in the life of all younger members.

A popular story is that G B Shaw in a party asked a socialite to spend a night with him for 100 pounds. Lady went wild and said, " how dare, I am a respectable married woman." Then Shaw offered 1000 pounds and lady exploded, threatening to call her husband. He persisted and raised the offer to 10000 pounds with the assurance that it will always remain a secret. Lady considered and said may be. "What if I offered only 10 pounds, he asked". Lady indignantly shouted "What do you think I am". Shaw replied calmly, "That is settled madam, we are only bargaining about price". This story summarizes the state of corruption in our country. Newspapers are full of such stories and we ourselves might have witnessed such incidents. Ground levels thrust to abhor such traits are imminent and beginning has to be made at family level. The motto of Allahabad University in Latin "Quot Rami Tot Arbores" i.e. As Many Branches So Many Trees aptly sums up the lesson "What You sow is What You shall reap." Our intervention in the life of off springs should be appropriately measured. It is an age old tradition in our homes to make yoghurt. Milk is boiled and allowed to cool to mild temperature. A small portion of leftover yoghurt for the purpose is then mixed with milk. The mixture is left overnight. By next morning thin milk is converted into thick yoghurt. If more than needed yoghurt is added, milk becomes sour. Guidance of we seniors is that left over yoghurt which should be added in exact portion, not losing the sight of the fact that excess of it may encourage rebellion. At the same time allowance has to be made for imperfections as none of us is perfect. We have to accept each other with good and bad and if a loved one goes off the track, our solemn responsibility is to bring him to track. Yet the ultimate mission of life should be to discover one's self, to gain knowledge about self. The knowledge of self helps you sharpen your wisdom. One can take the guidance of scriptures and saints but efforts have to be individual, this cannot be delegated. We gain the wisdom through study, reflection and contemplation upon the truths of life lay in scriptures. Approach them independently with no bias. The process of learning will gradually unveil the Self within. We are our own savior. Human beings alone have been gifted with this potential. No other creature is blessed with such faculty. My innate belief is that we Indians are more advanced in this faculty as compared to the rest of world. Our ancient scriptures, traditional upbringing, family precepts and religious openness help eradicate ignorance and imbibe us with positive emotions.



The bliss of self realization is infinite. A person who revels in this state of bliss remains absolutely fulfilled. This is the exalted state of happiness and nothing, even the strongest sorrow, can diminish it. The Enlightened is no superhuman, lives in his home, with his family amidst his environment with perfect objectivity. He looks at everything happening with an impersonal angle and is a source of infinite wisdom and solace to his fellow beings.

My best wishes to AUSTAA for their maiden venture.  
May God bless us all with perfect objectivity in life!



**S K Bhargava**  
*Chief Managing Director RBI(Retd.)*

## The ingenious role of the “mutual support group”

It was the month of April when the egregious second wave of Covid-19 hit India. Lockdowns were imposed all over India and everything once again came to a halt. This was followed by an ominous scenario that had a dismal and grim expression. In such a phase of life, I found myself in a situation where I could hear the afflicted and anguished voices of people. Wherever I heard, I heard of someone leaving us behind forever. I saw people with no hope left for what was happening at that time was unprecedented. What we were witnessing had immensely relegated the faith which a man has for God. The pandemic at that point had become diabolical. With coming to the end of April we witnessed the number of cases of COVID patients increasing to new highs. An average of three lakh cases was being reported every day. Almost everyone in our vicinity had a fever or was in the process of recovery. The government infrastructure and the private hospitals both were unable to accommodate beds for new patients. Long queues of patients waiting for their turn to get beds had become the order of the day. There was a shortage of beds, ventilators, injections, medicines, plasma, cylinders, and oxygen per se. Among all the above, the incessant shortage of oxygen in hospitals and outside had tormented the commoner who was putting his every level best to procure it. This problem of oxygen shortage had further aggrandized the situation as now people who were ill and unable to breathe had started sinking to death as no oxygen support could be provided. In such a dire situation, I saw the formation of the “Mutual Support Group” in WhatsApp became a ray of light in the wilderness of dark times. It so happened that I got an opportunity to volunteer myself in one of the groups to assist in this scene of despair. This particular group was formed among the alumni of the University of Allahabad. It contained professors and students at the respective colleges of the University. It also had diverse people varying from the different parts of India and the world. We were mainly all acquaintances to one another. The group’s motive was to help the patients by providing them authentic information related to the availability of a bed, oxygen, injection, plasma, medicine, and doctors. The work in the group was divided into two parts namely team A & team B. The work of team A was to provide team B with a verified lead regarding the above items in real-time. Team B was given the task of compiling the information in a Google database document. The document had to update 24x7 to provide real-time data. I was a part of team B. My work was to collect the data from team A, filter it carefully using a modus operandi, and then update the information in the database. In this way by mutual help and through WhatsApp, we did our work. In the end, we were able to successfully help over three thousand people in a span of just two months. Having done my part in the above work, filled myself with content and joy veritably inexplicable in the fact that I was able to be part of this and help. With such developments and technology, indeed we can conveniently reduce the complexities of our lives to some extent. Speaking of WhatsApp exclusively, it has become a part of our life. It’s highly laudable of someone to get such an idea out of the blue surely and is the ingenious manoeuvre of the support group to live up to that idea. I wonder how precarious our life can become in such perilous and dark times.



**Anudeep Mukerjee**  
**Email: [ashutoshstats@gmail.com](mailto:ashutoshstats@gmail.com)**



## “Hard work & Determination lies behind the success”

A moment of immense pride!! The Statistics department of University of Allahabad is always known for high performance in Indian Statistical Services and several ex-students are contributing to the Indian Statistical system in various capacities working in different departments of Government of India. Since its beginning it has given many ISS officers to our nation. The students of the department have given outstanding performance in the results of the written examination of the Indian Statistical Service Examination, 2020 held by the UNION PUBLIC SERVICE COMMISSION from 16th to 18th October, 2020 followed by interviews for Personality Test in April, 2021 and July, 2021, and five candidates, who did UG/PG from the department got finally selected.

Ms. Nausheen Musharraf, a resident of Prayagraj, achieved this success by securing All India Rank 6. Nausheen, who helped in the second wave of Corona by providing the right medical information to the needy, received a Masters degree from the Department of Statistics Allahabad University in 2017. Currently she is working as Statistical Assistant in Planning Department under Govt. of Delhi.



**Ms. Nausheen Musharraf,  
ISS (AIR06)**



Graduated from Ewing Christian College, Shri Raghavendra Pandey secured All India Rank 24. Shri Pandey belongs from Gonda and holds a Master's degree from IIT Mumbai.

**Mr. Raghavendra Pandey, ISS (AIR24)**

Mr. Animeshi Kumar is a native of Lakhimpur Kheri and got All India Rank 36 in Indian Statistical Service (ISS). He received Masters degree in 2018 from the Statistics Department, Allahabad University.



**Mr. Animeshi Kumar  
ISS (AIR36)**



Mr. Shubham Tripathi is working as Statistical Assistant in Planning Department of Delhi Secretariat has got All India Rank 40. Shubham, a resident of Salori, also got success in NET in 2017 after completing his Masters in Statistics from Allahabad University.

**Mr. Shubham Tripathi ISS (AIR40)**

Mr. Kamlesh Kumar from Mirzapur has secured All India Rank 43 in this examination. Shri Kamlesh Kumar is a graduate from Allahabad University and a post graduate from IIT Mumbai.



**Mr. Kamlesh Kumar ISS (AIR43)**

These five successful student said that “Hard work & determination lies behind the success” as well as with the grace of almighty and constant support from my seniors of University of Allahabad I am able to secure a place in final list of ISS-2020. I am very grateful to have such kind of support and environment through my journey, without such help it was indeed a tough nut to crack.

It is a proud moment for Allahabad University Statistics Alumni Association (AUSTAA) and Statistics Department as well. AUSTAA family wishes all the UPSC ISS toppers all the best for a brilliant and productive future working for the country!

**Dr. Ashutosh Shukla, Editor in Chief**

## Members' stylus

(1)

इक सफलता पास आए, तू ज़रा एक सांस ले ले  
इक विफलता पास आए, तू ज़रा एक सांस ले ले

इक सफलता पे यूँ इठलायान, इतराया न कर  
इक विफलता पे यूँ शर्माया न, घबराया न कर  
है सफलता, है विफलता जिन्दगी के दोनों मे ले  
इक सफलता पास आए, तू ज़रा एक सांस ले ले

जब सफलता हाँथ आये, पाँव रखना तू जमी पे  
और विफलता में ये सोचो, है मेरी गलती कहीं में  
गर कहीं गलती दिखे तो, इस को भी तू साथ ले ले  
इक सफलता पास आए, तू ज़रा एक सांस ले ले

है अंधेरा पास में तो, होगा उजाला कुछ दूर पे  
आयेगा अंधेरा और उजाला इस जिन्दगी के दूर पे  
गर रोशनी तुझको दिखे, तू चाल में इक तेजी ले ले  
इक सफलता पास आए, तू ज़रा एक सांस ले ले।।

श्री हरीस नासीर ,एम.एस.सी (2012)

(2)

शीर्षक: प्रेमोल्लास

ढूँढ रही थी  
तुझको मेरी निगाह  
मिले भी ऐसे  
नजर झुका कर चल दिये,  
कदम बढ़ाकर चल दिये  
मुझे विश्वास ही नहीं हो सका  
कि,  
वो तुम ही रहे होगे,  
किंतु  
दिल के बड़े हुए बोझ ने  
विश्वास करा दिया,  
एहसास करा दिया

डा०नियति जोशी

(3)

तेरे मेरे सपने

संघर्ष धरा की धरती पर  
मैं स्वप्न सजाने आया हूँ।

संघर्ष धरा की धरती पर  
कुछ तेरे कुछ मेरे  
फिर सत्ता क्यूँ बांट रही  
मेरे सपने ही सच होंगे  
विश्वास सभी को बांट रही।  
मैं क्यों न स्वप्न सजाने आऊँ  
मैं स्वप्न सजाने आया हूँ

संघर्ष धरा की धरती पर  
कुछ तो था कल  
कल को फिर से नाप रही  
सपने झूठे सच भी झूठा  
कुछ को सब से नाप रही  
फिर क्यूँ न एक सपना आए  
मैं स्वप्न सजाने आया हूँ।

संघर्ष धरा की धरती पर  
मेरे सपने का कोई सच  
सबके सपनों से मिला नहीं  
फिर भी सपनों को बेच रहे  
जो तेरा सच वो मेरा भी  
तो क्यूँ न तू मेरे सपनों में आये  
मैं स्वप्न सजाने आया हूँ।

संघर्ष धरा की धरती पर  
सत्ता के खातिर  
फिर क्यों अपनों को बांट रही  
कुछ नया नहीं तो सपना है  
कुछ तेरा भी तो सपना है  
फिर सबके सपने क्यों न अपने बन पाए  
मैं स्वप्न सजाने आया हूँ।

संघर्ष धरा की धरती पर  
सपनों का संघर्ष

या संघर्ष के सपने  
मैं ही हूँ तब भी तू  
तब ही तो सपने साकार हुए  
तब भी मेरा सपना क्यों स्वीकार नहीं  
मैं स्वप्न सजाने आया हूँ।

संघर्ष धरा की धरती पर  
मेरे सपनों को मोल नहीं  
फिर क्यों सपनों को बेच रहा

जो सपनें साकार हुए  
उनसे क्यूँ मुख मोड़ रहा  
फिर भी सपनें स्वीकार नहीं  
संघर्ष धरा की धरती पर  
मैं स्वप्न सजाने आया हूँ।

डॉ. जितेन्द्र कुमार



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**“Life is a mountain. Your goal is to find your path, not to reach the top.”**

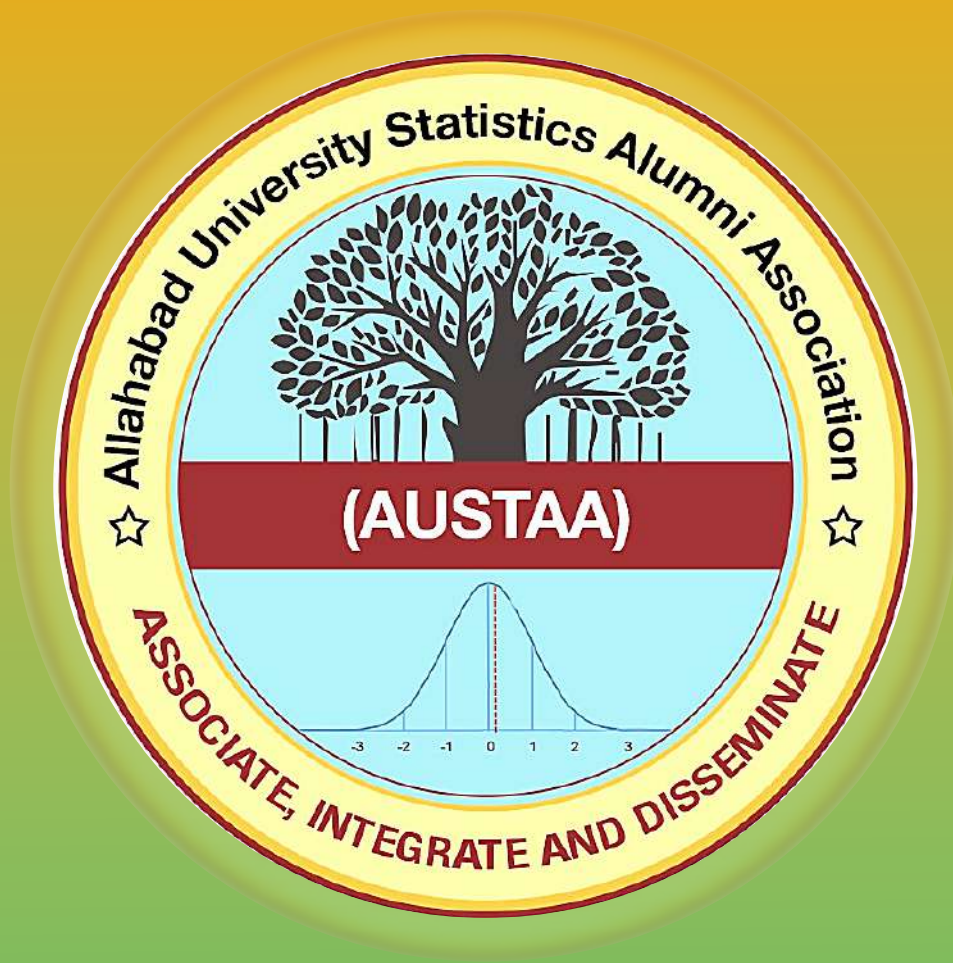
This is a great initiative by our alumni association. I feel proud to be a part of Editorial Team. The Creative Director is a member of faculty of Department of Statistics, Ewing Christian College, University of Allahabad.

The Graphic Designer is a freelancer working for various design agencies and alumni of the Ewing Christian College, University of Allahabad.



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## Allahabad University Statistics Alumni Association

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