

Equality in Action

In an era where the concept of equality dominates political discourse, social debates, and policy frameworks, the stark reality remains that true equality is far from being universally realized. While constitutions, legal safeguards, and international covenants guarantee equal rights for all, systemic disparities persist across gender, caste, religion, socio-economic status, and regional divides. It is time to move beyond rhetorical commitments and transform equality into tangible, lived experiences for every individual. Equality is more than a legal principle; it is a social imperative that demands structural reform and cultural change. Despite decades of progressive legislation, gender inequality continues to persist in India and globally. Women are still underrepresented in leadership positions, face wage gaps, and endure societal discrimination. Similarly, marginalized communities continue to struggle for equal access to education, employment, and healthcare. The COVID-19 pandemic further exposed these inequalities, with vulnerable populations disproportionately bearing the brunt of economic and health crises. These examples underscore that formal equality alone is insufficient; active interventions are essential to level the playing field.

Education is the cornerstone of transforming equality into reality. Access to quality education must be universal, inclusive, and free from discrimination. Beyond literacy, education should cultivate critical thinking, empathy, and social responsibility, enabling individuals to challenge biases and inequities. Policies must ensure that marginalized groups, girls, and differently-abled individuals are not left behind. Schools, universities, and vocational institutes should integrate equality-centric curricula to instill the values of justice and fairness from an early age. Economic empowerment is equally critical. Equal opportunities in the workforce, equitable pay, and access to entrepreneurship support for marginalized groups are vital measures. Governments and private institutions must actively dismantle structural barriers such as discriminatory recruitment practices, biased promotion criteria, and unequal access to capital. Social security nets and affirmative action programs should be strengthened to ensure that equality translates into financial independence and security for the disadvantaged. Cultural transformation is another essential dimension. Deep-rooted social prejudices, patriarchal mindsets, and caste-based discrimination continue to hinder true equality. Media, literature, and arts play a vital role in shaping societal narratives, promoting inclusivity, and challenging stereotypes. Awareness campaigns, community engagement, and public dialogue must reinforce that equality is not a privilege but a universal right.

Finally, governance and accountability mechanisms must reinforce equality in every sphere. Laws against discrimination, harassment, and exploitation should be rigorously enforced, while grievance redressal mechanisms should be accessible, transparent, and effective. Policy-making should be participatory, giving voice to marginalized communities, women, and youth, ensuring that decisions reflect the needs of all sections of society.

Observing Today, Protecting Tomorrow

DR. BANARSI LAL

Every year 23rd of March is celebrated as the World Meteorological Day across the globe. On this day attention is created towards weather and climate for the safety and well-being of the society. It was firstly came into force on 23rd of March, 1950. The theme of this year World Meteorological Day is "Observing Today, Protecting Tomorrow". The theme underlines the importance of making sustained, high quality observations of the atmosphere, oceans, cryosphere and biosphere in order to provide reliable forecasting and resilience building. The theme focuses on improving weather forecasting and early warning systems using advanced technologies, helping countries strengthen climate resilience, disaster preparedness and sustainable development efforts across sectors such as agriculture. The economies of nations and lives of human beings are disrupted by the climate change. Weather patterns are changing and sea levels are rising. Although the green house gases emissions were dropped in 2020 due to COVID-19 but it was temporally. As the global economy started to recover from the pandemic, emissions increased again. There is need to take action to protect the lives and livelihood of the individuals. For this purpose some new interventions need to be introduced. There is need to deal with the impacts of climate change. We can make our efforts to protect the environment. We can organize conferences, workshops, awareness campaigns, seminars, digital media campaigns, webinars, virtual panels etc. to accelerate the climate action. We all are facing lot of environmental challenges from loss of biodiversity to climate change to plastic pollution. There is need to work on climate change at all levels of government. A unified global response is must to tackle the climate crisis. We need to develop new environmentalists who can engage millions of people on climate change. Of all the planets the

Earth is considered as the luckiest planet in the universe because it is the only planet where life became possible. Beautiful life developed on this planet whether that is in the form of humans, animals, plants or marine life. But the human race lost its humanity and used the Earth's resources ruthlessly. The Earth is the most unique planet because it developed the most intelligent life called as the human race. Environmental and climate literacy is the engine not only for creating the environmental and climate laws and policies but also to promote green technologies. It is worthwhile to mention here that our Earth planet is losing the 15 billion trees every year i.e. around 56 acres of forest in every minute. Many species are going extinct rapidly. With our efforts we can protect hundreds of species. Lack of environment education has led many to be harsh to nature. There is dire need to empower everybody with the knowledge to inspire action in defense of environmental protection. It seems that we have forgotten the most beautiful gift that we have got in the form of planet Earth. We also seem to have forgotten that this is our home and we need to take care of it in order to stay healthy and fit. We are mercilessly utilizing and depleting the Earth's limited resources. Our ignorance is causing severe problems like depletion of the Ozone layer, polluted rivers due to dumping of industrial waste, loss of soil health due to excessive use of agrochemicals, global warming etc. Deforestation is rapidly increasing due to increase in the industrialization. This has disturbed the Earth's environment. The increase in the Earth's temperature is melting the ice at the Poles. We already have dug quite a huge well for ourselves but still we can come out from it. We should protect the earth by planting trees; reduce pollution by limiting the use of vehicles, switching off lights when unnecessary, conserving petrol and diesel etc. These are small steps but when billions of people will do so together, there can be def-

initely the positive results to protect the Earth. The step of CNG vehicles in New Delhi is really highly appreciable that have considerably reduced the amount of pollution in Delhi. The mighty river Yamuna has also been polluted by the industrial waste. The increased evaporation and additional moisture to the atmosphere has led more intense rains. The Indian Meteorological Department (IMD) incorporates the 2026 theme into the national agenda such as heat action plans, monsoon forecasting and urban cooling measures to counter the increasing temperatures and unpredictable weather. The climate crisis is an existential threat. Many pandemics are related to the climate crisis, helping to nurture and host novel germs. Even in present era many people are not aware about some serious environmental issues-from air pollution to toxic dumps to pesticides to loss of biodiversity. There are enormous challenges but there are also vast opportunities on climate action. Climate change is considered as the biggest challenge for the mankind. There is dire need to tackle the climate crisis globally. Every country needs to step up with urgency and ambition for climate action to safeguard the present and future generations. People have started to protect the environment in small steps but there is dire need to take giant leaps to save the mankind on the Earth. Stringent laws and rules need to be made, to make people realize the importance of protecting the mother Earth. Every nation needs to cut down on Carbon emissions to reduce the effects of global warming otherwise the global warming will make the ice-caps at the Poles to melt and raise sea levels. It can be so devastating that it will wipe out many countries on the Earth.

There is need of collective efforts to protect the Earth from pollution. If we do nothing for the protection of environment and let things be as they are, then there can be the worst results. Earth may take revenge and the wrath of the planet may

be even more furious. Many times we have seen it happen right in front of our eyes and observe cyclones, flash floods, sudden fires in forests, tsunamis, earthquakes, diseases etc. Such types of calamities are revenge of the Earth and a small revenge by Earth takes a huge toll on mankind. A major natural calamity happens only when we play with our environment. The size of earth is fixed while its resources are being depleted abruptly. It has been observed that some countries are causing more pollution affecting the other countries also. Many species of flora and fauna are extinct. We should protect our environment for our development. Without adequate environmental protection, development is useless. Humankind is rapidly depleting the natural resources on the Earth. It is acceptable that we need petrol and diesel to run our vehicles and the Earth is not refusing us. It only wants us to use it judiciously. Similarly the other natural resources should be used judiciously by the mankind. We can recycle the papers and stop using plastic bags. We should make collective efforts to reduce Carbon emission in the atmosphere to protect the mankind. On this day each of us should take initiatives to plant more and more plants and return the balance to the beautiful planet Earth so that everybody on this planet can live in peace. In the fast changing life we are so busy in day-to-day life that we don't have time to stand and contemplate about the planet we live on. But now we should make strenuous efforts to protect the planet Earth. The Earth will find some ways to protect us if we love and respect it. There is need to work together to protect the planet Earth. Using advanced Doppler radar, satellites such as INSAT and AI-enhanced models, observations by the IMD can protect more than 1.4 billion people against cyclones, floods and heatwaves common in the areas.

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From Today's Insights to Tomorrow's Safety

DR. PARVEEN KUMAR

An interdisciplinary science entrusted with the task of providing actionable intelligence to all for thriving in an unpredictable atmospheric environment, Meteorology has become an inevitable science in our day to day life. By focusing on three basic aspects of observation, understanding and prediction of weather, it enables accurate weather forecasting, early warnings for natural disasters and optimized agricultural planning thereby saving millions of precious lives and help manage environmental risks. Of the numerous fields where Meteorology holds enormous relevance include Disaster Management, Food security, Aviation, Energy production, Climate Change & Environment and Air quality monitoring. Globally, around 90% of major disasters are weather, climate, or water related. Accurate forecasting and timely early warning systems save lives and reduce losses from severe storms and heat waves to floods and cyclones. Early warnings for severe events like hurricanes, floods, and tornadoes (tropical cyclones/severe winter storms) allow for evacuations and preparation, directly saving lives and preventing economic damage. Thus helps in disaster management. It is very vital for agriculture sector too. The timely forecasts help farming community to take real time decisions regarding their various farm operations. This also gives the government time to plan for safety measures in advance in case of floods, droughts or other weather extremities. We have seen how timely weather forecasts by weatherman help the fishermen in coastal areas to devise their fishing strategies accordingly thereby saving their lives as well as their tools and implements. In the aviation sector, accurate reports on wind speed, direction and visibility help in scheduling various flight routes efficiently and preventing accidents. Similarly utility companies use meteorological data to predict energy demand (e.g., heating/cooling) and maximize renewable energy sources like wind and solar power. Meteorological data is also essential to track the dispersion of air pollutants, manage fire risks, and understand long-term climate change. Keeping in mind the role and relevance of meteorology, March 23 every year is being celebrated as World Meteorological Day all across the globe. March 23 commemorates the establishment of World Meteorological Organization in 1950.

World Meteorological Organization (WMO): The World Meteorological Organization (WMO) originated from the International Meteorological Organization (IMO), founded in 1873 to facilitate international weather data exchange. The WMO was officially established on March 23, 1950 by the WMO Convention, and became a specialized United Nations agency in March 17, 1951. Headquartered in Geneva, it coordinates global scientific cooperation on weather, climate, water, and related environmental

issues. In the decade of 1960-1970 WMO expanded its scope, launching the World Weather Watch (satellite and telecommunication networks) and addressing climate change, particularly with the creation of regional offices. In 1990s, the WMO in collaboration with other organizations advances the Global Climate Observing System (GCOS) thereby playing a key role in climate change monitoring. At present the WMO consists of 193 Member States and serves as the authoritative voice on the Earth's atmosphere, climate, and water resources. The organization focuses on standardizing weather data, facilitating technology exchange, and supporting disaster risk reduction through early warning systems. Since its formation, the WMO has led international cooperation in weather, climate, and hydrological science. It coordinates global data sharing, advances research, and supports early warning systems that enable countries to better prepare for hazards.

AGRO-METEOROLOGY: Agriculture is the backbone of Indian economy. More than 65 percent of the people are engaged in agriculture and allied sectors. Agriculture sector also contributes about 17 to 18 percent to the country's Gross Domestic Product. Weather plays an important role in ensuring food and nutritional security and also to ensure that it remains a sustainable source of livelihood for the vast majority of population engaged in this sector. Weather along with Climate is an important input that plays a decisive role in food grains production. It would not be wrong to say that these two determine the success of different crops grown by the farmers everywhere. With more than 50% of the net sown area in the country under rainfed conditions with no assured source of irrigation, timely and adequate amount of rainfall is of utmost importance otherwise farmers have to face crop failures even after repeated sowing especially in Kharif season. One way of avoiding this crop failures as well as financial losses is to ensure that farmers get timely information on the rainfall, weather and climate of the area so that he or she can plan his operations as per the availability of rainfall and the condition of other weather parameters. Predicting the monsoon that accounts for 70 per cent of the annual precipitation can act as a catalyst for augmenting farm production. India is among those countries in the world that has successfully exploited space technology and land based observation for generating regular updates on crop production statistics and providing inputs to achieve sustainable agriculture. This is what is achieved through Agro-meteorology. It is study of weather and use of weather and climate information to enhance or expand agricultural crops and/or increase crop production. As an interdisciplinary holistic science which acts as a bridge between physical and biological sciences, it deals with all the weather sensitive elements of agricul-

ture production and beyond.

Keeping in mind the importance of weather conditions and its forecasting in agriculture, the government of India in the year 1988 started a project 'Crop Acreage and Production estimation (CAPE)'. The project was intended to collect the statistics of agricultural output in the country. This nationwide (CAPE) project covered the major growing regions in the country for wheat, rice, cotton groundnut rapeseed/mustard and Rabi sorghum. Production forecasts were made about a month before the harvesting using multiband remote sensing data. India has very well developed system for collection of crop statistics covering more than fifty crops at village level and aggregating it at different administrative levels. Different agencies/institutes and programmes associated with Agro-meteorology in the country include:

MNCFC: A centre for the purpose of forecasting weather related information has also been set up. The Mahalanobis National Crop Forecasting Centre (MNCFC) has been also set up at PUSA Rajendra Nagar New Delhi under the Department of Agriculture and Farmers' Welfare, Ministry of Agriculture and Farmers Welfare, GoI for applications of space and geospatial technology in various domains of agriculture. It has been providing operational forecasts of crops from 2012-13 season onwards and also assessment of drought situation using state of art technologies and methodologies developed by Indian Space Research Organization (ISRO). Over the years, the institute has developed to a broader government resource for leveraging space based technologies in agriculture.

Forecasting Agricultural Output Using Space and Land Based Observations (FASAL): The Ministry of Agriculture and Farmers' welfare, Government of India satisfied with performance of CAPE therefore evolved another project from it entitled 'Forecasting agricultural output using space, Agro meteorology and land based observations (FASAL)' with a purpose to target multiple crops at different crop growth stages. FASAL is also managed by MNCFC and aims at forecasting of production of important agricultural crops using satellite remote sensing. The implementation of FASAL initiated in 2007-08 with Space Application Centre (SAC) entrusted with the responsibility of implementing space technology based production forecasts of crops and upgradation of procedure with new data availability. The main aim of the project is to collect monsoon data through remote sensing, economic data and monitoring of crops when growing. It deals with a complex system involving soil plant, atmosphere agricultural management operations and others which are interacting dynamically on various spatial and temporal scales. It provides timely pre harvest estimates for 9 major crops at national, state and district level to support agriculture policy and

planning.

Grameen Krishi Mausam Sewa (GKMS): The Ministry of Earth Sciences also provides Agro-meteorological Advisory Services (AAS) in the country under the Gramin Krishi Mausam Sewa (GKMS) scheme. The scheme is implemented by India Meteorological Department of Ministry in collaboration with State Agricultural Universities /Indian Council of Agricultural Research etc. Under GKMS accurate crop specific advisories to the farmers are provided to the farmers across the country. Under this, district level weather forecast for next 5-days in respect of rainfall, maximum temperature, minimum temperature, wind speed, wind direction, relative humidity and clouds, weekly cumulative rainfall forecast and Crop specific advisories are provided to farmers. GKMS of IMD has been successful in providing crop specific advisories to farmers through different print/visual/Radio/IT based media including short message service (SMS) and Interactive Voice Response Service (IVRS) facilitating appropriate field level actions. Based on the weather forecast, Agromet Advisories are prepared in collaboration with 130 Agromet Field Units (AMFUs) and communicated to the farming community. GKMS also addresses climate change issue by giving two updates on weather in a week on every Tuesday and Friday.

District Agro-Meteorological Units (DAMU): These were set up as a part of Grameen Krishi Mausam Sewa established by IMD and operate with-in Krishi Vigyan Kendras (VKVs) to bring specialized weather advice closer to farmer. Automatic Weather Stations have been installed at the DAMUs. Over 40 million farmers were receiving advisories through these units.

Central Water Commission (CWC): The CWC also issues flood forecasting on International & Interstate Rivers as short-range forecasting and five day's advance flood advisory.

Agro meteorology plays a distinct role in delineation of agro-climatic zones to make and take various decisions related to agricultural operations and policies besides providing logistic support to crop damage assessment and performing many other functions for the benefit of farming community and strengthening of farm sector. The theme of World Meteorological Day 2026, 'Observing today, Protecting tomorrow', highlights the critical link between the observations we make today and the safety we build for tomorrow. It focuses on how accurate and continuous observations of the atmosphere, various water bodies and land forms from the basis for reliable weather forecasts, climate monitoring, and early warning systems for mitigating disasters by focusing on three basic aspects of observation, understanding and prediction of weather.

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Bhagat Singh, Sukhdev and Rajguru: A Smiling Revolution on the Gallows

YOGESH KUMAR GOYAL

Shaheed Divas, also known as Martyrs' Day or Sarvodaya Day, is observed every year on March 23 to pay tribute to India's great sons-Bhagat Singh, Sukhdev, and Rajguru. This day fills every Indian with pride, as it marks the sacrifice of these three freedom fighters who embraced the gallows with smiles for the sake of India's independence. After independence, the Government of India officially declared this day as Shaheed Divas.

Although many brave souls sacrificed their lives during India's freedom struggle and are remembered on various occasions, March 23 holds a unique place in history. It is the day dedicated to the three martyrs who fearlessly gave up their lives for the nation.

On this day in 1931, the British hanged Bhagat Singh, Rajguru, and Sukhdev for the assassination of British police officer John Saunders. Originally, their execution was scheduled for March 24, 1931, but fearing public outrage and mass protests, the British government carried out the execution a day earlier, on March 23.

When Bhagat Singh was just five years old, he once accompanied his father to the fields. There, he began planting twigs into the ground. When asked what he was doing, the young Bhagat Singh innocently replied, "I am sowing guns. When they grow, we will use them against the British."

Bhagat Singh took a solemn oath when he first met freedom fighter Chandrashekar Azad, placing his hand over a burning candle flame and vowing to dedicate his life to the nation. Born on September 28, 1907, he ignited a revolution of ideas within his short life of just 23 years-a revolution that continues to inspire youth even today.

Although the names of Rajguru and Sukhdev are often mentioned after Bhagat Singh, his legacy is incomplete without them. Their contribution was equally significant. The three shared a common ideology, which formed the foundation of their deep and unwavering friendship.

Bhagat Singh and Sukhdev grew up in nearby families in Lyallpur, sharing close family ties. Born on May 15, 1907, Sukhdev, like Bhagat Singh, nurtured dreams of freedom from a young age. Along with Bhagat Singh, Comrade Ramehendra, and Bhagwati Charan Vohra, he founded the Naujawan Bharat Sabha in Lahore and actively supported the Saunders assassination. Rajguru, born on August 24, 1908, in Khed (Pune), was deeply inspired by Chhatrapati Shivaji's guerrilla tactics and Lokmanya Bal Gangadhar Tilak's ideology.

A skilled marksman, he was drawn toward revolutionary activities early in life. In Varanasi, he came into contact with revolutionaries and joined the Hindustan Socialist Republican Army (HSRA). He shared close bonds with Chandrashekar Azad, Bhagat Singh, and Jatin Das.

To avenge the death of Lala Lajpat Rai, who succumbed to injuries caused by a brutal lathi charge by the British police,

Rajguru, along with Bhagat Singh, shot John Saunders in Lahore on December 19, 1928. Rajguru was arrested, while Bhagat Singh escaped in disguise to Calcutta, where he learned bomb-making techniques.

Initially, Bhagat Singh aimed to raise his voice against British rule without bloodshed.

However, the revolutionaries soon realized that India's chains of slavery could not be broken by non-violence alone. They decided to protest against the British government's exploitative labor policies by planning a bomb attack in the Central Assembly in Lahore.

In 1929, under the leadership of Chandrashekar Azad, a meeting of the HSRA was held to oppose the Public Safety Bill and the Trade Disputes Bill. As planned, on April 8, 1929, Bhagat Singh and Batukeshwar Dutt threw a bomb at an empty spot in the Central Assembly.

They deliberately chose not to escape, believing that their arrest would help them convey their message more effectively. Pamphlets thrown along with the bomb carried a powerful message from Bhagat Singh: "Individuals can be killed, but ideas cannot. Empires may crumble, but ideas live on. It takes a loud voice to make the deaf hear."

Although Bhagat Singh, Sukhdev, and Rajguru were arrested in separate cases, they were all charged with Saunders' murder. They were tried for treason and murder and were sentenced to death in what came to be known as the Lahore Conspiracy Case.

During imprisonment, Bhagat Singh and his companions undertook a 64-day hunger strike. On the evening of March 23, 1931, these three brave sons of India were executed.

Moments before his execution, Bhagat Singh was reading a Marxist book, Rajguru was chanting Vedic mantras, and Sukhdev was humming a revolutionary song.

As they approached the gallows, they kissed the noose and placed it around their necks themselves. Witnessing this, a jail warden reportedly remarked that these young men were insane. In response, Sukhdev sang: "In these so-called deranged minds lies a deep fragrance of courage. Let us remain mad-this madness suits us well."

Bhagat Singh, Rajguru, and Sukhdev were true sons of Mother India, who valued patriotism above their own lives. They sacrificed everything to free the country from the chains of slavery. Bhagat Singh believed that a true revolutionary is one who is ready to sacrifice everything when the time demands.

The nation will forever remember the invaluable contribution of these great freedom fighters who played a crucial role in shaking the foundations of British rule.

Their lives teach us that when any force threatens the honor, dignity, and sovereignty of the nation, it must be confronted not only with strength but also with powerful ideas. Their sacrifice, courage, and ideology continue to guide millions of youth even today.

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