

## Soft Power Policy And Solar Alliance – Part 2

**By Dr.Santhosh Mathew**

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Solar Alliance- International solar alliance is an action oriented, member-driven, collaborative platform for increased deployment of solar energy technologies. The basic motive is to facilitate energy access, ensure energy security and drive energy transition in its member countries.

The international solar alliance was conceived as a joint effort by India and France to mobilize efforts against climate change through deployment of solar energy solution.

The vision of the alliance is to together make the Sun brighter.

The mission is every home, no matter how far we will have a light at home.

Its headquarter is in India with its interim secretariat being set up in Gurugram.

Member nations, a total of 106 countries have signed international solar alliance framework agreement and out of 106 Nations, 86 have signed and ratified the international solar alliance framework agreement.

All member states of the United Nations are eligible to join the international solar alliance.

The United Nations General assembly has granted observer status to the international solar alliance, and it will help to provide for regular and well-defined cooperation between alliance and the union that would benefit global energy growth and development.

The international solar alliance is headed by the director general. The director general leads the operations and carries out the functions of international solar alliance Secretariat.

He is responsible to international solar alliance assembly.

The director general has a term of four years and is eligible for re-election.

The international solar alliance seeks to develop and deploy cost-effective and transformational solar energy solutions.

To help the member countries develop low carbon growth trajectories, with particular focus on delivering impact in countries categorized as least developed countries and the small island developing state.

There are four priority areas of the program which are basically intended to create a favourable environment for solar energy investments to take root in the country.

- Analytics and advocacy.
- Capacity building
- Programmatic support
- Readiness and enabling activities

The key responsibilities of assembly include- apex decision-making body which comprises representatives from each member nations.

- o The assembly deliberate matters of substances, such as –
- o The selection of the director general
- o Achievement of international solar alliance objectives.
- o International solar alliance functioning.
- o Approval of operating budget
- o Assessment of implementation of programmers.
- o Determines the cause of coordinate actions.

The important project of international solar alliance –

ONE SUN ONE WORLD ONE GRID- the OSOWG focuses on the framework for facilitating global cooperation, building a global ecosystem of interconnected renewable energy resources that can be seamlessly shared.

The vision behind the OSOWOG is ‘the sun never sets’ and is a constant at some geographical location globally at any given point of time.

This is by far one of the most ambitious schemes undertaken by any country and is of global significant in terms of sharing economic benefits.

It has been taken up under the technical assistance programme of World Bank.

International solar alliance, solar technology and application resource Centre is to build a network of technical training, entrepreneurship and research and innovation centers in order to exchange best practices and promote knowledge dissemination in capacity building.

To develop and disseminate range of training materials for all types of audiences and in at the setting up of harmonies the training programmers using a network of training facilities that would be recognized across the international solar alliance member countries.

To work on standardization of solar applications at the regional or sub regional level and provide testing and technical certification capabilities to Keystar Centre.

To enable collaborative research and development among the international solar alliance member countries.

Indian, technical and economic cooperation scheme – the government of India has been supporting the ISI by providing training to Master trainers in the field of solar energy through the Indian technical and economic cooperation scheme. The duration of the training is 21 days and all costs are borne by government of India.

In 2018-19, 133 candidates from 25 countries were trained at the national Institute of solar energy, Gurugram, with the support of ITEC program.

### **Important solar energy initiatives of India –**

- National solar Mission to establish India as a global solar energy needed.
- I NDC’s target – hundred gig watt grid connected solar power plants to be installed by 2022
- It is in line with India’s intended nationally determined contributions target to achieve about 40%. Cumulative electric power installed capacity from non-fossil fuel-based energy resources and to reduce the emission intensity of its GDP by 33 to 35% from 2005 level by 2030.

### **Other schemes –**

- Solar Park scheme.
- Canal Bank and Canal top scheme
- Bundling scheme.
- Grid connected solar rooftop scheme.
- First green hydrogen mobility project.

### **Challenges associated with ISA –**

- there is no obvious economic plan for reaching solar power grid parity.
- Access to energy technology and required funding at the major impediments to achieve the goal of energy security.
  - Meeting conflicting interests of domestic and foreign competitors.
  - There may be debates about business strategies, such as from where to obtain components and require D machinery for manufacturing of solar panels and other required accessories.

### **Way forward –**

- International solar alliance should move with a consolidated and proactive economic policy.
  - Its approach should be innovative, and research and development should be promoted. It should have an effective system to resolve the member nations, disputes and conflicts.

### **Soft power policy and solar alliance-**

Solar alliance being India's brainchild as well as the first UN sponsored and treaty-based international alliance to be headquartered in India presents an opportunity for the country to redefine the global climate order. It is presented with a thought that it will help India in leveraging its stature as a responsible global player to expand its sphere of influence.

For India international solar alliance fortifies its position at the global high table, something that has eluded the country for long on the climate diplomacy front. On the one hand, it would help facilitate India's commitment to advance development and deployment of clean energy within the country. And on the other, it paved the way for boosting the country's image as a responsible global player in the potential climate leader. Both these and goals are somewhat complimentary is India's best food energy independence which is to a significant extent contingent on the clean energy revolution, but also translate into a great degree of geopolitical leverage on the global stage.

Through the solar alliance, India has sought to strengthen ties with other developing countries in Africa, Asia, Latin America and the Pacific. All the domestic leave, the country's Renewable energy policy is being Stewarded by the Ministry of new and renewable energy, it is the Ministry of external affairs that will be at the helm of affairs when it comes to the international solar alliance. India is trying and expressing its desire to include countries outside the intertropical zone like Germany, China, USA, Nepal, South Korea, Tunisia and others are likely to join solar alliance either as a full member or at least as a partner in certain projects, this is a major diplomatic victory for India and those pushing for greater climate action US, which has withdrawn from Paris agreement, expressed interest in examine in partnership with international solar alliance. Also China whom India relation invited to the alliance prior to the 2015 Paris summit, but did not respond has now announced that it plans to join China's change in position on the international solar alliance is a clear indication of not only the business opportunities, the coalition presents to the solar manufacturing industry, which is the largest in the world, but also India's success in coming of a successful product launch that many believe could not materialize.

India and France asking to set the ball rolling to achieve the international solar alliance's target of 1000 giga watt by 2030.

In this way, international solar alliance or solar alliance can play a vital and diplomatic role in strengthening India's soft power diplomacy.

# Strengthening Indian National Security: Part 2

**By Brig Hemant Mahajan, YSM**

Author is M Sc, M Phil in Defence Studies. He joined IMA Dehradun in July 1973 and passed out as a Commissioned Officer on 15 June 1975. He commanded his battalion 7 MARATHA LIGHT INFANTRY in Operation Rakshak in the most difficult areas of Poonch and Rajouri.

## **Enhancing India's Security Through Drone Acquisition.**

While it is conceivable that drones may become more advanced in the future and MQ-9B Predator armed drones could complement fighter aircraft in certain roles, such as ground attack and reconnaissance. With its extended loiter time and larger payload capacity, the MQ-9B is better suited reconnaissance missions.

The acquisition of 31 MQ-9B Predator armed drones by India will significantly enhance the capabilities of the Armed Forces.

The IAF will still depend on fighter aircraft for air-to-air combat and tasks that the MQ-9B is incapable of performing.

## **Indigenous Manufacturing F-414 Engine in India**

India is on the verge of revolutionary jet engine deal with General Electric. This eagerly anticipated deal may see the production of the state-of-the-art GE-F414 jet engine within India, in a multi-million-dollar partnership with Hindustan Aeronautics (HAL).

The deal is about manufacturing jet engines in India for Light Combat Aircraft `Tejas' Mk2 and later for AMCA.

## **Domestic Manufacturing of Jet Engines**

The agreement focuses on the domestic manufacturing of jet engines in India specifically for the Light Combat Aircraft "Tejas" Mk2 and future Advanced Medium Combat Aircraft (AMCA) models.

The Indian-specific version, designated as F414-GE-INS6, is a modified variant of the F414-GE-100 turbofan engine utilized by the Boeing F/A-18E/F Super Hornet. The INS6 variant incorporates several enhancements, including a higher thrust rating of 22,000 pounds (98 kN) and a Full Authority Digital Engine Control (FADEC) system.

## **Viable Choice for The Indian Defense Establishment**

The F414-GE-INS6 engine has been selected to power the Tejas Mk2 of the Indian Air Force. With its reliability and robust performance, it is expected to deliver the necessary operational capabilities for the aircraft.

Delivering exceptional thrust and power, the F414-GE-INS6 engine equips the Tejas Mk2 with outstanding acceleration and climb performance, boasting a thrust-to-weight ratio of 9.4:1. It achieves a high-top speed of Mach 2.0 and offers a range exceeding 1,000 miles, effectively meeting the rigorous requirements of the Indian Air Force and Navy.

Benefitting from its extensive operational history, the F414-GE-INS6 engine has amassed over 10 million hours of flight time, having proven its reliability in various military aircraft, including the F/A-18E/F Super Hornet and the JAS 39 Gripen.

The F414-GE-INS6 engine demonstrates cost-effectiveness, as it is competitively priced and features low maintenance costs, making it an economically viable choice for the Indian Defense establishment.

### **Transfer of Technology:**

India is sure that they will be able to negotiate a transfer of technology agreement with General Electric, which will allow India to manufacture the F414-GE-INS6 engine in India. This will help India to become self-reliant in Defense manufacturing.

F414-GE-INS6 offers the best combination of performance, reliability, cost, and transfer of technology.

It is expected that the decision to manufacture the F-414 engine in India will seriously push both the DRDO, which is designing and developing the Tejas Mark II fighter, and the HAL, which will manufacture the engine, so that the Indian Air Force (IAF) has requisite number of fighter squadrons at the turn of this decade. The decision to manufacture the F-414 engine in India will have a number of benefits for the IAF.

### **Increased self-reliance:**

The IAF will no longer be reliant on foreign suppliers for its fighter engines, which will give it greater flexibility and reduce its vulnerability to supply chain disruptions.

### **Reduced costs:**

Manufacturing the F-414 engine in India will reduce the cost of the Tejas Mark II fighter, which will make it more affordable for the IAF.

### **Increased technological capabilities:**

India will gain valuable experience in the design and manufacture of jet engines, which will help us to develop our own indigenous engine programs in the future.

### **Enhanced operational capabilities:**

The F-414 engine is a powerful and reliable engine that will give the Tejas Mark II fighter a significant boost in performance. This will allow the IAF to deploy the Tejas Mark II in a wider range of missions and to counter more advanced threats.

### **F-414 Engine Manufacturing in India, Job Creation and Economic Boost:**

The manufacturing of the F-414 engine in India goes beyond bolstering Defense capabilities; it also serves as a catalyst for job creation and economic growth. The project is projected to generate over 10,000 jobs within the aerospace sector, providing employment opportunities and stimulating the Indian economy. Furthermore, this endeavour is expected to yield billions of dollars in revenue, fostering economic growth.

This significant stride in India's aerospace industry highlights the nation's commitment to nurturing indigenous Defense capabilities. In particular, this development serves as a noteworthy boost for the Indian Air Force (IAF), strengthening its capabilities and positioning it for greater operational effectiveness.

The decision to embark on the manufacturing of the F-414 engine in India carries far-reaching advantages for the IAF. It not only enhances self-sufficiency but also contributes to cost reduction, allowing for optimized resource allocation, elevates the IAF's technological prowess, equipping it with cutting-edge capabilities.

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## **Yoga, Technology And Security - Prime Minister Modi Redefines Indian Diplomacy – Part 1**

**By Uday Kumar Varma**

Author is a former Secretary, Information and Broadcasting, GOI

Almost a decade ago, when in September 2014 Prime Minister Modi, while addressing UNGA, first proposed including yoga for achieving the broader objectives of climatic sustainability, it took everyone including the Indian Diplomatic Corps by surprise. Yoga, he said is not just exercise. 'By changing our lifestyle and creating consciousness, it can also help us deal with climate change.' He then urged the nations present to support the adoption of an 'International Yoga Day'. By linking Yoga to climate change and health, the two cardinal challenges before the world body, he ensured that his proposal could not be ignored.

Nine years later, he led an esoteric and exclusive group of international diplomats in a yoga session on the lawns of UN Headquarters at New York. The global event with the participation of over 180 countries, alongside the presence of President of the 77th UN General Assembly Casaba Korosi, New York City Mayor Eric Adams, actor Richard Gere, Grammy award winner Rickey Kej among others, was registered in the Guinness Book of world record for witnessing the participation of most nationalities in a Yoga session.

And he said, "Yoga is unifying. It is for everyone: for all ethnicities, for all faiths and for all cultures." "Yoga is truly universal."

A more convincing demonstration of his assertion could not have seen such visible, vibrant and compelling evidence.

Stressing the nondenominational aspect of the practice that has roots in Hindu spirituality, he said "I am told that almost every nationality is represented here today, and what an amazing cause to bring us all together. 'Yoga is free from patents, royalty payments and copyrights'.

After his remarks, the prime minister joined the crowd for yogic exercises.

If one were to cite an instance of India's rising global clout. It was this, a resounding endorsement of India's immense reservoir of soft power.

### **A Daunting Task**

But when he had first mooted the idea, the challenges were formidable. The proposal had to be implemented through a resolution that enjoyed the support of a majority of the UN's 193 member states. The link between yoga and health, within the broader framework of encouraging sustainable lifestyles and sustainable consumption, became a major argument in selling the idea.

To ensure that the proposal to designate an International Yoga Day contributed to addressing global problems, it was decided to table this proposal under the 'global health and foreign policy' head of the UNGA's already adopted agenda. The proposal addressed two ongoing processes in multilateral negotiations – the formulation of the sustainable development goals (SDGs) to be adopted by the 2030 Agenda in September 2015 in New York, and climate change negotiations scheduled to conclude at the Conference of Parties meeting of the United Nations Framework Convention on Climate Change in Paris in December 2015.

That UNGA approved and adopted the proposal unanimously became a historic moment both for India and UN.

The declaration, acceptance, and the subsequent popularity of International Yoga Day must be termed as one of the most far-reaching diplomatic initiatives successfully executed by India.

The seriousness of Indian government in expanding the framework in which people around the world think of yoga and its role, has seen fruition substantially. Today from Colombia to New Zealand, from the icy Antarctica to the sizzling Africa, Yoga is seen as the new life- style, a new existential statement.

### **Diplomatic Asana-'Diplosana'- Yoga As Soft Power**

A young journalist while writing on India's yoga diplomacy, imaginatively described it as 'Diplosana'. Indeed, Yoga has emerged as the most potent tool of Indian soft diplomacy in recent years.



Joseph S. Nye Jr., a former Dean of Harvard's Kennedy School of Government and one of the most influential thinkers on American foreign policy, describes soft power as the ability to shape preferences of others through appeal and attraction, and may be through aides. According to him, there are three pillars of soft power- political values, culture and foreign policy. As the binary of political values has become obsolete today, India's strategy to gain global clout must consider effectively propagating its cultural heritage. Yoga is its most pervasive and persistent symbol. The other strategy must necessarily be to follow independent foreign policy. The on-going Russia-Ukraine war has brought this independence prominently to fore.

Though, India has long been an advocate of cultural diplomacy, the strategy wasn't compelling enough to propel her to the global stage, certainly not till Yoga became her most potent and popular cultural export. Propagating Yoga- as an Indian contribution to the world for attaining a healthy lifestyle- has become an effective instrument of diplomacy. Yoga is capturing the hearts and minds of entire world.

In international relations, influence is conventionally understood in two contexts, military and economic might. India has already attained the status of fifth-largest economy in the world and is currently the fastest-growing one. As far as the military is concerned, the Global Firepower Index, 2022 suggests that India is the fourth most powerful military nation in the world.

And yet, successful states need both hard and soft power; as hard power (military and economic might) helps the nation exert influence, soft power helps shape long term attitudes and preferences, thus, promising a long-term alliance. India may happily achieve a sweet spot in which a mix of both hard and soft power could achieve the ideal goals for the nation. India has placed its bet, and the prognosis is promising.

**To be continued in next issue ....**

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## **Why India-Pakistan Needs A Nuclear Dialogue — Whatever The Political Situation**

**By Admiral Arun Prakash**

The Author is a former Chief of Naval Staff.

*India and Pakistan need to urgently initiate a dialogue on nuclear weapons, insulate it from the vagaries of politics, reduce mutual suspicion and enhance transparency.*

The nuclear tests of May 1998 by India and Pakistan marked an epochal juncture for South Asia. The Doomsday Clock maintained by the Bulletin of the Atomic Scientists, jumped from 11:43 to 11:51, or just "9 minutes to midnight."

While, in India, the "Shakti" tests do find celebratory mention, Pakistan observes the Chagai series of nuclear tests as a national day, "Yom-e-Taqbir." On the 25th anniversary of this event, Lt General Khalid Kidwai (ret'd), currently, advisor to Pakistan's National Command Authority (NCA), delivered an address at the Arms Control and Disarmament Centre of the Institute of Strategic Studies, Islamabad.

Kidwai, who served for 14 years as the Director-General of Pakistan's Strategic Plans Division (SPD), was at the heart of Pakistan's NCA and oversaw the operationalisation of its nuclear deterrent. Although his talk was for public consumption, given the historic absence of an Indo-Pak nuclear dialogue, some of his statements, if taken at face value, have worrying undertones.

After mentioning the rationale for Pakistan embarking on nuclear weaponisation ("humiliation of the 1971 War followed by India's nuclear test of May 1974"), Kidwai proceeded to

enlighten the audience about the implications of Pakistan's new policy of Full Spectrum Deterrence (FSD) and how it kept "India's aggressive designs, including the Indian military's Cold Start Doctrine, in check."

While retaining the fig leaf of Credible Minimum Deterrence (CMD), Kidwai went on to mention the "horizontal dimension" of Pakistan's nuclear inventory, held by the individual strategic force commands of the Army, Navy and Air Force. The "vertical dimension," of the Pakistan deterrent, he said, encapsulated "adequate range coverage from zero meters to 2,750 km, as well as nuclear weapons of destructive yields at three tiers: Strategic, operational and tactical".

While the missile range of 2,750 km corresponds roughly to the distance from a launch point in southeast Sindh to the Andaman Islands and indicates the "India-specificity" of the Shaheen III missile, it is the mention of "zero metres" that is intriguing. Pakistan already has the 60-km range Nasr missile, projected as a response to India's Cold Start doctrine. Therefore, unless used as a colloquialism, Kidwai's mention of "zero metres" range could only imply a pursuit of ultra short-range, tactical nuclear weapons (TNW), like artillery shells, land mines, and short-range missiles, armed with small warheads, of yields between 0.1 to 1 kilotonne (equivalent of 100 to 1,000 tonnes of TNT).

By shifting from CMD to FSD, with the threat of nuclear first use to defend against an Indian conventional military thrust, Pakistan is aping the discredited US-NATO Cold War concept of "flexible response". Fearing their inability to withstand a massive Warsaw Pact armoured offensive, this 1967 doctrine saw the US and NATO allies deploy a large number of TNW to units in the field. However, the dangers of escalation arising from the use of TNW were soon highlighted by US Secretary Defence Robert McNamara's public confession: "It is not clear how theater nuclear war could actually be executed without incurring a very serious risk of escalating to general nuclear war." This marked a turning point in US-NATO nuclear strategy.

Kidwai's speech contains three statements of note. First, he attempts to dilute India's declared policy of "massive retaliation" (MR) in response to a nuclear strike by claiming that Pakistan possesses an entire range of survivable nuclear warheads of desired yield in adequate numbers to respond to India's MR. He adds, "Pakistan's counter-massive retaliation can therefore be as severe (as India's) if not more."

Second, in an attempt to downplay India's (inchoate) ballistic missile defence (BMD), he declares that in a "target-rich India", Pakistan is at liberty to expand the envelope and choose from countervalue, counterforce and battlefield targets, notwithstanding the indigenous BMD or the Russian S-400" (air-defence systems).

Far more significant is Kidwai's declaration that, since Pakistan's missiles can threaten the full extent of the Indian landmass and island territories, "...there is no place for India's strategic weapons to hide" (emphasis added). The assumption, so far, was that, given its limitations in terms of missile accuracy, real-time surveillance and targeting information, Pakistan would follow a "countervalue" or "counter-city" targeting strategy. The specific targeting of India's nuclear arsenal, especially, if undertaken by conventional (non-nuclear) missiles, would add a new dimension to the India-Pakistan nuclear conundrum.

Since they were delivered amid Pakistan's acute financial crisis as well as the ongoing political turmoil and civil-military tensions, one may be tempted to dismiss Kidwai's remarks. However, as the longest-serving former head of the SPD and architect of Pakistan's nuclear deterrent, his views are widely heard and deserve our attention.

Having voluntarily pledged "no first use" (NFU), India's 2003 Nuclear Doctrine espoused a "credible minimum deterrent" and promised "massive retaliation" in response to a nuclear first strike. Since then, our two adversaries, China and Pakistan, have expanded and upgraded their nuclear arsenals, presumably, with corresponding updating of doctrines.



The BJP's 2014 Election Manifesto had undertaken to "revise and update" India's nuclear doctrine and to "make it relevant to current times," but this promise has not been kept. Thus, India currently faces a moral dilemma as well as a question of "proportionality":

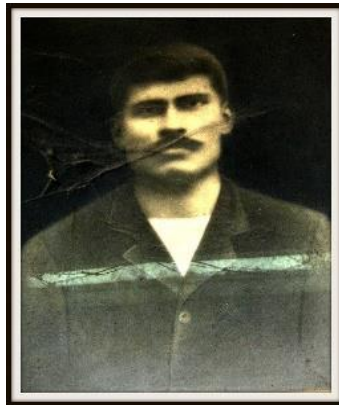
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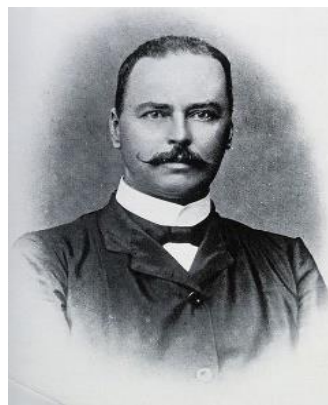
## India is Proud of:

### Kishori Mohan Bandyopadhyay (1877-1929)

**The Forgotten Indian Who Made Nobel Laureate Ronald Ross' Malaria Breakthrough Possible**



K M Bandyopadhyay



Ronald Ross

Kishori Mohan Bandyopadhyay made significant contributions to Nobel Prize winner Ronald Ross' malaria research as his lab assistant, but never received due recognition for his work. The Bengali scientist went on to play a crucial role in combating malaria in India.

When we speak of the role of Indian men and women in shaping the medical world, one of the most compelling stories that come to light is arguably that of Kishori Mohan Bandyopadhyay and his role in the fight against malaria.

The science graduate's work in tackling the disease, while celebrated by the scientific community, was not awarded the Nobel prize. But this did not deter him from furthering his quest to educate people about the parasite-transmitted disease, and the precautions they must take to avoid contracting it.

Born in Kolkata in 1877 to a family of educators, Bandyopadhyay was an avid learner. Keen to explore the world of science with its many mysteries, he opted for a graduation in science at the Presidency College and emerged with flying colours in 1898.

Bandyopadhyay was hungry to pursue scientific research that had the potential to help his nation and began looking for opportunities. This was around the same time that Sir Ronald Ross — a British medical doctor who later received the Nobel Prize in 1902 for his work on the transmission of malaria — was in Kolkata.

Following years of medical studies in London, Ross joined the Indian Medical Service in 1881 on the advice of his father, a General in the Indian Army. It was in 1892 during his various engagements with doctors and people from the medical community that Ross displayed an interest in malaria — specifically its mode of transmission from parasites to humans.

While on the lookout for an able assistant, he came across the keen Bandyopadhyay who was looking for work as a lab assistant. In 1898, the two bonded over this passion project, and soon, it was a done deal.

The years spanning between 1898 and 1902 were brimming with research ideas that the two men of science had. While Ross would get excited over new developments in their quest to prove the relationship between mosquitoes and malaria, Bandyopadhyay made maximum use of his abilities in regional languages.

These real-time experiments proved to be a boost for Ross' research. And by 1899, he had not only discovered the role of the female Anopheles mosquito as a vector in the transmission of malaria to humans but also stumbled upon the transmission cycle of the disease in birds.

Meanwhile, Bandyopadhyay's work with malaria did not stop at the lab.

He would propagate the use of mosquito nets in the surrounding villages so as to caution people about the condition and prevent them from contracting it. He would frequently conduct social campaigns in the villages. And along with his photo artist friend, Lakshminarayan Roychowdhury's help, he would make public slide shows to educate the villagers about spotting the difference between different mosquitoes so as to identify the female anopheles.

The year 1902 saw a proud moment for medicine as Ronald Ross was awarded the Nobel Prize in Physiology "for his work on malaria, by which he has shown how it enters the organism and thereby has laid the foundation for successful research on this disease and methods of combating it".

But while the scientific community cheered the efforts of Ross, one man remained forgotten. Bandyopadhyay's hard work remained unrecognised.

This did not sit well with many notable names of the time, who went on to raise their concerns about this. Among them were Indian physician Upendranath Brahmachari, writer and polymath Acharya Jagadish Chandra Bose, philosopher Brajendra Nath Seal, social reformer Sivanath Sastri, political figure Surendranath Banerjee, and historian Acharya Prafulla Chandra Ray.

They requested the then Viceroy of India Lord Curzon that Bandyopadhyay be awarded for his efforts, and the Viceroy obliged. In 1903, Bandyopadhyay was awarded King Edward VII's Gold Medal and felicitated at the University Senate Hall.

In 1918, when a malaria epidemic struck the country, Dr Gopal Chandra Chattopadhyay started a public health movement to control the spread, and Bandyopadhyay joined him.

They began educating the villagers about sanitisation and good hygienic practices. The Anti-Malaria Cooperative Society was founded for the first time at the village level in India at Panihati on 24 March 1918. Bandyopadhyay was the secretary and was at the helm of activities that encouraged cleaning ponds and drains in the village, clearing the garbage that choked the lakes and distributing mosquito nets. This compelled other villages to start similar associations to curb the spread of malaria.

Notable author Amitav Ghosh's book 'The Calcutta Chromosome' details bits of Ross's journey while shedding light on his research phase. The book is said to question the boundaries that have been erected to distinguish truth from fiction and also points to how Bandyopadhyay's knowledge played a role in Ross's success.

Following the disappointment at not finding mention in Ross's work, Bandyopadhyay went on to start The Panihati Cooperative Bank in 1927, two years after which he passed away. Today, as there have been several strides in the prevention and cure of malaria, we remain indebted to Kishori Mohan Bandyopadhyay for his tremendous contribution.

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