

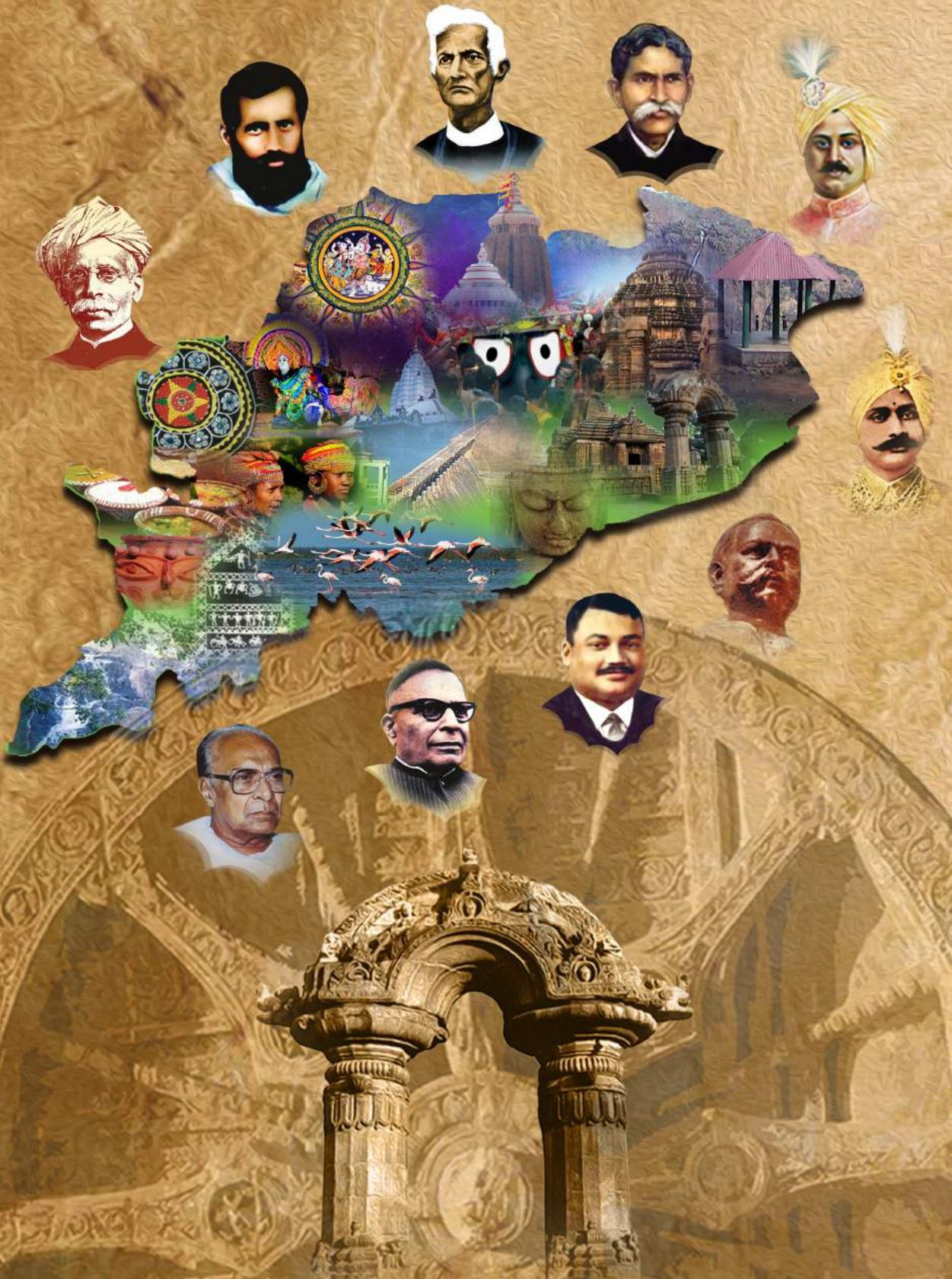
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May - 2024

# ODISHA REVIEW



# ODISHA REVIEW

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APRIL-MAY - 2024

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The **Odisha Review** aims at disseminating knowledge and information concerning Odisha's socio-economic development, art and culture. Views, records, statistics and information published in the **Odisha Review** are not necessarily those of the Government of Odisha.

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## BANDE UTKALA JANANI

*Kantakabi Laxmikanta Mohapatra*

BANDE UTKALA JANANI  
CHARU HASAMAYI CHARU BHASAMAYI  
JANANI, JANANI, JANANI !

ବନ୍ଦେ ଉତ୍କଳ ଜନନୀ  
ଚାରୁହାସମୟୀ ଚାରୁ ଭାଷମୟୀ,  
ଜନନୀ, ଜନନୀ, ଜନନୀ ।

PUTA-PAYODHI-BIDHAUTA-SHARIRA  
TALA-TAMALA-SUSOBHITA-TIRA  
SHUBHRA TATINIKULA-SHIKARA-SHAMIRA  
JANANI, JANANI, JANANI !

ପୂତ-ପୟୋଧି-ବିଧୌତ-ଶରୀରା,  
ତାଳତମାଳ-ସୁଶୋଭିତ-ତୀରା,  
ଶୁଭ୍ରତଟିନୀକୁଳ-ଶୀକର-ସମୀରା  
ଜନନୀ, ଜନନୀ, ଜନନୀ ॥

GHANABANABHUMI RAJITAANGE  
NILA BHUDHARAMALA SAJE TARANGE  
KALA KALAMUKHARITA CHARU BIHANGE  
JANANI, JANANI, JANANI !

ଘନ ବନଭୂମି ରାଜିତ ଅଙ୍ଗେ,  
ନୀଳ ଭୂଧରମାଳା ସାଜେ ତରଙ୍ଗେ,  
କଳ କଳ ମୁଖରିତ ଚାରୁ ବିହଙ୍ଗେ  
ଜନନୀ, ଜନନୀ, ଜନନୀ ॥

SUNDARASHALI-SUSOBHITA-KSHETRA  
GYANABIGYANA-PRADARSHITA-NETRA  
JOGI RUSHIGANA - UTAJA-PAVITRA  
JANANI, JANANI, JANANI !

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SUNDARA MANDIRA MANDITA-DESHA  
CHARU KALABALI-SHOBHITA-BESHA  
PUNYA TIRTHACHAYA-PURNA PRADESHA  
JANANI, JANANI, JANANI !

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ଜନନୀ, ଜନନୀ, ଜନନୀ ॥

UTKALA SURABARA-DARPITA-GEHA  
ARIKULA-SHONITA-CHARCHITA-DEHA  
VISWABHUMANDALA-KRUTAVAR-SNEHA  
JANANI, JANANI, JANANI !

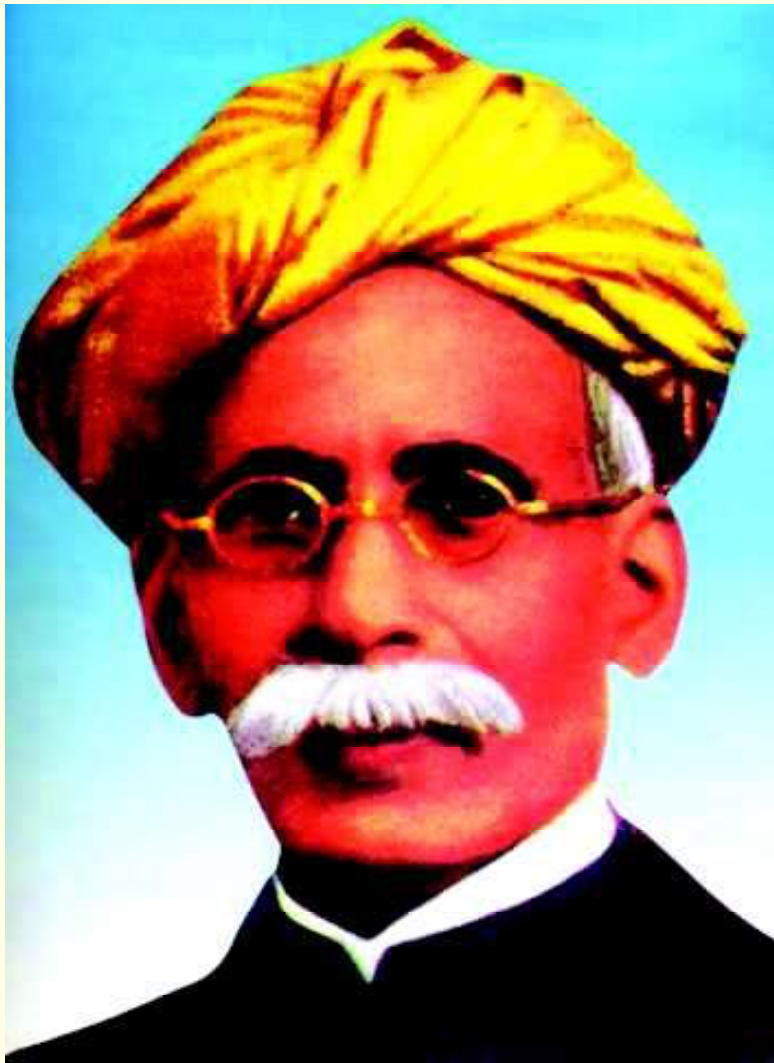
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ଜନନୀ, ଜନନୀ, ଜନନୀ ॥

KABIKULAMAULI SUNANDANA-BANDYA  
BHUBANA BIGHOSHITA-KIRTIANINDYA  
DHANYE, PUNYE, CHIRA SHARANYE  
JANANI, JANANI, JANANI !

କବିକୁଳମୌଳି ସୁନନ୍ଦନ-ବନ୍ଦ୍ୟା,  
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ଜନନୀ, ଜନନୀ, ଜନନୀ ॥

*Source: Kanta Sahitya Mala*

# MAKERS OF MODERN ODISHA



*Utkal Gourab Madhusudan Das*

(28.04.1848 - 04.02.1934)



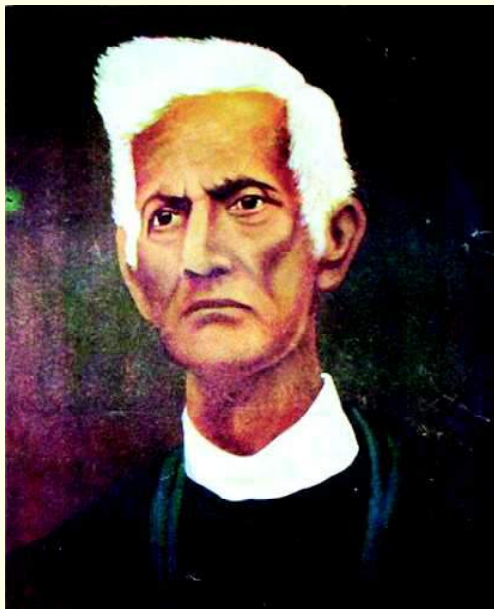
*Utkalamani Pandit Gopabandhu Das*  
(09.10.1877 - 17.06.1928)



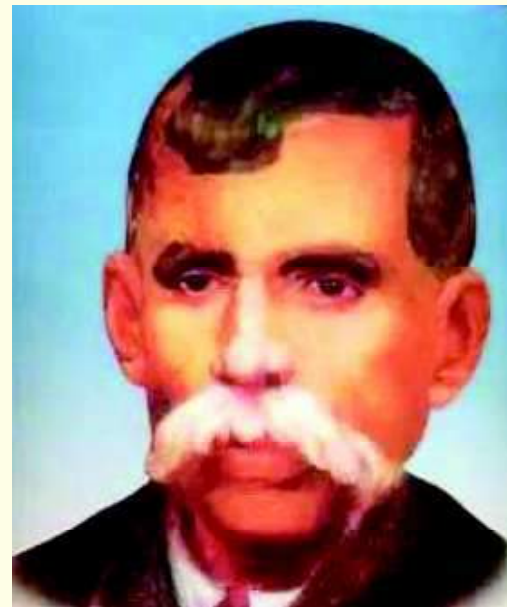
*Maharaja Sriram Chandra Bhanjadeo*  
(17.12.1870 - 12.02.1912)



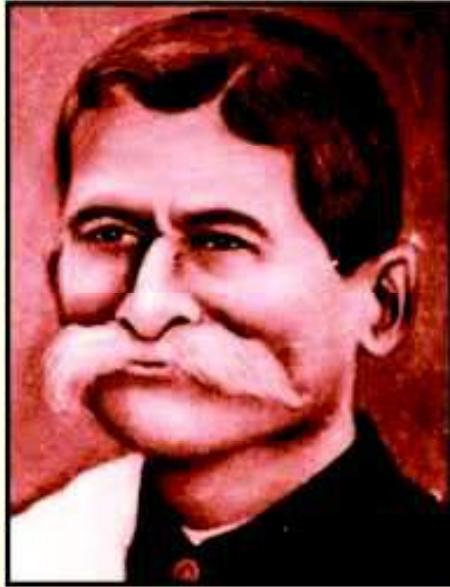
*Maharaja Krushna Chandra Gajapati  
Narayan Dev*  
(26.04.1892 - 25.05.1974)



*Vyasakabi Fakir Mohan Senapati*  
(13.01.1843 - 14.06.1918)



*Kabibara Radhanath Ray*  
(28.09.1848 - 17.04.1908)



*Swabhabakabi Gangadhar Meher*  
(09.08.1862 - 04.04.1924)



*Pandit Neelakantha Das*  
(05.08.1884 - 06.11.1967)



*Dr. Harekrushna Mahtab*  
(21.11.1899 - 02.01.1987)





***Legendary Biju Patnaik***  
(05.03.1916 - 17.04.1997)

# Address of Hon'ble Governor of Odisha Shri Raghubar Das to Odisha Legislative Assembly

Honourable Speaker and Members,

It gives me immense pleasure to welcome you all to the Fifteenth Session of 16th Odisha Legislative Assembly. Let me take this opportunity to extend my heartiest New Year Greetings to all the Hon'ble Members of this August House and the people of Odisha.

1. This August House has expressed its deep condolences on the sad demise of Late Surjya Narayan Patro, Sitting Member and Ex-Speaker, Late Maheswar Mohanty, Ex-Speaker, Late Ajaya Kumar Jena, Ex-Govt. Chief Whip, Late Saraswati Pradhan, Ex-Deputy Minister, Late Rasa Manjari Devi, Late Birendra Chandra Pandey, Late Bhagabati Pujari, Late Trilochan Kanungo, Late Ramesh Soren, Late Nibedita Pradhan, Late Kumar Behera, Late Rabi Dash, Late Yudhistir Samantaraya, all former members of this August House, Late Debashish Biswal, Ex-Lance Nayak, 49 Rashtriya Rifle, Late Susanta Kumar Khuntia, Ex-Constable (GD), 60 CRPF Battalion, Late Susanta Kumar Mohanty, Ex-Constable, Odisha Police, Late Saroj Kumar Das, Ex-Lance Havildar, 620 EME Battalion and Late Prakash Chandra Sial, Ex-Constable, 206 COBRA Battalion, BSF. I request Hon'ble Members to join me in paying tribute to Late M.M. Rajendran, Ex-Governor of Odisha, Late Rasananda Sahu, Late Santosh Kumar Pradhan, Late Ramesh Jena, Late Nrushinghananda Brahma, Late Sushree Devi, Late Jayanarayan Mohanty all former members. The house may convey our heartfelt condolence to the bereaved families of the departed souls.

2. At the outset, let me commend my Government in unequivocal terms on the successful completion of the Rs. 800 crore Srimandir Parikrama Prakalpa and its

dedication to the devotees all around the globe on 17th January this year. The Puri Heritage Corridor project, which has significantly enhanced the overall spiritual experience and convenience of the devotees visiting this 12th century shrine in the pilgrimage city of Puri was dedicated in a splendid ceremony in presence of thousands of devotees from across the state and abroad. A 75 meter wide heritage corridor around the Srimandir, the central symbol of Odisha's pride will now provide an opportunity to the devotees, pilgrims and visitors to enhance their spiritual experience of the temple, Neelachakra and Meghanad Pachery, provide state of the art amenities to the visitors, and strengthen the safety and security of the devotees.

3. To ensure seamless transportation to this 12th century shrine in Puri, my Government has also launched Shree Jagannath Express Bus Service from all districts of Odisha to the holy town of Puri under the state's flagship LAccMI (Location Accessible Multi-modal Initiative) Scheme, which is a part of my Government's vision to facilitate thousands of people visiting the temple along with the State-of-the-art Srimandir Parikrama Prakalpa daily. With the central symbol of Odisha's faith undergoing such unprecedented transformation, my government has also prioritized the renovation and redevelopment of religious institutions across the state to preserve, protect, renovate and promote the states' cultural identity. It is heartening to note that places of worship across the state are getting the benefits of such a vision and are on the fast track of next level transformation.

4. 10 days after the dedication of the Srimandir Parikrama Prakalpa to the people of Odisha, my Government dedicated the redeveloped Samaleswari Temple in Sambalpur district, one of the most revered shrines in the western region of the state. The 16th century shrine on the banks of the Mahanadi has undergone transformation over 39 acres of its peripheral area under a Rs. 200 crore SAMALEI project undertaking peripheral development of the seat of faith, construction of a heritage corridor, amenities for the devotees, pilgrims and the tourists, improved access to the temple and development of the Mahanadi riverfront. With humility, my Government acknowledges the invaluable contribution of those who volunteered to forego their land for both Srimandir Parikrama Prakalpa and the SAMALEI project.

5. To preserve, protect and promote our ancient temple heritage, my Government's Rs. 280 crore EKAMRA project for development of areas surrounding the 11th century Lingaraj Temple in Bhubaneswar is going ahead in a steady pace. The 80 acre area surrounding the Lingaraj Temple includes a wealth of monuments including a series of ancient sandstone temples, heritage ponds and

water tanks in the temple city of Bhubaneswar which is a testament to our ancient architectural and historical heritage covering over two thousand years from 3rd century BC to 15th century AD, is now being aesthetically redeveloped to enhance the magnificence of the ancient heritage site.

6. Next level transformation of rural Odisha, augmentation of rural infrastructure with accelerated growth, and, with a vision to preserve the rich cultural heritage of the state, my Government's new initiative 'Ama Odisha Nabin Odisha' is one of its kind development models. Through this, my Government intends to undertake next level transformation of rural infrastructure, ensure internet facilities, provide sports infrastructure, training hubs for Self Help Groups, empower villages with banking and digital connectivity and preserve, protect and promote the cultural legacy of the state in the making of new Odisha of our dreams which is indeed commendable. I would further like to commend my Government for its path breaking initiative the 'Nua-O' which is a novel approach to youth engagement and empowerment, a robust tool encompassing sports competitions, cultural activities and social engagements.

7. It is heartening to know that my Government organised the first of its kind 'Biswa Odia Bhasa Sammilani' to promote Odia Language in a big way inside and outside the State and abroad. Odisha is the first state to be formed on Linguistic basis on 1st April 1936 during the British rule in India. From 'Utkal Sammilani' to the present 'Biswa Odia Bhasa Sammilani', Odisha's mother tongue has evolved to be the sixth Indian language to be given classical language status, and the first in the Indo-Aryan language group. In India, Odia is the 9th most spoken language with 3.75 crore speakers, is spoken by about 84% of the states' population, the 37th most spoken language in the world, with 45-50 million speakers worldwide. Its long literary history and its predominance in our country as one of the rich and progressive languages deserves a celebration and further deliberations on its preservation, protection and propagation and the 'Biswa Odia Bhasa Sammilani' is a right step in that direction. I congratulate my Government for this rare act.

The inauguration of the new campus of Odia University at Satyabadi, the Karmabhumi of Utkalmani Gopabandhu Das recently is another commendable feat of my Government. The foundation of the University at Bakulabana was laid down four years ago by my Government on the birth anniversary of Utkalmani Gopabandhu Das. Language is the identity of a race. With its increased use, the glory of the nation is enriched and enhanced. With the inauguration of Odia University during the golden period of Odisha at Satyabadi, the seat of Odia renaissance is a matter

of immense pride for all Odias, as this centre of excellence shall be entirely devoted to research and development of Odia Language.

8. The '5T' and 'Mo Sarkar' initiatives of my Government have ushered in a new era of transformative governance and have brought people's outreach closer to the Government initiatives and programmes. My Government has achieved a host of unparalleled emulative milestones in our development imperatives; be it women empowerment, food security, disaster management, school transformation, skilling the youth, quality health care, capital formation, entrepreneurship, investment opportunities, quick and result-oriented service delivery, prudent fiscal management or promotion of sports. Our governance measures are now synonymous with transparent and good governance. I further take this opportunity to commend my Government for successfully initiating next level transformation of the state in several areas of people-centric governance, providing a conducive business environment for massive investment opportunities and transforming Odisha as a world class sporting and tourism destination.

9. Agriculture and allied sectors of the state contributed 22.5% to the Gross State Value Added (GSVA) for 2022-23. This sector provides largest employment, nearly 45.80% of the workforce as per Periodic Labour Force Survey, 2022-23. It holds the key to socio-economic development in the State. Therefore, my Government has been undertaking several meaningful interventions for the promotion of agriculture and its allied sectors through the adoption of modern farming technology for increasing agricultural production. Over the years, my Government has set a benchmark in using new cutting-edge machineries, emerging technologies and Information Technology interventions to enhance productivity and deliver citizen-centric services in a fair, efficient and transparent manner. Separate Agriculture Budget, dedicated Agriculture Cabinet, inclusion of a number of services pertaining to the Sector under 5T and Mo Sarkar are some of the remarkable initiatives which have ensured allocative priority, faster decision making for sectoral growth and welfare of farmers of the State. My Government trusts the goodness of people over and above the conventional official processes.

10. The foodgrain production in the State has touched 141.36 lakh Metric Ton during 2022-23 which is almost two and half times of the production of 55.35 lakh MT foodgrains during 2000-01. Similarly, the productivity of Rice has touched an all-time high of 2936 kg per hectare exhibiting nearly three fold increase over 1041 kg per hectare during the same period. Despite frequent natural calamities, unseasonal cyclonic rains and floods, there has been steady increase in the production of

foodgrains in the state. There is also a steady increase in cotton coverage touching an all-time high of 2.35 lakh hectares in the state owing to better prices and assured appropriate procurement support. The good news for cotton cultivators is that cotton export has been started from the State.

11. My Government has successfully organised the first ever Agriculture Conclave during May 2023 looking for new opportunities in agriculture sector from the buyer's perspective. This eye-opening-cum-sensitization drive immensely benefited farmer-producer groups, buyers, Government agencies and other players in the sector. It is envisaged to identify and take up demand driven production programmes to garner greater returns from the farming sector as a whole.

12. Odisha has been one of the pioneer States to launch 'Odisha Millet Mission' for promotion of these climate resilient and nutritionally rich crops which play a decisive role in our nutritional security. My Government's missionmode approach has resulted in a shift in our strategy towards the Nutri-cereals with a more wholesome manner from farm to fork. Procurement support is being extended to the millet farmers through an online system "M-PAS." During Kharif Marketing Season 2022-23 around 6.03 Lakh quintals of Ragi were procured with minimum support price. It is envisaged to extend this procurement support to 8 Lakh quintals during 2023-24, and the process has already begun. My Government has taken steps to introduce Ragi under Public Distribution System and nutritional programmes under the ICDS. 4 Lakh quintals of Ragi are being supplied by my Government under PDS to around 113.76 Lakh ration card holders at the price of Re. 1 per Kg.

13. Odisha has been conferred with the prestigious 'Best Millet Promoting State' Award under 'Poshak Anaj Awards' instituted by the Indian Council of Agricultural Research, Indian Institute of Millets Research and Food and Agriculture Organisation of the United Nations. The Ministry of Agriculture & Farmers' Welfare, Government of India and Niti Aayog have identified Odisha Millet Mission as one of the best models and have requested different state governments to adopt my Government's approach to promotion of millets. From the year 2022, Odisha has become the first State in India to celebrate 10th November as "Mandia Divasa" (Millet Day), with the objective to promote the importance of Millet in Odisha and in the Country.

14. My Government's Farmers' welfare programme, 'KALIA' (Krushak Assistance for Livelihood and Income Augmentation) introduced in 2018, is intended to accelerate agricultural prosperity and reduce poverty in the State through support to small and marginal farmers. Till now, 43.88 Lakh small and marginal farmers and

18.93 Lakh landless agricultural households have already been assisted under 'KALIA' scheme in the State.

15. Livestock sector of my Government is the key driver of growth in agrarian economy of the State. Mostly it is the source of livelihood sustenance for landless, marginal and small farmers. Now Women SHGs and other entrepreneurs also play a pivotal role in the growth of the sector. For enhancing milk production in the state, my Government has introduced advanced bovine breeding technology, artificial insemination through "Sex-sorted semen" with an objective of production of more than 90% female calves. On call Artificial Insemination Service started as a pilot in Puri district with the vision of providing assured artificial insemination will be rolled out to all districts by my Government.

16. My Government is promoting goat meat production by supporting WSHGs for commercial goatery units and individual poor farmers in the mining affected districts with small goatery units. 4105 WSHGs have been supported by my Government for establishing commercial goatery units during the last 2 years. In order to make the State self-sufficient in egg production and boosting entrepreneurship development, my Government has been supporting new entrepreneurs for establishing commercial layer units with minimum 10,000 bird capacity under Mukhyamantri Krushi Udyog Yojana, where 40-50% subsidy is provided for loan up to Rs. 1 crore with simplified procedure for subsidy disbursement. This has helped in increasing egg production in the State from 84.34 lakh eggs per day in 2021-22 to 103 lakh eggs per day in 2023-24.

17. Optimal use of technology through digital platforms like Go-sugam and Decision Support System are being ensured by my Government for bringing in transparency and efficiency in veterinary services. Applications for subsidy-oriented schemes of livestock sector are now being received through GO-sugam online portal. Proactive notifications for beneficiaries, application processing, tracking and monitoring till release of final subsidy amount are now being done through the portal to reduce public interface with government officials, reduce processing time, eliminate corruption and bring in transparency and accountability.

18. My Government provides doorstep veterinary healthcare, diagnostic and breeding services at the doorstep of farmers through 314 mobile veterinary units in all the 314 blocks of the state. This service is now being strengthened with new customized vehicles with provision of small animal OT and other facilities for better veterinary health care at farmers' doorstep.

19. Total fish production of the State has increased to 10.52 lakh MTs during 2022-23. Marine export has also increased to 85308 MTs during 2022-23. The value of Seafood exports has increased by 1.5 times during the last 5 years to Rs. 4,546 crore in 2022-23. With the introduction of various programmes for both vertical and horizontal expansion of the sector, my Government is steadily heading towards self-sufficiency in Inland fish production with an average annual growth of 8%.

20. Sharecroppers especially landless farmers constitute a sizeable portion of our farming community. They are deprived of the benefits of input subsidies, crop loan and crop insurance. My Government's "BALARAM" (Bhoomihina Agriculturist Loan and Resources Augmentation Model) scheme is intended to augment flow of collateral free institutional credit to sharecroppers through formation of Joint Liability Groups. By the end of October 2023 around 38,800 such groups have already been supported with credit amounting to Rs.303 crore.

21. Prompt loan repaying farmers are availing interest free crop loan up to Rs.1 lakh and crop loan of up to Rs.3 lakh at 2% interest from 1st April 2022. This has benefitted more than 32 lakhs small and marginal farmers in availing interest free crop loan up to Rs.1 lakh. For Kharif 2023-24 season, against short-term crop loan dispensation target of Rs.9,500 crore, cooperative banks and cooperative societies have financed a record amount of Rs.9,718 crore to 18.99 lakh farmers.

22. We are prone to vagaries of nature and that makes crop insurance an important support system for our farmers to continue with farming activity in a sustainable manner. To ensure a transparent and fair crop insurance coverage, the Land Records Portal has been integrated with National Crop Insurance Portal. From 2023-24 my Government is bearing the premium of the farmer's share for 2 hectare per farmer and a token money of Re.1 per application has been collected from the farmers for validating the enrolment. During Kharif-2022, insurance claim for Rs.546 crore has already been settled against around 16.8 lakh applications.

23. My Government has constituted a "Corpus Fund" to extend interest free loan of Rs.100 crore every year to MARKFED to procure pulses and oilseeds from the farmers at MSP on behalf of NAFED under Price Support Scheme operation to safeguard the interest of farmers from distress sale and exploitation.

24. To provide assured irrigation facilities to the farming community of the State, my Government has given thrust on completion of ongoing major and medium irrigation projects. Lower Suktel Dam in drought prone Bolangir district, Gangadhar



Meher Lift Irrigation Project providing irrigation to 25,600 hectares in Bargarh and Subarnapur districts, Haldia Dam and Distribution System providing irrigation to 10,000 hectares in Mayurbhanj district, Baitarani Left Bank Canal of Anandapur Barrage in Keonjhar district are some of the major and medium irrigation works completed during 2023. Further, project works of Ghatakeswar Multipurpose Dam in Ganjam, Manjore Extension in Angul district, Kusumi Barrage in Nayagarh district and Sandul Barrage in Kalahandi are on fast pace of completion.

25. Continuing its thrust on creation of irrigation infrastructure in the state, preparatory works of Nabarangpur Lift Irrigation and Turi-Guntat Barrage in Nabarangpur district, Kharibhandan Barrage in Mayurbhanj district and Brutang dam in Nayagarh district have been initiated by my Government. Under the flagship scheme “Construction of Instream Storage Structures”, 28 Instream Storage Structures are in different stages of construction and 18 are in tendering stage, all of which will store nearly 50 million cum of water in different rivers to facilitate the surface water conservation, water harvesting, ground water recharge and level enhancement, flood routing measures and ecological benefits to the state.

26. My Government is implementing the flagship initiative “Parvati Giri Mega Lift Irrigation” scheme to irrigate the uncovered upland areas of the State. In the 1st phase, 202 projects have been completed to provide irrigation to 2.56 lakh hectares. Considering its necessity for coverage of more upland areas under assured irrigation, my Government has approved 170 new Mega Lift Irrigation Projects in the 2nd phase at an estimated cost of Rs.10,759 crore. Work has already begun in 63 projects that will provide assured irrigation to 93 thousand hectares.

27. 317 check dams have been completed in the 2nd phase of Mukhyamantri Adibandha Tiari Yojana (MATY), under Biju Krushak Vikash Yojana- Deep Bore Well Secha Karyakrama 1.12 lakh Deep Bore Wells have already been installed, 22,890 Deep Bore Wells and 2783 Community Lift Irrigation Projects will be completed by 2023-24. 513 defunct Community Lift Irrigation Projects have been revived under “Revival of Defunct LIP” scheme. Besides this, my Government has approved Rs.248 crore for improvement of 503 tanks and MIPs during 2023-24 to revive lost ayacut of 16400 hectares, and underground pipeline work in 79 MIP's is in progress that will create additional irrigation potential of 23,309 hectares.

28. For the outstanding work done in the field of water conservation and water management by my Government, Odisha was awarded with the 2nd prize in the Best State Category of the 4th National Water Awards, 2022. Besides, Baldiha Irrigation Project in Mayurbhanj district and Jayamangal Anicut in Ganjam district

have been awarded with the ‘World Heritage Irrigation Structure (WHIS)-2023’ award instituted by International Commission on Irrigation & Drainage.

29. My Government has been taking various proactive steps for protection, regeneration and extension of forest and tree cover in participatory mode with the involvement of local people to remediate the micro-climate, environmental management and conservation. As of now, Odisha has a total forest cover of 52,156 sq. km. which is about 33.50% of the geographical area of the State in comparison with the national coverage of 21.71%. As per the latest State of Forest Report 2021 of Forest Survey of India, Odisha is the third highest state in the country in achieving 537 sq. km. forest cover increase in comparison to 2019. Over the previous 5 years, my Government has taken up plantation over an area of 6.52 lakh hectares.

30. My Government has notified three Biodiversity Heritage Sites at Mandasaru Hills of Kandhamal district, Mahendragiri Hills of Gajapati district and Gandhamardan Hills in the Bolangir and Bargarh district. This helps to protect, conserve, and manage endangered and endemic species. Successful inventory of Biodiversity of Baisipali Wildlife Sanctuary of Nayagarh district, Kuldiha Wildlife Sanctuary of Balasore district, Gupteswar Reserve Forest of Koraput district and Gandhamardan Hills of Bargarh district have been completed by my Government.

31. Odisha is well known world over for its rich cultural diversity. Its timeless cultural heritage, historical monuments, archaeological sites; tribal, traditional and modern art, its language, literature and ancient scriptures, thematic paintings, sculpture are awesome and amazing for the visitors and attract scholars and researchers to unravel its myriads of mystery. My Government has taken a befitting decision to organise the first ever Biswa Odia Bhasa Sammilani to initiate global deliberations to preserve, protect, promote and propagate Odia language, the predominantly rich and progressive language of Odisha. My Government has dedicated the renovated village and memorial of Utkalmani Pandit Gopabandhu Das at his birthplace Suando in Puri district. The ancestral house of eminent siblings historian Manmath Nath Das and writer Manoj Das has been converted into a memorial to immortalise their invaluable contribution to our language, literature, culture and historical legacy for generations.

32. Odisha is bestowed with its exotic tourism potential and rich cultural heritage. Its eye catching beautiful tourist spots, ancient historic monuments, enthralling sea beaches, forests with rich biodiversity, majestic mountains, captivating wildlife, mystic waterfalls, vast water bodies, famous classical and folk dances, en-

chanting music, handlooms and handicrafts and 'atithi devo vabah', the call of hospitality of its people make Odisha one of the favourite tourist destinations of India. My Government has accorded 'focus sector' status to tourism through several transformative initiatives for holistic development of the sector and large scale promotion of tourism in the State.

33. My Government has undertaken Integrated Master Planning of 15 priority tourism destinations with Rs.1,768 crore. 136 project proposals received from the people of the state have been approved with the cost of Rs.244 crore. Repair and renovation of heritage sites has also been taken up at Raibania Fort, Barabati Fort, Rani Bakhri Mahal, Ranipur Jharia, Nrusinghnath- Harishankar, Kapilash, Saptasajya, Ananta Sayana and the Buddhist circuit (Ratnagiri, Udaygiri, Lalitgiri and Langudi). Rani Bakhri Mahal is now a proud part of the authentic Odia cuisine chain, 'Nimantran', Sambalpur promoted by OTDC. To promote the richness and authentic taste, flavour and aroma of odia culinary excellence, my Government launched this initiative at Bhubaneswar and Puri before Sambalpur.

34. As a part of my Government's offers of both fiscal and non-fiscal incentives in the new Tourism Policy to encourage private sector investment in tourism sector, which provides a 30% capital investment subsidy with a maximum cap of Rs.15 crore to new tourism projects, 157 new private investment project proposals for Rs. 6,849 crore have been approved through Single Window Mechanism. My Government's flagship glamping event 'Eco Retreat Odisha' is running successfully for the 5th year across several exotic locations of the State and giving an unique glamping experience to national and international tourists. My Government's attempts to offer an opportunity to senior citizens belonging to weaker sections of the state for spiritual pilgrimage through 'Baristha Nagarika Tirthayatra Yojana' have so far successfully assisted around 13 thousand senior citizens to visit various important religious places of the country and fulfil their lifelong spiritual aspirations.

35. Due to the commendable efforts of my Government, Raghurajpur has been awarded as the Best Tourism Village 2023 by Ministry of Tourism, Government of India; 'Tampara Lake Front Development' has been adjudged the 'Best Cafeteria' under Swadesh Darshan Scheme by Ministry of Tourism, Government of India; Srimandir, Puri has been selected as the Best Spiritual Destination 2023 and Golden Beach, Puri has been selected as the Best Beach Destination 2023 by the Outlook Traveller; and Eco-Retreat has been awarded the Most Innovative Product at the Outbound Travel Mart 2022, India's largest travel-trade show.

36. Let me commend my Government for the proactive measures it has taken for its 42 million population by ensuring universal access to equitable, affordable and quality healthcare services that are accountable and responsive to the people's needs. This has been made possible by my Government through a number of transformative health care initiatives. Free and assured healthcare schemes, massive health sector reform measures for strengthening healthcare human resource professionals, state-of-art public health infrastructure, expansion of service delivery packages, harnessing the potential of private healthcare providers, use of latest medical technology and multi-skilling of service providers have resulted in transformation of public health facilities in the State which has enhanced people's faith, trust and reliance on public health facilities reflected in numerous National Health Surveys and many of the efforts of my Government have been acknowledged and emulated at thenational and appreciated at the international level.

37. Due to effective policy formulation, participatory and bottom-up planning and adequate healthcare financing in the State's budget by my Government, significant improvements have been observed in many key health indicators. Odisha has recorded 49.9 points increase in Institutional Births in Public Facility from 28.8% in 2005-06 to 78.7% in 2019-21, which is better than the all-India average of 61.9%. The overall percentages of institutional deliveries of the State have also increased from 35.6% in 2005-06 to 92.2% in 2019-21 which is again better than national average of 88.6%. With continuous effort in provisioning quality continuum of care, Odisha has reported highest point decline in the country in Infant Mortality Rate (IMR) with 39 points decline from 75 in 2005 to 36 in 2020, and 2nd highest point decline in the country in Maternal Mortality Ratio (MMR) with 49 points decline from 168 in 2015-17 to 119 in 2018-20. My Government has also achieved SDG Goal in population stabilization measures by reducing the Total Fertility Rate (TFR) to 1.8 (India 2.0), which will contribute substantially in the socio-economic development of the State.

38. Odisha's phenomenal achievements in healthcare was accomplished through the launching of more than 15 Mega Schemes and several result-oriented health system strengthening measures. The Free Diagnostic Services 'Nidaan', Free Dialysis Services 'Sahay', Universal Eye Health Care Programme 'Sunetra', Universal Health care initiative 'Biju Swasthya Kalyan Yojana' (BSKY), Specialist Services in Urban PHC / CHCs 'Ama Clinic', Strengthening of Ancillary Services 'Nirmal', ASHA Matrutwa Yojana, Transport Assistance to Blood Disorder Patients, ASHA Kalyan Yojana, establishment of New Medical Colleges, Comprehensive Cancer Care Programmes, Nutrition Support to TB Patients, Drop Back Assis-

tance to Delivery Patients and Sick Infants have all contributed in efficient and result oriented performance of our healthcare system.

39. My Government has empanelled 796 private hospitals, including 156 private hospitals outside the State, for critical care and treatment of the economically vulnerable sections with an annual health assurance of Rs.5 lakh per family and an additional Rs. 5 lakh for women members of the family. BSKY benefit now extends to 3.5 crore persons of 96.5 lakh families in Odisha. After launch of the BSKY smart health card from 1st September 2021, over 17.64 lakh beneficiaries have availed treatment assistance of Rs.3,958 crore.

40. My Government has recently introduced 'BSKY NABIN CARDS' for all rural families excluding regular government employees, government pensioners and income tax payers presently not covered under 'BSKY' are eligible for the cards, and, are eligible to get cashless coverage at empaneled private hospitals both inside and outside the state for cashless treatment of Rs. 5 lakh per annum per family and additional Rs. 5 lakh for women members of the family for identified critical diseases with effect from 1st May 2024. I commend my Government for achieving 3 SKOCH nominations for its innovative 'Mukhya Mantri Bayu Swasthya Seva' (MBBSS), 'Biju Swasthya Kalyan Yojana' (BSKY) and 'Durgama Anchalare Malaria Nirakaran' (DAMaN) initiatives during 2023.

41. My Government has launched 'AMA Hospital' scheme with a target to transform 149 health facilities in a record period of 9 months, with an expenditure of Rs.750 crore. Under this scheme the physical health infrastructure, basic patient amenities and service delivery system in the public health facilities, i.e. Community Health Centres, Sub-District Hospitals and District Headquarter Hospitals are upgraded. During the last 6 years, my Government has established 8 new medical colleges at Koraput, Baripada, Balasore, Bolangir, Puri, Keonjhar, Sundergarh and Kalahandi, and 2 new Post Graduate Institutes, i.e. Acharya Harihar Post Graduate Institute of Cancer, Cuttack and Post Graduate Institute of Medical Education & Research & Capital Hospital, Bhubaneswar and is transforming the 3 old renowned medical colleges and hospitals at Cuttack, Berhampur and Burla into world class health institutes.

42. My Government is thus committed to make all out efforts for fulfilling the healthcare needs of the people through a comprehensive, assured and quality healthcare delivery system with proper focus on entitlement based approach, and thereby thus transforming Odisha into a model State and healthcare destination, ensuring universal access to safe, secured high-quality health care.

43. To ensure Food Security, my Government is ensuring availability of foodgrains at a subsidized rate to weaker and vulnerable sections of the society under Priority Household category who are being supplied with 5 Kg of rice per month per person free of cost. The AAY families are also getting 35 Kg of rice per family per month free of cost. At present, my Government is distributing Central allocation of 1.87 lakh MTs of rice under NFSA among 2.88 crore Priority Household beneficiaries and 12.54 lakh AAY families through 12,068 fair price shops in 30 districts. Besides, my Government is implementing its own State Food Security Scheme since October, 2018 and so far 9.97 lakh individuals of 3.15 lakh NFSA left-out eligible families have been covered under the scheme with 5 Kg rice per person per month free of cost.

44. My Government has made rapid strides in expanding its paddy procurement drive. During Khariff Marketing Season 2022-23, my Government procured 79.16 lakhs Metric Tons of paddy from 17.11 lakh farmers, making Odisha the top paddy procuring State in the country. Now Odisha is a surplus foodgrain state, in addition to meeting its own food grain requirements, it contributes foodgrains substantially to the Central Pool. My Government is utilizing Satellite imagery in all 30 paddy procuring districts for validation of paddy crop to bring transparency in the procurement process.

45. My Government is committed to provide pucca houses to all. Pradhan Mantri Awaas Yojana (Grameen) is successfully implemented in the state with 40% of matching State share. My Government's 'Biju Pucca Ghar Yojana', 'Nirman Shramik Pucca Ghar Yojana' and MO GHARA Yojana are implemented with the objective of achieving "Shelter Security for All". Odisha has achieved the distinction of completing 34.24 lakh pucca houses successfully since the 2014-15, thereby becoming a pioneer state in the country in Rural Housing. The innovative practice of providing incentives to BPGY beneficiaries for early completion of their houses has set an emulative example in the country, and so far the state has paid Rs. 1,387 crore to 8.42 lakh beneficiaries towards incentives for speedy and quick completion of their houses. Sustainability of already constructed pucca houses has been a major challenge for the beneficiary families, and considering this my Government has allowed periodic house repair grant for the houses constructed earlier in any Government scheme and has assisted 27.28 lakh families with Rs. 819 crore, for repair of their dwelling houses. My Government's credit linked housing scheme "MO GHARA" has been launched recently to address the housing needs of lower & lower middle-class beneficiaries of rural Odisha.

46. To transform Rural Odisha, augment rural infrastructure to accelerate growth, and to initiate steps to preserve the rich cultural heritage of rural Odisha, my Government has launched a new initiative “Ama Odisha Nabin Odisha”, under which each GP is entitled to an amount of Rs. 50 lakh. Total 90,650 projects have been sanctioned by my Government amounting to Rs. 3,397 crore. A citizen centric dedicated web-based MIS system and a mobile app (AONO) have been developed for real-time monitoring of the initiative with Geo tagging, and to ensure public accountability in its implementation, Social Audit under AONO is being ensured.

47. According priority to the crucial role of slum dwellers in building and sustaining cities, my Government is implementing JAGA mission to provide Land Rights and transform the slums to Adarsh colonies. So far, more than 2.40 lakhs slum families have been granted with land right certificates. To convert slums into liveable habitats, my Government is fast transforming slums into Adarsh Colonies with required infrastructures, amenities and services at par with rest of the cities. So far, 1364 slums have already been upgraded as Adarsh Colonies. 10 cities have already achieved the Slum Free City status. Odisha is fast moving towards achieving slum free status in all the ULBs by December 2024.

48. My Government is committed to promote Kalyan Mandaps across all ULBs of the State. Municipal Corporations with 10 each, Municipalities 4 each and Notified Area Councils with 2 each, approximately 400 Kalyan Mandaps will be constructed in all urban areas of the State. For constructing citizen centric motorable roads in urban areas, 1200 kilometres of identified kachha roads across 115 ULBs will be converted into Paver Roads. More than 2,000 large water bodies would be transformed adopting nature-based treatment in partnership with Mission Shakti SHGs under the AMA POKHARI initiative for rejuvenating the water Bodies in Urban Odisha and creating public amenities. My Government’s ‘JAGA’ mission, world’s largest slum land rights and upgradation programme has evidently demonstrated that eviction is not the way to resolve slum issues rather empowerment is by winning the UN Habitat-World Habitat Awards in 2019 and 2023. Apart from transformation of slums and making the cities slum free, my Government is taking pioneering steps in slum proofing the cities to proactively prevent creation of new slums instead facilitating decent living for every family.

49. Provision of safe drinking water to all the rural habitations is the priority of my Government. Required steps are being taken to supply safe drinking water to all rural households through functional household tap connection by 2025. At

present, safe drinking water is being supplied to rural households through 14,277 water supply projects and 5.06 lakh tube wells and sanitary wells, 12,683 solar dual pumps and 2,384 solar pipe water supply projects. So far, 69% rural households, 68% Schools, 59% Anganwadi centres of the State and all the Gram Panchayat offices have been provided with drinking water tap connection.

50. To provide safe and clean drinking water through pipe water house connection to every urban household, my Government has made huge investments over the past 5 years as a result of which 109 cities including all five municipal corporations, Bhubaneswar, Cuttack, Berhampur, Sambalpur and Rourkela have achieved tap connection to 100% households and 100% household coverage of the remaining 6 cities would be completed by March 2024. My Government is implementing 'Drink from Tap' mission to maintain the water supply service standards at par with international cities like New York, Tokyo, Singapore and London. Puri and Gopalpur have become India's 1st and 2nd cities to achieve this distinction. 23 lakh people are getting the benefits of 'drink from tap' quality water supply in 24 cities.

51. During 2022-23 under MGNREGS 18.53 crore person-days were generated providing employment to 33.38 lakh households and 100 days of work to 4.18 lakh families. Participation of Female workforce increased to 48% in 2022-23 from 46.1% in 2021-22. 32,106 Farm Ponds, 15,856 Dug wells, 13,391 Land Development, 19,358 Livestock Shelters, 1906 Horticulture Plantation, and 1257 Promotion of Fisheries assets have been created during 2022-23. During 2023-24, my Government aims to achieve more than 20 crore person-days, where as so far 15.13 crore person days have been generated providing employment to 30.69 lakh households, and 2.26 lakh families have completed 100 days.

52. My Government is implementing a State Action Plan in the 14 migration prone districts of the state to track the migrant workers at the Gram Panchayat level, strengthen inter-state coordination and ensure their linkage various livelihood initiatives and welfare schemes which include a toll free Shramik Sahayata Helpline, Odia Migrant Labour Help Desk made operational in Andhra Pradesh, Telengana and New Delhi and approved for Karnatak and Tamil Nadu as First Point of Contact for Odia Migrant workers in distress, financial support for strengthening Anti Human Trafficking Units(AHTU) at district level in the 14 migration prone districts, conduct of household survey of migrant workers in 290 GPs of 20 blocks of Bolangir, Bargarh, Kalahandi and Nuapada, employment under MGNREGA for 300 days in a year in the Special Package for reduction of distress migration and



the remuneration of unskilled MGNREGA workers made at par with notified minimum wages of unskilled workers in 20 blocks of Bolangir, Bargarh, Kalahandi and Nuapada districts.

53. A State Action Plan for Elimination of Child Labour is being implemented by my Government for elimination of child labour in convergence with 9 government departments for awareness generation, strict enforcement of relevant legal enactments relating to children, rescue and proper rehabilitation of child labour and provision of education and skill development of the rescued children. During the last five years, 504 child and adolescent labourers have been rescued from different establishments and organizations.

54. My Government has so far registered 40.68 lakh construction workers as beneficiaries under the Odisha Building & Other Construction Workers Welfare Board during the last five years, and 13.25 lakh benefits worth Rs. 2146.64 crore have been distributed to eligible beneficiaries and an amount of Rs. 3267.85 crore has been distributed to beneficiaries since inception.

55. To promote industrialization in the state and facilitate Ease of Doing Business for stakeholders, my Government has undertaken reforms by amendment of certain Labour laws, introduction of new schemes, adopting Central Inspection Coordination Group Inspection system etc. to attract hassle free investments to the state.

56. Our labourers have an indispensable role in furthering our socio-economic and development goals. My Government is fully aware of their invaluable contribution in nation building and through a slew of measures will renew its resolve to protect their dignity & health and promote their inclusive and holistic welfare.

57. Under the 5T Governance initiative, my Government is implementing the Mukhyamantri Karma Tatpara AbhiYan (MUKTA) and Urban Wage Employment scheme for urban poor which is implemented across 115 ULBs of the state through community partnership model involving the Mission Shakti SHGs and the Slum Dweller Associations. 60,000 projects with an investment of Rs. 1000 crore are at present being implemented under MUKTA.

58. Transforming the school education ecosystem is my Government's priority. My Government has brought in a path breaking 5T High School Transformation initiative. This has unleashed new aspirations and opened up new horizons for high school students of our State. Now the transformed Government High Schools

have smart classrooms, modern e-libraries, well equipped laboratories, separate usable toilets for girls and boys, provision of safe drinking water, advanced sports infrastructure and student-friendly school eco-system. An aspirational curriculum with modern teaching - learning methods aims to empower students for the future. In the first 3 phases, 6872 High Schools across the State have been transformed under 5T High School Transformation programme with Rs. 3411 crore and under the 4th phase another 1798 High Schools with Rs. 982 crore.

59. My government has taken all out efforts to impart quality English medium education through Odisha Adarsha Vidyalayas (OAVs) at the Block level including one special OAV at Kotia Gram Panchayat in Koraput district. 190 OAVs have been upgraded to Senior Secondary Classes. The fully residential ICONIC OAV at Bhubaneswar has been functioning from the academic session 2022-23 for XI and XII class with a total intake capacity of 1000 students. The enrolment of students in the OAVs has witnessed a 5-fold increase from the academic year 2016-17 to 2023-24.

60. My Government's 'Mo School' Abhiyan has become one of the largest alumni contribution programmes in the country. In a short span of 6 years, it has been able to connect with 8476 High Schools and 44,543 elementary schools. More than thirty lakh alumni and community members have joined the 'Mo School' Abhiyan. 8.29 lakh alumni have already collaborated with this unique initiative of my Government and have contributed Rs. 219 crore. To match the donors' contribution, my Government has released a matching grant of Rs. 437 crore towards holistic development of the educational ecosystem of the schools.

61. My Government has provided Residential School facility to 5.38 lakh ST and SC students through 1736 Schools and 5834 hostels for holistic development of ST & SC students. Pre-matric Scholarship has already been disbursed to 14.86 lakh students and Post-matric Scholarship to about 6.67 lakh students. In consistency with the objective of providing the best educational opportunities to ST & SC students, my Government has initiated Urban English Medium Education initiative "ANWESHA." Eight urban hostel complexes have come up at Bhubaneswar, Berhampur, Sambalpur and Rourkela under "AKANKSHYA" initiative to provide accommodation to about 3900 students for pursuing higher education.

62. My Government's vision of higher education is based on achieving excellence in all its aspects while upholding the issues of access, equity and inclusivity paramount in its implementation. My Government is committed to provide neces-

sary capital framework for Higher Education in all districts and implement schemes to bring in equal opportunities for budding students in the State. Two Autonomous Colleges Vikram Deb Autonomous College, Jeypore and Dharanidhar Autonomous College, Keonjhar have been upgraded to Universities. More than 550 Assistant Professors have been appointed in 2023-24 and recruitment process for appointment of 1065 lecturers in Non-Government Aided Colleges through State Selection Board is under process.

63. Under my Government's 'Mukhyamantri Medhabi Chhatra Protsahan Yojana', 10,000 under graduates, 5000 post graduates and 10,000 technical and professional graduates receive annual scholarship of Rs. 10,000, Rs. 15,000 and Rs. 20,000 each respectively. One time scholarship of Rs. 20,000 is provided to 1500 +2 and +3 pass-out students in Odia language/ Honours under Vyasakabi Fakir Mohan Scholarship. Gopabandhu Shiksha Sahayata Yojana provides financial assistance to the tune of Rs. 20,000 per annum to destitute students. Under Biju Yuva Sashaktikarana Yojana, Rs. 30,000 each is provided for 15,000 meritorious +2 pass out students through DBT mode for purchase of laptops. My Government provides 100% interest subvention on educational loans under 'Kalinga Siksha Sathi Yojana' from 2023-24 for assisting poor meritorious students to pursue their higher education in the country and abroad.

64. With the twin objective of making our youths employable by equipping them with future skills and to cater the demands of industry for skilled manpower, my Government has taken several initiatives to make 'Skilled-in-Odisha' an aspirational brand for our youths. The year 2023-24 was phenomenal with several targeted initiatives yielding positive results in skilling and making youth employable and industry-ready. Enrolment of girls in ITIs has significantly increased from 6% in 2016-17 to 31% in 2023-24 and in case of Polytechnics from 16% in 2021-22 to 35% in 2023-24, because of my Government's intervention through the unique 'Sudakshya' Scheme. With this Odisha ranks number one in the country in terms of enrolment of female students in Government ITI and Polytechnics. Through my Government's collaborative approach and coordinated efforts, admissions in Government ITIs and Polytechnics have reached almost 100%.

65. My Government's flagship initiative Odisha Skill Conclave 2023 witnessed active participation of more than 1000 industry leaders representing national and international companies, 100 thought leaders with diverse sectoral experience, and over 2000 student participants, including a contingent from Singapore. 24 MoUs were signed with reputed industries during the Conclave, which is a testament to

the growing recognition of 'Skilled in Odisha' brand in global platform. Resounding success of Odisha Skill Conclave 2023 has reinforced our position as a thought leader. 'Skilled-in-Odisha' went global with our students getting jobs and internships in Singapore and Dubai. Our Digital Skilling initiative was awarded with the DigiTech Award (Gold Category) by the Economic Times while we were recognized as a Premier Partner by ITE Education Services, Singapore.

66. Taking this unique opportunities and recognitions forward, my Government will focus its attention on enhancing quality of skilling, decentralizing skilling by empowering districts, expanding the bouquet of skilling courses to focus on future skills, thrust on research and innovation and strengthening of infrastructure to meet future requirements, to make 'Skilled-in-Odisha' a significant contributor in the journey of skilling future Odisha.

67. My Government's transformative initiative Nutana Unnata Abhilasha (NUA) Odisha signifies my Government's commitment to inclusive growth through skill development, aligning modern technologies with traditional sectors for a dynamic and sustainable future.

68. My Government has successfully developed Odisha as one of the leading sports destinations of the country. In 2023, Bhubaneswar hosted the FIFA Qualifiers and Intercontinental Cup, drawing huge applause and accolades from the football fraternity. Significantly, the first AIFF-FIFA Talent Academy, a world-class football academy has been setup in Odisha Football Academy, Bhubaneswar which is a major initiative to boost football development in India and will nurture young talents for the national teams. Odisha also hosted the Badminton World Federation (BWF) Super 100 Odisha Masters 2023, the largest sporting event after the Asian Athletics Championships of 2017 in which over 300 players from 27 countries participated. The Sub Junior and Junior National Aquatic Championships at Kalinga Stadium, Bhubaneswar also witnessed massive participation from the best swimmers of the country.

69. My Government has set a benchmark by establishing India's largest Sports Science Centre, South Asia's largest Indoor Athletic Centre, and an Indoor Aquatic Centre at the Kalinga Stadium, Bhubaneswar. With the huge success of the High Performance Model, Odisha has added few more disciplines, Gymnastics, Hockey, Kho-Kho, Archery and Sport Climbing to its bouquet. Performance of our athletes is laudable.

70. We doubled our medal tally at the 2023 National Games. Kishore Jena bagged silver at the Asian Games, our Men and Women's Hockey team a gold and a bronze respectively, while Pramod Bhagat bagged three medals at the Asian Para Games including one gold.

71. This year Odisha launched the Pro Chess TA, Odisha Table Tennis Academy each one unique in its own way to promote sports from grassroot to elite level.

72. My Government has completed 90 multipurpose indoor stadiums in the urban areas, over 20 hockey training centres with synthetic turfs, 12 swimming training centres, nearly 50 weightlifting training centres, football training centres, gymnastic training centres and Table Tennis Centres in the State. Regional sports complexes are also coming up in a big way in Rourkela, Puri, Berhampur, Jeypore, Jharsuguda, Jajpur and Keonjhar.

73. Odisha is a leader in the country in terms of large scale investment in sports which will earn dividends for the country in the coming decades. Because of the concerted efforts of my Government, it has been an encouraging period for our athletes who have been performing exceedingly well at various national and international platforms and in the coming years, Odisha will be playing a significant role in creating champions for the country.

74. A host of schemes, programmes and initiatives are now being implemented by my Government for overall development of women, children, Scheduled Tribes, Scheduled Castes, Minorities & Backward Classes and the disadvantaged.

75. My Government continues to focus its attention on the entitlements of children, empowerment of women, and emancipation of persons with disabilities and senior citizens. My Government's effort in achieving Aadhaar verification of 99.07% beneficiaries and being at No.1 position since last 5 months at National level is laudable.

76. My Government's innovative MAMATA Scheme intended to provide partial wage compensation to pregnant and nursing mothers has so far benefitted 59.40 lakh women with Rs. 2867 crore released to their accounts through DBT mode.

77. My Government's new initiative 'Mukhyamantri Sampurna Pushti Yojana' with a total outlay of Rs. 3,355 crore for a period of five years from 2023 to 2028 is intended to transform the nutritional outcomes of pregnant women and lactating

mothers, adolescent girls, Severe Acute Malnutrition, Moderate Acute Malnutrition and Severely Underweight children under 6 years of age through a range of interventions, in addition to the existing schemes being implemented across the State.

78. Under Purna Aahara, children from 6 months to 5 years with Severe Acute Malnutrition are provided with augmented Take Home Ration and requisite medicines and children with further health complications are referred to Nutrition Rehabilitation Centres.

79. My Government's assistance to children who are facing life challenges due to demise of both parents or the sole breadwinner of the family during COVID-19 pandemic by covering them under "Ashirbad" Scheme is commendable. This includes financial support and other convergent aids for the eligible children and their caregivers until the child reaches 18 years of age. So far, 51,278 children have received financial support of Rs. 54.24 crore through DBT. Among them, 41,485 children have been assisted through BSKY, 42,268 children linked with food security schemes, 447 children enrolled in Odisha Adarsha Vidyalayas and 3364 children assisted to pursue their studies in private schools.

80. My Government has launched new 'Jagruti Scheme' a comprehensive initiative for addressing prevention, rehabilitation, follow up, support and holistic care for women in distress.

81. My Government is implementing "ADVIKA-a scheme for adolescents" as a pathway to adolescent empowerment of both 10-19 year old girls and boys.

82. My Government has launched 'Ama Kuni Pila' initiative focusing on early stimulation and responsive parenting in the best interest of each child from 0-3 years to learn, survive and thrive. As early years matter for each child, this unique initiative is conceptualized to ensure holistic development of 17.64 lakh children of the state in the above age group.

83. Empowerment of women is one of the key pillars of Odisha's transformation. Recognizing the crucial role that women play in the sustenance, growth and transformation of families, communities and states, my Government has accorded its utmost priority to women centric policies and programmes. Mission Shakti, a flagship programme of my Government promoting women's self-help groups (SHG) movement, has 6 lakh women Self-Help Group (SHGs) with 70 lakh members in Odisha.

84. Mission Shakti SHG Federations at district, block and Gram Panchayat level facilitate livelihood support, collective marketing, financial linkages and nur-

ture entrepreneurship among SHGs. All 338 Block Level Federations and 30 District Level federations across the state have been provided with revolving fund @ Rs. 50 lakh per Block Level Federation and Rs. 1 crore per District Level federation to extend easy lending to SHGs for income enhancement and livelihood activities. SHG Federations at GP and ICDS project level play a vital role in providing a platform to women to voice their concern; facilitate, control and monitor the SHGs towards livelihood promotion, collective marketing and financial linkage.

85. To facilitate institutional finance, 3.65 lakh SHGs have been provided with bank linkage of Rs. 11,005 crore during 2022-23 by my Government. During the current financial year, it has been targeted to facilitate SHG bank credit linkage amounting to Rs. 15,000 crore. In recognition of women members' self-efforts towards entrepreneurship at SHG level, my Government has introduced an Interest Subvention Scheme 'Mission Shakti Loans' to provide interest free loans to SHGs up to Rs. 5 lakh on prompt and regular repayment. Interest subvention claims amounting to Rs.216 crore has been settled under 'Mission Shakti Loan' during 2022-23, benefitting 2.45 lakh eligible SHGs.

86. Mobility is empowerment. Keeping this in view, my Government has introduced the facility of interest-free bank loan up to Rs. 1 lakh for 2 lakh Community Support Staff and Executive Committee Members of GP, Block and District level Federations to purchase a scooter of their choice under "Mission Shakti Scooter Yojana." This initiative aims at providing essential mobility to 2 lakh women significantly enhancing their outreach and efficiency. With commitment to offer international exposure to women SHG leaders, my Government has facilitated exposure visits for hundreds of Mission Shakti leaders to embark on transformative international travels to business hubs such as Dubai and Singapore. This visionary initiative has helped SHG leaders explore opportunities and gain insights into international business hubs, broadening their horizons and fostering in them a sense of global perspective.

87. Capacity building plays a pivotal role in enabling SHGs and their federation to function seamlessly and deliver services effectively. Training to various federation representatives on leadership development, institutional banking, financial management and entrepreneurship promotion have been organized by my Government to further strengthen SHG institutions.

88. Construction of one Mission Shakti Gruha in each GP, one each in each ward of 114 ULBs and Block Mission Shakti Bhawans at each ICDS project level are intended to provide basic infrastructure support at each level for regular meet-

ings, trainings, storage and selling SHG products and other day-to-day official activities.

89. All districts have been provided with funds to establish district level Mission Shakti Bazaar to facilitate a year-round market place for sale and display of wide range of SHG products.

90. To transform SHGs into SMEs, my Government has approved establishment of Industrial Park for SHG entrepreneurs in each district.

91. My Government has taken a historic decision of engaging women SHG and Federation members as Business Correspondent Agents to ensure last mile delivery of banking services in unbanked and underbanked Gram Panchayats. Engagement of 2318 SHG members as Business Correspondent Agents has increased the outreach of banking services in such areas leading to banking transactions of Rs. 980 crore during 2022-23.

92. My Government has approved provisions of services and procurement in the Government sectors from Mission Shakti SHGs to deepen the engagement of lakhs of women with Government programmes at the grassroot level and ensure last mile delivery of services while providing additional and sustainable livelihood opportunities to women SHGs. Government business of Rs. 8127 crore has been generated by SHGs so far since 2019-20. SHGs are also engaged in several sustainable livelihood opportunities in convergence with twenty Government Departments. Millet based enterprises under Mission Shakti in collaboration with Odisha Millets Mission are leveraging cutting edge technologies to drive their livelihood activities.

93. Special Development Councils (SDCs) have been set up in 9 tribal dominated Districts of the State, Mayurbhanj, Sundargarh, Keonjhar, Malkangiri, Koraput, Nabarangpur, Rayagada, Gajapati and Kandhamal since 2017. These Councils specifically focus on preservation of tribal culture and traditions, heritage and the unique identity of each tribe. During 2023-24, my Government has included 14 more districts consisting of 58 Blocks under the SDC fold, taking the total number of SDC Districts to 23 with a total of 175 Blocks. Rs. 399 crore has been earmarked for all the 23 SDCs during 2023-24 for taking up various activities related to protection, preservation of our unique tribal culture.

94. Pradhan Mantri Adarsha Gram Yojana (PMAGY) is being implemented for integrated development of SC dominated villages. So far 150 villages have been



declared as Adarsha Gram. Under this scheme, Village Development Plans have been prepared for 525 new villages. To encourage inter-caste marriages between Caste Hindus and Scheduled Caste Hindus, my Government has enhanced the incentive amount to Rs. 2.5 lakh per couple.

95. My Government has formulated 'Mukhyamantri Janajati Jeebika Mission', an exclusive tribal development initiative to raise the income level and living condition of more than 1.5 lakhs tribal households by promoting diversified and gainful livelihoods in cluster approach over a period of 3 years by investing Rs. 500 Crore.

96. During 2024-25, my Government proposes to construct hostels for 2400 OBC boys and girl students to help them in their higher studies, and, hostels for 10,000 OBC boys and girls to pursue their studies at school levels with an amount of Rs. 151 Crore.

97. My Government proposes to construct 50 multipurpose Community-cum-Cultural Centres for social empowerment and holistic development of Minority Communities of the State at the rate of Rs. 30 lakh per each unit during 2024-25.

98. My Government has launched 'Mo Jungle Jami Jojana' to implement the scheduled tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 through a comprehensive and empowering framework for recognition of both individual and community forest rights of scheduled tribes and other Traditional Forest Dwellers who primarily depend on the forest for their bonafide livelihood and food security.

99. My Government is promoting OTELP Plus Programme to ensure that livelihoods and food security for poor tribal households are sustainably and substantially improved through promoting a more efficient, equitable, self-managed and sustainable exploitation of the natural resources at their disposal and through off-farm and non-farm enterprise development.

100. My Government is committed to ensure social security and empower the vulnerable sections such as Persons with Disabilities (PwD), destitute & widows, senior citizens, transgenders, persons affected by AIDS, persons cured of leprosy, beggars and victims of substance abuse. Social security pensions are provided to 53.09 lakh persons, the highest percentage of coverage of population amongst all states in the country. My Government has also made provision for

pension under 'Madhu Babu Pension Yojana' in favour of destitute, deserted & divorcee women, orphan children and widows who were victims of COVID-19.

101. 104 special schools and 1 College for the hearing impaired are running in the State for providing education to 6815 PwD students. Free laptops are being distributed to +3 above PwD Students. Banishree Scholarships have been provided to 29,233 PwD students. 5092 physically, mentally and socially challenged persons have been rehabilitated through 78 therapy centres & Halfway Homes. 3349 PwD SHGs have been formed for their economic empowerment through different Government programmes.

102. 83 old age homes are functioning in all the districts of the State to provide food, clothing, high quality residential support and health services free of cost to the senior citizens. Odisha is amongst the first few States of the country to establish Old Age Homes in each district. Integrated Social Security Infrastructure Complexes have been taken up in 10 districts in the first phase for residential support and rehabilitation of old age and destitute persons, and Persons with Disabilities. These centres will be developed as Centres of Excellence under the 5T initiative. For the welfare and rehabilitation of beggars and destitutes the scheme "SAHAYA" is being implemented. Schemes like "ABADANA" and "SWEETKRUTI" are being implemented for the welfare of senior citizens and transgenders respectively.

103. My Government has been proactive in enhancing the Capital outlay in a progressive manner and Capital investment for 2023-24 now stands at Rs. 56,992 crore. The proportion of Capital expenditure to total budget is highest among all major States in the country and it surpasses a healthy level of 6% of Gross State Domestic Product (GSDP). This has helped in boosting economic growth and enabling my Government to carry forward different developmental and welfare programmes.

104. During 2018-19 to 2022-23, my Government has completed 216 Bridges, 14 Rail Over-Bridges (ROBs) and 40 Check Dams and 8593 kms. of roads have been improved by incurring expenditure of around ₹20,996 crore.

105. My Government's 'Mukhya Mantri Sadak Yojana' (MMSY) is a flagship rural connectivity programme, under which up-gradation and widening of existing RD roads and PR roads are undertaken. During the last 5 years, 807 roads of 3383 km. length have been constructed by incurring expenditure of around Rs. 2355 crore. During 2023-24, for completion of 285 roads, a sum of Rs. 650 crore has been provided in the Budget under MMSY.

106. My Government's MMSY-Connecting Unconnected Villages in Difficult Areas scheme envisages all weather road connectivity to unconnected habitations in most difficult areas in LWE districts of the State. From 2019-20 to 2022-23, a total of 131 projects with 784 km. length have been taken up.

107. My Government has been implementing Biju Setu Yojana (BSY) since 2011-12 on rural roads to provide an efficient all-weather road network across the State and to effectively address the socio-economic needs of rural Odisha. So far, 1415 bridges under Biju Setu Yojana have been completed.

108. My Government has become self-sufficient in power availability for providing 24X7 quality and reliable power. Odisha is a power surplus State. The average power supply hours both in Rural and Urban Odisha have increased and the per capita usage of electricity in the State has also increased in the National context as per recent reports published by the Central Electricity Authority. Universal access to electricity is being ensured by my Government through different State schemes. Augmenting the generation, transmission and distribution infrastructure has made the State one of the most preferred destinations for investment in the energy sector. My Government is totally committed to meet the Net Zero target by encouraging establishment of more and more renewable power projects across the State through Just Transition.

109. My Government has been continuously striving for citizen friendly quality infrastructure amenities for the travelling masses at bus stands across the state. "Ama Bus Stand" scheme is now being implemented by my Government. In the first phase, 55 'Ama Bus Stands' have already been developed at different locations during 2023-24, creating new job opportunities for the aspiring youth and providing SHG Women with viable business opportunities. Construction of 132 new 'Ama Bus Stands' will be taken up in the second phase.

110. My Government has also launched LAccMI (Location Accessible Multi-modal Initiative) an ingenious scheme with the objective to connect all 6,798 Gram Panchayats in all the 30 districts of the state, with an integrated public transport system to enhance the Service Level Benchmark. All the districts have been grouped into 6 clusters for phased rolling out of the scheme.

111. My Government is committed to set up, manage and maintain a rail-based mass rapid transport system in Bhubaneswar, Cuttack, Khordha and Puri cities to provide the general public with a fast, convenient, modern and economical mode of public transport. Going ahead in this direction, my Government has constituted

Bhubaneswar Metro Rail Corporation Ltd. and in the 1st phase Bhubaneswar Airport is being connected to Trisulia Square. It is targeted for completion by end of 2027 at a cost of around Rs. 6,256 crore.

112. Due to the sincere and untiring efforts of my Government, the iconic CNBT (Cuttack Netaji Bus Terminal) was completed in record time and dedicated to the people of Odisha by my Government. Constructed at a cost of Rs. 91.01 crore, sprawling over 14.95 acre of land, this state-of-the-art bus terminal can accommodate 190 buses at a time, and passengers arriving at the bus terminal located on the banks of Kathajodi river will get the feeling of an airport terminal. To make the journey to and from the terminal hassle free, integrated bus management system has been installed which will automatically generate tickets for any bus entering the CNBT and automatically allot a bay and a parking area.

113. Construction of the state-of-the-art ISBT (Inter State Bus Terminal) at Baramunda, Bhubaneswar with an estimated cost of Rs. 209.33 crore is going on steadily and will be completed very soon. Being implemented by Bhubaneswar Development Authority over 15.50 acres of land, it will provide passenger convenience including office space, parking, food court, restaurant and commercial space. It will be a world class transit infrastructure in the city for both interstate and inter-city bus operations, will provide easy access to people with mobility constraints, integration of transport and non-transport uses, child friendly features and mandatory adherence to the universal accessible guidelines.

114. I commend my Government for making Odisha the best state in regional air connectivity. Odisha recently was adjudged for the Best State Award at GoI's Wings India 2024 event and for its pro-active approach in regional connectivity scheme. My Government recently started air connectivity to the state's southern most district of Malkanagiri. Malkanigiri Airport is spread over an area of 233 acres with a 1620 meters long and 30 meters wide runway and Rs. 70 crore was spent to develop the airport. With the new airport coming up, journey from the state's capital, Bhubaneswar to Malkanagiri can be completed just in 2 hours instead of 14-16 hours it took earlier by road in the absence of a railway network. The airport would usher in an era of development in the region and open up new avenues of communication, tourism and trade in Malkanagiri and near by areas. It is a major infrastructure push completed in a record 14 months. Apart from the new one in Malkanagiri, airports are also being developed at Utkela in Kalahandi district and Rangeilunda in Ganjam district. The major infrastructure push in the tribal dominated Malkanagiri before the airport was Gurupriya bridge inaugurated

in 2018 which established connectivity to the Swabhiman Anchal, previously the cut-off areas of the district.

115. Technology is the bedrock of societal progress. My Government has put in efforts to stay in sync with new technologies that enhance efficiency and transparency in governance. To ensure good people-centric governance, my Government has incorporated “Technology” as one of the pillars of the 5T initiative. During the last two decades, Odisha has made rapid strides in the Electronics and Information Technology domain. This is reflected in the huge investments the State has attracted, the competitive policies my Government has formulated, the transformational public service delivery initiatives it has undertaken, the technological and communication infrastructure it has built, the collaborations it has forged ahead with major companies, and the digital services it is offering to its citizens.

116. Major IT, electronics companies, and professional services firms have opened their centres in Bhubaneswar in recent years. These include IBM, Deloitte, E&Y, Synopsys, PwC, Happiest Minds, Incture, Concentrix and many more. In the last 5 years, the IT exports of the State have increased by 87.5%, rising from Rs. 4,000 crore in 2018-19 to an estimated Rs. 7,500 crore by 2023-24. The number of people employed in the IT sector has also increased substantially from approximately 20,000 in 2018-19 to over 40,000 in 2022-23. To boost investment flow into the state, my Government has notified Electronic Policy, IT Policy, BPO Policy and Data Centre Policy. Recently my Government notified the Semiconductor Manufacturing and Fabless Policy, 2023 making Odisha the 4th state in the country to offer dedicated incentives to semiconductor units, in addition to offering incentives to semiconductor design units and supply chain units. For the development of a conducive semiconductor eco-system in the state, my Government will shortly launch O-Chip programme.

117. My Government has leveraged technological integration to enable unified and decentralized governance in our State. The coverage of Odisha State Workflow Automation System (OSWAS) has been extended across all Government Departments, all Heads of Department, all District Collectorate, and DG and SP offices of Odisha. The target is to extend it to all Government offices including those at the block and tahasil level. Because of OSWAS, the work output and efficiency of Government officials has been significantly enhanced. Web enabled OSWAS will also be implemented during this year. State headquarters, Directorates, and District headquarters have all been connected through Odisha State Wide Area Network (OSWAN). VC facility has been made available from State level to blocks and is

being extended to GP level. Because of the wide scale integration of technology, public service delivery has been comprehensively transformed in the State, our people are now direct stakeholders in our governance initiatives; there has been manifold increase in transparency and data focus in governance.

118. Odisha One portal is providing convenient and transparent 24/7 public services for citizens with 640 services now available in the portal and more than 66 lakh transactions made through it.

119. My Government's 'Mo Sarkar' initiative is one of its kind nationally and internationally. Through this, my Government takes suo-moto feedback from the public on public servants, makes them stakeholders in governance, and, reorients the administrative machinery based on the public feedbacks for a better people oriented governance delivery mechanism. The 'Jan Sunani' portal complementing it, and, the state dashboards, utilizing AI, ML and data science technology to monitor schemes, are further ensuring transparency and data driven decision makings.

120. Public Sector Enterprises through an array of activities assist the Government to achieve the desired socio-economic objectives. Our State PSUs play a key role in steering the state economy in the desired direction. At present, out of 31 working PSUs, 25 PSUs are profit making and 7 PSUs have paid dividend amounting to Rs. 1,516 crore during 2022-23.

121. My Government has introduced MSME Development Policy, 2016 and MSME Development Policy, 2022 to give thrust to the growth of MSMEs in the State to promote local entrepreneurship, utilization of local resources and create job opportunities across the State. Special attention is given by my Government to develop industrially backward areas and promote entrepreneurship among vulnerable sections of the society like SCs, STs and Women. My Government has launched a new scheme "CM-SRIM" (Chief Minister's Scheme for Reimbursement of Interest for MSMEs) in 2023-24. The scheme is intended to benefit manufacturing MSMEs which have gone into production on or before 31st March 2020 by way of reimbursement of interest on the working capital loan for their enterprises.

122. 4.62 lakh Micro, Small and Medium enterprises have been registered in Udyam portal till December, 2023 out of which 4.50 lakh are Micro, 11,490 are Small, 818 are Medium industries. District Level Single Window Clearance Authorities have approved 2334 projects worth Rs. 9,367 crore and employment potential for nearly 1 lakh persons, out of which 193 projects have started production and 871 projects are at various stages of implementation.

123. During 2022-23, MSMEs were assisted with Rs. 48.41 crore and so far in 2023-24 assistance of Rs. 48.90 crore has been provided to MSMEs under various Industrial Promotion Policies. Under PMEGP 41452 units have been promoted with margin money assistance of Rs. 949.99 crore and generation of employment to 337083 persons from 2008-09 to 2022-23.

124. My Government has started the 'Start-up Odisha' Initiative with support of Startup Odisha policy and Startup Odisha portal and it is steadily moving ahead with the objectives of creating a world-class 'Start-up Hub' in Odisha, encourage sector specific incubators and create enabling environment and supporting ecosystem for 5000 startups within the next 5 years. In the meantime, it has supported over 1700 startups including 600 startups led by women.

125. My Government is aware of the positive effects of massive industrialization resulting in faster economic growth, technological innovation and advancement, employment opportunities for the youth with a more efficient division of labour and large scale urbanization. For achieving higher economic growth, my Government has taken pro-active measures for investment promotion and industrial facilitation in the state as a result of which the state has attracted investment proposal of Rs. 4,15,628.96 crore with 2.34 lakh employment potential.

126. The 3rd edition of the 'Make in Odisha' Conclave of my Government attracted 10.48 Lakh Crore of investment across 22 diversified sectors with an employment potential of over 10.37 lakhs. Apart from the 'Make in Odisha' conclave, my Government organised as many as 32 investment promotion activities including road shows to attract investment to the State.

127. My Government has adopted several measures to significantly improve the ease of doing business environment in the state and is committed to ensure the implementation of all the reforms in letter and spirit. My Government has also implemented various other reforms to ensure a robust and attractive industrial ecosystem in the state.

128. My Government achieved a significant decline in the regulatory compliance burden by addressing 1767 compliances impacting both business and citizens. My Government is also taking efforts to adopt a new Labour Code that further eliminates the burdensome penal provisions.

129. My Government is keen on ensuring the groundbreaking and dedication of projects cleared by the single window committees at the earliest. During this finan-

cial year, dedication of completed projects and groundbreaking of new ventures of 21 companies with investment of Rs. 3,629.16 crore and employment potential of 9205 personnel has been accomplished by my Government.

130. District Investment Promotion Agencies (DIPA) functioning at the district level is a significant initiative of my Government to strengthen and streamline the investment facilitation mechanism as catalysts for investment promotion and enhancing the overall investment climate in the region.

131. Odisha has now edged past Maharashtra as the most attractive destination for investment. GO SWIFT, the comprehensive end-to-end single window clearance system of Odisha is one of its kind in the country and a benchmark worth emulating. For promotion of micro, small and medium industries, 128 industrial estates/areas with 12061.34 acres of land have been developed at strategic locations of the State.

132. To attract investment in industrial and social infrastructure projects and to meet the upcoming needs of suitable land for growth of industries in the state, a land bank of 73532.79 acres suitable for industrial investment has been created.

133. 30 Multi-product MSME parks in all the districts of the state, development of four sector specific parks such as seafood park at Deras, Electronics Manufacturing Park at Infovalley, Aluminium Park at Angul and Plastic Park at Paradip; two IT/ITES SEZs at Chandaka and Gaudakashipur, Bhubaneswar have been developed to augment industrial facilitation and investment in the State.

134. My Government is developing a PCPIR(Petroleum Chemicals and Petrochemicals Investment Region) at Paradip and also proposing to develop the Steel Complex at Kalingangar as NIMZ(National Investment Manufacturing Zone).

135. Along with IDCO Towers (Multi storied complex) at Dhenkanal and Jharsuguda, my Government is proposing to develop 8 IDCO Towers and 4 IT Towers as uniquely designed signature towers to provide space to MSMEs, Startups, IT&ITES units, and office space for existing industries.

136. My Government has launched Odisha East Coast Economic Corridor along NH 16, Biju Economic Corridor along with Biju Expressway covering 10 districts, Odisha East West Economic Corridor from Khurda to Jharsuguda covering 6 districts and also proposing for the development of an Utility Corridor at Gopalpur



to be utilised for laying pipeline from TATA Steel SEZ to Gopalpur port for handling various liquid and gas products.

137. As a welfare measure for workers with focus on women workforce, for facilitation of stay of industrial workers, 13 Workers' Hostels are being constructed at various potential Industrial Estates of the state.

138. Going ahead with its Vision 2025, my Government has planned to upgrade its five existing Industrial Estates, develop 5 best in class New Industrial Cluster & Metal Downstream Parks, develop an Utility Corridor for carrying oil, gas and water supply etc from Gopalpur port to TATA SEZ, Gopalpur and develop one 10 MLD capacity Common Effluent Treatment Plant (CETP) along with 30 MLD deep sea discharge pipeline to facilitate industrial growth in PCPIR region at Paradip.

139. An inclusive industrial atmosphere with environmental sustainability as its guiding principle, my Government aspires to build a new and industrially prosperous Odisha of our future with ample opportunities for our aspiring youth and women.

140. My Government has come a long way in disaster management and mitigation during the last two decades with the learnings of 1999 Super Cyclone. My Government's model of Zero casualty is now nationally and globally denominated and emulated as the "Odisha Model". This has happened due to consistent efforts in building effective community-level warning, dissemination mechanisms, construction and operationalisation of multi-purpose cyclone shelters and Early Warning Dissemination System (EWDS). My Government has responded promptly to all kinds of calamities, be it heavy rain & floods during August, 2023, cyclone "Miachung," Bahanaga train tragedy, heat wave, lightning, fire accidents, hailstorms and whirlwinds, snakesbites, drowning and boat capsize.

141. My Government has implemented some transformative best practices in dealing with disasters and natural calamities. Under National Cyclone Risk Mitigation Project (NCRMP), the Early Warning Dissemination System (EWDS) is functioning in six coastal districts of Balasore, Bhadrak, Kendrapara, Jagatsinghpur, Puri and Ganjam. This project is first of its kind in the country. The Doppler Weather Radar (DWR) stations at Gopalpur and Paradeep are now fully functional, which help IMD in forecasting weather and other related information with accuracy on real-time basis.

142. The overall law and order situation in the State has remained by and large peaceful. Left Wing Extremism (LWE) activities has remarkably declined in the

State due to proactive operational and administrative response of my Government. 42 Maoist cadres were neutralized in police action, 145 were arrested and 63 surrendered with timely and effective action. Besides, 162 guns, 480 Improvised Explosive Devices (IEDs) and large quantity of other articles have been recovered during anti-Maoist operations. The number of LWE affected districts now stands reduced at 10 from 21 due to proactive response of the security personnel. Under Operation “Ghar Wapsi” in Swabhiman Anchal of Malkangiri district, once a stronghold of LWE, more than 3,200 active militias and supporters have returned back to the social mainstream.

143. During last 5 years, my Government has created 5577 posts in different ranks to augment the capacity of the State Police Force. Similarly, 66 police stations and 2 out posts and 2 SDPO Offices have been created and 6440 posts in different ranks have been filled up during the period.

144. Odisha is one of the fastest growing States in India. Odisha’s post-COVID growth revival is quite exemplary in terms of economic growth as per Advanced Estimate 2022-23 of Gross State Domestic Product (GSDP). The State economy has witnessed an annual average growth rate of 6.47 % at 2011-12 prices during the period from 2012-13 to 2022-23 (AE), which is higher than the National/ Indian Annual Average Growth rate of 5.59%. As per the Advance Estimate, Odisha’s Economy has registered a growth rate of 7.8% in 2022-23 (AE) at 2011-12 prices which is higher than the Indian Economy projected to grow by 7.0% in 2022-23 (AE).

145. The growth rate of Agriculture & Allied Sector of the State during 2022-23 (AE) at 2011-12 prices has increased by 6%, whereas, in industries and service sector of the state, a growth rate of 6.1% and 8.8% has been achieved respectively. The Per Capita income in Odisha at current prices has grown significantly at 16.9% in 2022-23 (AE) to reach Rs. 1.51 lakh from Rs. 1.29 lakh in 2021-22. Further, the unemployment growth rate of Odisha has declined from 7.1% in 2017-18 to 6.2% in 2019-20.

146. Under “Critical Gap Fund for District Plan” Rs. 42 crore has been provisioned for 30 districts to address the basic rural infrastructure needs on priority with special emphasis on zero connectivity areas, health and drinking water etc. Allotment of Rs.42 Crore for the year 2023-24 for implementation of aforesaid scheme has been communicated to 30 Districts. My Government has introduced the “Infrastructure Development Fund Scheme for KBK districts” with an outlay

of Rs. 130 crore per annum out of State Resources with effect from 2017-18 for creating and maintaining infrastructures and assets in the areas of irrigation, inter-district roads, critical R.D roads, drinking water supply and development of ST/SC school buildings and hostels. Till 2023-24, Rs. 820.56 crore has been released to different line departments for undertaking such works and Rs. 130 crore has been kept in the Budget for the year 2023-24 under the scheme.

147. Socio-Economic Transformation & Upliftment (SETU) scheme has been introduced during 2018-19 for development of erstwhile 151 cut-off villages of Chittrakonda Block in Malkangiri district. So far, a sum of Rs. 292 crore has been provided under SETU for undertaking projects in the sphere of livelihood, connectivity, electrification, agriculture & fishery, housing, educational infrastructure and river lift irrigation projects. My Government has enhanced financial assistance from Rs.100 crore in 2020-21 to Rs.400 crore in 2023-24 to Western Odisha Development Council.

148. My Government has waived the examination fees for recruitment to different posts and services under the State Government by which the poor, young aspirants from humble background will be benefitted and it will pave the way for them to appear in more numbers in the recruitment examinations of the state. In order to streamline the recruitment process, Combined Recruitment Examination Rules have been framed for conducting combined recruitment examination for different posts or services having similar qualification, thereby reducing the number of recruitment examinations to be conducted. Now all the candidates will exercise option to the post or service in the Combined Recruitment Examination for which they wish to be considered in order of preference as indicated in their application. It will make the recruitment process easy and hassle free for them, will reduce the examination related expenditures as well as save their precious time.

149. During last 5 years, Odisha Public Service Commission (OPSC) has recommended 15,096 candidates, Odisha Staff Selection Commission (OSSC) 12,988 candidates and Odisha Sub-ordinate Staff Selection Commission (OSSSC) 18,902 candidates to different Departments of my Government and District Offices for appointment.

150. Office Automation through e-Office Application has been implemented in more than 1000 Government establishments. Human Resources Management System (HRMS) has been implemented to simplify service-related matters relating to Government employee. Quarter Management System (QMS) 2.0 has been intro-

duced to monitor all activities relating to quarter management. Litigation Management System (LMS) has facilitated efficient management of Court cases of Hon'ble High Court of Orissa and State Education Tribunal.

151. My Government has launched 'Mo Sarkar' initiative which has changed the contours of public service delivery in Odisha. The coupling of technology with a solid governance mechanism has enabled my Government to deliver transformative outcomes through it. People's feedback on public service delivery has made governance people-centric and has helped in identifying the areas of concern and take corrective measures to improve the efficacy of Government service delivery mechanism and reorient governance towards dedicated public welfare. This has also helped in achieving the inclusive Sustainable Development Goal of developing effective, accountable and transparent institutions.

152. My Government has revoked the restrictions previously imposed on fragmentation of Chaka land so that tenants can transact their respective shares of agricultural land during times of need. The transactions of Chaka land which were made in contravention of Section 34 of the Odisha Consolidation of Holdings and Prevention of Fragmentation of Land Act, 1972 where eviction has not been made by Collector are validated and mutation proceedings for change of ownership can now be initiated in those cases.

153. In order to maintain uniformity and transparency across the State, my Government has revised the conversion fees at the rate of one percentum of the market value which shall be payable per acre of agricultural land situated at different places of the State, for conversion of its use to any purpose other than agriculture by amending the sub-section-2 of Section 8-A of OLR Act, 1960 through Odisha Land Reforms (Amendment) Act, 2023.

154. Under the scheme "Vasundhara", Government land up to 4 decimals is being settled on free of premium basis with eligible homesteadless persons in rural areas of the State. As per the Survey conducted during 2018-19 for identification of homestead less persons for allotment of homestead land under "Vasundhara" Scheme, 55,128 beneficiaries have so far been allotted homestead land.

155. My Government has launched 'AMA Bank' Scheme on 28th November, 2023, a novel initiative to provide banking service at all 4,373 un-banked GPs through establishment of Customer Service Point (CSP) Plus Outlets. In the first phase, 750 CSP Plus Outlets were inaugurated. This historic and path-breaking

CSP plus model, a truly inclusive and empowering initiative for the people of the state innovated by my Government will become an emulative model for the rest of the country.

156. Odisha has topped among large states in fiscal management, as per the first edition of State Ranking, 2023 by Care Edge. Better score on revenue and fiscal deficit and healthy debt management indicators translated Odisha into the top rank in the fiscal category in the State Ranking report.

157. My Government has brought out Fiscal Strategy Report, Fiscal Risk Statement, SDG Budget and Status paper on Public Debt, the new disclosures along with Annual Budget, 2022-23 thus making Odisha a leader in budget transparency and disclosure. Odisha has become the only State in the country to have a “Budget Stabilization Fund” to hedge against revenue shortfalls, if any, in future.

158. With the objective of promoting simplicity and transparency in the Government financial system and procedures, my Government has done a comprehensive revision of Odisha General Financial Rules (OGFR). The revised Odisha General Financial Rules (OGFR), 2023 has come into force with effect from 13th September 2023.

159. In order to overcome deficiencies in the existing fund flow mechanism for allocation of fund in favour of the Grantee Institutions and Implementing Agencies for implementation of various welfare schemes, my Government has been piloting an alternative fund flow mechanism under Just-in-Time Funding System (JiTFS) in IFMS for direct drawal of scheme fund from the Consolidated Fund of State. Fund is drawn just in time through an automated process to avoid any float or parking. This new functionality in IFMS is going to eliminate the existing practice of idle cash balance pertaining to scheme fund being accumulated in the commercial bank accounts without earning any market equivalent returns.

160. My Government firmly believes that dissemination of credible information to the public and maintaining the highest level of public relations are crucial to good governance which require systematic planning, collection, organization, and storage of information for its timely delivery to our people. My Government disseminates useful information to the public through press conferences and public meetings. The mediums of information dissemination are print and electronic media such as journals, newspapers, radio, television, audio & video message clips. Phones, mobiles and the Internet are the technologies used for dissemination of credible information to the people in time on a regular basis as and when neces-

sary, and the assistance of print and electronic media, public relations personnel, camera crews, and professional newsreaders are taken by my Government for information dissemination.

161. While providing informations relating to public services, governance measures and matters of public interest, my Government prioritizes accuracy, accessibility, and effective communication modes to ensure that the informations disseminated ultimately benefits the people of Odisha.

162. For dissemination of credible information, Information and Public Relations Department of my Government is now performing in 5T mode on e-advertisement, Live Common-Feed Technology, Digital Newsroom and archiving, focused IEC activities and updating of RTI Portal.

163. For welfare of working journalists, my Government has amended and re-named the existing 2006 rules as 'Odisha State Working Journalists' Welfare Fund Rules, 2020. My Government has enhanced the insurance coverage in Gopabandhu Sambadika Swasthya Bima Yojana (GSSBY) from Rs. 2 lakh to Rs. 5 lakh per family. My Government is providing an ex-gratia of Rs. 4 lakh to the legal heirs of the deceased working journalists and Rs. 2 lakh for permanent incapacitation. For the first time, my Government has introduced Educational Scholarships to the wards of a deceased journalist. My Government in recognition and appreciation of the services rendered by Newspaper Hawkers across the State, has issued them identity cards.

164. My Government has formulated the State Web Media Policy 2017 for release of advertisements to different web media channels. Live Common-Feed facility for different important programmes of Government is being provided to Electronic and Web Media Channels through empanelled agencies of I&PR Department. Field Publicity, Special Celebrations IEC Activities, Audio-visual Publicity, Press Information Service, Temporary Information Centres, Information Center-cum-Reading Rooms, Media Management, Exhibition, Digital Archiving and Publications are other important activities undertaken by my Government through the Information and Public Relations Department.

165. For my Government, the year gone by was a year of resurgence, strong economic growth and perceptible transformation in public service delivery. Technology has transformed delivery of good governance and public goods and services. My State has performed phenomenally well in several sectors, as stability

has provided the State an unrestrained space for growth and development. Despite several challenges during year 2023 my Government has made a remarkable journey and is now distinctly positioned as a progressive State setting important national and global benchmarks worth emulation.

166. My Government is untiringly striving to eradicate poverty, reduce regional disparities and gender differences through various pro-people initiatives and will continue to prioritise the delivery of essential services, creation of livelihood opportunities and development of key and basic infrastructure including connectivity, provision of safe drinking water, power supply, supporting agriculture with irrigation and other facilities, and taking health care and education to the next level. Our transparent ways of governance have made us responsible and responsive to the ever changing needs of our times. Peoples' participation and partnering in the process of growth, development and progress of the State and its people has been the hallmark of this wonderful journey.

167. I would like to reiterate in unequivocal terms that my Government is firmly committed to develop all regions of the State and empower all sections of the people.

168. I now leave it to your deliberations and wish you all success.

“Bande Utkal Janani”

**A Symbol of National Integration**

## **Cultural Tradition of Lord Jagannath: Readings from Literary Sources**

**Dr. Sarojini Pani**

As Literature is regarded as the mirror of society, literary sources contain a wealth of information for reconstructing a nation's history. Numerous works of literature speaks of Odisha's glory in various ways and at various times. Thus, ancient literature provides a wealth of information about Odisha a state, where the culture exhibits a unique experiment in religion. Odisha is better known as the Land of Lord Jagannath and He, the Lord of Universe, is Omnipresent. His Divine Grace has been bestowed upon all His Devotees and Disciples across the World over. The culture of Odisha means the culture of Lord Jagannath, and the culture of Jagannath means the synthesis of varied religions prevalent in Odisha.

**“Cultural Tradition And Lord Jagannath in Odisha: Readings from Literary Sources”**, is a work that analysed Jagannath Culture and Tradition and how it is related, reflected and connected with Odia Literature. In this work it is shown that,

how Odishan history, tradition, legends, nature of the Indian link have been used and constructed in defining Jagannath Consciousness in various forms. It also established a Casual Connection between Culture and Traditional Lord Jagannath and Odia Literature in this work. The work departs from most of others importantly in the study of Odisha's religio-cultural perspective which have already been dealt with at great length in some earlier works. One more important feature of this work is the study of Jagannath culture in the light of Odias interrelation hitherto neglected by other scholars.

The Religious History in India, at least in respect of the deities is characterized by complexities. But here that complexities is normalized and popularized among common people. The entire activities of the people of Odisha-social, cultural and religious, are Jagannath Purusottam oriented in the time sense of term. So, a reader can find immense pleasure, by reading such types of works.



Jagannath is intrinsically associated with the Odia's life, a central figure in its Art, Culture, Society, Sculpture, Legends and Literature etc. Centuries ago He is the Lord of this land and the symbol of the Odia's identity. Even in abroad Odisha is known of Lord Jagannath. A normal Odia starts his life and days using His name on religion, thought and belief and he also becomes the last companion in the journey in life to the other world finding the expression of Almighty Jagannath. The Lord is an integral part of Odia life in each and every activity deeply associated with the ups and downs, victory-defeat, laughter-joys, and fortune-misfortune, Happiness - grief, natural calamities & disaster of the Odia as a member of the family, a brother of the family and a best friend at the time of need. No other nation has so closeness with its mass deity as Jagannath has and we find a king like Anangabhim Dev declared legally that the state is not his own but his state deity's and he is only a servitor or Routa. So this is the powerful influence of Jagannath.

The impact of Lord Jagannath in the life of the Odias is so prominent that we see life of an Odia baby begins by partaking his Mahaprasad & the Odia man's life ends with taking his Nirmalya so it is proudly said that the Odishan art, culture, and above all everything centers around Him. From folklore to epics in Odia all are full in His praise.

The life style of the Odias are related with festivals, proverbs, rituals, prayers, and

worships and it seems that when there is no rain he calls the Lord: when there is illness in the family, he or she prays the Lord, when an Odia is going to marry; his first invitation card is sent to Lord Jagannath. Here, the Lord has stood not only to protect His fellow beings but also to guide them to lead a perfect and balanced life. Without Him one cannot think of Odisha and people of Odia. It is obviously that in the public life, public domain, customs, traditions, festivals, praise and prayer everywhere His omnipresent is felt. Whether the literature is written or non-written, scholar's or folk but His thought blended expression in literature of the land. Naturally it comes to the mind of Late Dr. Harekrushna Mahtab that our identity as an Odia without Shree Jagannath is not only non-existent but also unthinkable.

As a rich and varied cultural tradition of Odisha or Utkal, Lord Jagannath is surrounded from birth to death of an Odia find the involvement of the lord in their life. Social, cultural and religious life of Odia people are in a true sense connected like a magnet with Lord Jagannath Mahaprabhu so it is uncommon that the cultural life of Odisha is greatly influenced by Lord Jagannath or Purusottam. The lord has been cited to in several puranas such as the Padma, Skanda, Brahma, Vishnu, Harivamsha, and also in Niladri-Mahodaya. Even in the Ramayana it is advised to worship Mahaprabhu Jagannath who is the home deity of Ikhyaku Vamsha the lineage of Dasharatha.

Dance and music especially exotic classical dance form is an inseparable part evolved from the cult of the 'Devadasis' or female temple dancers is a rich culture of the state. After all 'Rathyatra' of Lord Jagannath becomes an absolute synonym to Odishan culture. Odisha speaks eloquently of a living past, continuing present and prospective future. Flowing through the arteries of Odisha the temple-culture condenses the quintessence of India. It may be the sacred environs of Puri Shree Jagannath temple, the eroticism of Konark Sun temple, the wondrous caves of Udayagiri, Lalitgiri or Khandagiri, the mystical monasteries of Buddhism, the paintings of folklore or the handloom weaver's magic etc etc.

Starting from Lord Jagannath himself was a tribal deity, adorned by the Sabar people, a symbol of Narayan. This has been accepted our proud heritage that the beginning of the cultural history of Shreeksheeta is found in the fusion of Hindu and Tribal Cultures. So ultimately it is found that there is a fusion of Saivism, Shaktism, Vaishnavism, Jainism and up to an extent Buddhism in the culture of Jagannath and in the Hindu religion as a whole and this cultural tradition so much reverently held together in Shreeksheeta.

The Lord has been referred to in several Puranas like the Padma Puranas, Skanda Puranas, Brahma Puranas, Vishnu Puranas, Harivamsa Puranas and Niladri Mahodaya. Religious reformers and preachers like Sankara, Ramanuja,

Vallabhacharya and Sri Chaitanya have paid their tributes to Lord Jagannath. His greatness has also been sung by non-Hindus like Salabega and Haridas. The glory of the Lord was also sung by Swami Tulasi Das and Guru Nanak.

**So, the Lord, Koti Utkalara Moudamani, Bada Thakura Sri Sri Jagannath Mahaprabhu is rightly said as a "Symbol of National Integration".**

Odisha was inhabited by the aboriginal tribes, and had a civilization and culture which was quite distinct from that of the Vedic Aryans. After the Aryans migrated to Odisha a combination of the Vedic religion and culture, the Upanisadic philosophy and Smarta rituals began to spread in this land the state of Odisha.

Historically the cult and culture of Jagannatha found its origin in the primitive system of worship of the non-Aryan tribals. The Aryans must worship Jagannatha in Vedic rites and rituals connected them with all religious practices. The Mouryan emperor Asoka, who conquered Kalinga in the third century B.C after a dreadful Kalinga War abandoned violence, embraced Buddhism and left no stone unturned to propagate it. But no doubt Buddhism and Jainism must have penetrated in to the innermost apartments of the shrine of Jagannatha. Hence the cult of Jagannatha as we call it now (by way of translating the words Jagannatha Dharma) has to be understood, interpreted and appreciated with all its social, cultural, religious and spiritual implications.

Be it noted that while the images of the Hindu deities are made of stone or metal, the image of the Supreme Being Purusottam Jagannath is made of wood. Since the original name of the Savara deity was Nilamadhava, the name of his new place came to be known as Nilachala. It is said that wooden idols of Jagannath, Balabhadra, Subhadra and Sudarshan represent the primitive art of the savaras. Jagannath, the God of the Savaras was so deep rooted in the Odia mind that Sarala Das described Jagannath as “Savari Narayana” in his Mahabharata written in 15<sup>th</sup> century. The Jainas believed in idol worship accordingly. It is also said that Tri-Ratna of Jainism namely Right Faith, Right knowledge and Right Action are symbolically represented in the trinity Idol of Sri Jagannath, Badathakura Balabhadra and Maa Subhadra.

According to some scholars, the images of Jagannath, Subhadra and Balabhadra symbolized the Buddhist Faith in Buddha, Dhamma and Sangha. Some historians said that forest-dwellers of Odisha like the Savaras adopted Buddhism in Asoka’s time and when idol worship became common among the Buddhists, the Savara came to regard the image of Jagannath as the image of Buddha. In course of time the Hindus also regarded Buddha as an incarnation or Avatar of Vishnu and identified Buddha as Jagannath, The Supreme Being in this Age of Kali (Kaliyuga).

In order to justify the presence of Balabhadra and Subhadra with Jagannath it was said that Jagannath is Vasudev-Sri

Krishna, and, therefore Krishna’s brother Balarama and, sister Subhadra have been given place with Jagannath and Sudarshan with Krishna’s ‘Sudarshan Chakra’.

At a time when Jagannatha gained immense popularity all important religious cults and creeds known to the people of India in those days were assimilated into the texture of Jagannathism. Such a board-based system of religious life is not to be found anywhere in the world. Consequently, the cult of Jagannath came to be regarded as the religion of masses ‘Gana Dharma’ means Jagannath cult is a unique cult. Indian culture has reached its culmination in the unique culture of Lord Jagannath. It is more than a cult—an all-embracing synthesis of cults. It has combined diverse faiths, cultures, creeds and ideologies.

Lord Jagannath, the presiding deity of Odisha, is the Lord of the Universe. The family God of most households in Odisha, who not only holds a unique place in the history of the land, but in the lives and customs of its people. He is also known as Jagabandhu. He is the friend, philosopher, guide and the anchor of the purest thoughts of the people of the entire Universe. He is the Great Initial. He is Brahma, Vishnu, Rudra, Ganesh, Kali, Bhairab, Buddha, Jin and what not. He is the supreme creative artist who has created Himself and is also the source of all art. As ‘Sakti’, He is the source of all creative energy.

The gap between men and Divine has been bridged in Jagannath culture because Jagannath is a highly humanised Deity. Like

a person performed his/her daily routine Mahaprabhu brushes his teeth, takes bath, changes his cloth, wears out robes and gold ornaments, studded with diamond, sapphires to suit festive. The significance of the Jagannath Culture lies in the fact that it has absorbed all religions and all religious beliefs within itself. Within its all-embracing fold, one finds the essence of the evolution of Indian religions and cult. The unique feature of Hinduism from ancient Times was the freedom of every individual to think of God in his own way. Every group, community or caste was also given freedom to develop own religious tradition. There was neither rigidity nor intolerance- the Hindu way of life.

In this atmosphere of perfect freedom and liberalism developed in India numerous religious customs and systems, mode of worship and prayer, higher human ideal and blind superstitions as well in this over all background the culture of Jagannath developed itself in all varieties of beliefs within itself. Diversity in unity and unity in diversity is prime character of Jagannath culture. The Supreme Being is one and the only the Lord Jagannath is the Lord of the Universe. In supreme of outward differences and human existence, Jagannath is the One and only God for all. Though in shape of wooden idols, Jagannath is that Absolute Being who is beyond description, beyond form, and beyond comprehension. He is the Saviour of all, irrespective of caste, colour or freedom of man. The Supreme Lord Jagannath is represented in Vedic Brahmin, Jainism, Buddhism, Puranic

Hinduism, Saivism, Saktism, Taoism and Vaishnavism in various Phases of time.

The Universality of Jagannath has also carried its Western thinkers of the present day. In the Cult of Jagannath they find the highest spiritual ideals and the deepest feelings of demotion mixed with outward ceremonies to satisfy the common mind. The Cult of Jagannath is thus a gift of Odisha humanity to satisfy its desire for spiritual peace, social harmony and universal divinity.

The rituals practices of Lord Jagannath help to identify Him with Odias. For example, the food and the dress used for the deities typify that of Odisha and by way of such typification, a sense of belonging to the same religious world is induced. The deities are offered only locally-produced vegetables and even potato and tomatoes, being foreign in origin, are excluded. Obviously the fifty-six varieties of Bhogas or dishes usually offered to the deities are typical of the Odia preparation of rice, curry, and cake and sweet. Very interestingly, the most typical of the Odia dishes, *Pakhala* or watered rice highly appreciates and rediscovers on the poem of Chintamani Mohanty (1867-1943 AD). '*Pakhala*' as the most valuable possession of Odias offered to the deities three times a day is even an eating tradition of Odias. His poem "*Pakhala*" celebrates it as the nectar and as the unifier of the Odia jati from the Ganga to the Godavari.

Jagannath culture does not admit any distinction in between the caste and communities aims at liberating poor and

down-trodden. Humbleness is a cardinal human value which is amply prevalent in culture of Lord Jagannath. Culture of Lord Jagannath always takes a positive view of the life. Culture of Lord Jagannath has effected unity in diversity by faith, and integrated human society with the help of human value. Darshan and Mahaprasad sevas are the twin desires of each believer of Lord Jagannath. People usually wait for some time to partake Mahaprasad preferably in Anand Bazar. Here in Anand Bazar people of various categories right from Brahmin to Sudras partake Mahaprasad in a common place from a common container. This indicates that there is no sense of segregation between Brahmin and non-Brahmin or between the touchables and non-touchables or between Hindus, Buddhists, Jains and Sikhs.

Every Odia has an inner desire to have a glimpse of Sri Jagannath on the chariot and to attend his famous Rathayatra. In the scriptures it is said that “Rathe to Bamanam drusthwa punarjanma na bidyate” means one who sees Jagannath riding on chariot has no rebirth or he gets salvation. Again it is believed that without his Dori or desire one cannot have a darshan of the Rathayatra or the Patitapabana (Redeemer of sins) even if one has all means to go to Puri. Only those people can attend his Rathayatra who are graced by his mercy. The Odia by having a darshan of the Lord on the Snavedi and his Snavajatra and in Rath becomes stunned. He loses his power to think any other of his / her personal matter and completely sink in joy and emotion.

So far as spiritual concept is concerned, the people of Odisha are tolerant to different opinion and accept each and

every spiritual master with positive mind keeping that Lord Jagannath as supreme head. From time immemorial, Lord Jagannath has been the sustenance of spiritual life of Odishan people. Many sects and their spiritual masters have come to Odisha be he Sankaracharya, Madhabacharya, Guru Nanak, Chaitanya Mahaprabhu, but all have accepted Lord Jagannath as their supreme Lord and have gleefully accepted the concept essence of Lord Jagannath.

The character of Odia culture is generosity, endurance and coordination. Lord Jagannath is worshipped throughout the world because he is generous and kind to all. He is looking at great and small, rich and poor, ruled and ruler, Brahman and Chandal with an equal eye. In this look, there is no question of caste, creed or religion, no place for egoism, aristocracy nor any place for communalism. Here worshipped and worshipper are equal and as such their separateness vanishes which is symbolized in embracing of Lord Jagannath by a visitor during Ratha Yatra. The Jagannath Temple at Puri in Odisha has been a center of religious, spiritual and artistic pursuit through ages. Lord Jagannath is more than a religious deity for the people of Odisha; He is the fountainhead of their cultural, intellectual and emotional sustenance.

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# Top Women Scientists of India Who Made the Nation Proud

Dr. Chitta Ranjan Mishra

## (1) Kamal Ranadive (1917-2001)

"The Unsung Scientist Who Made Science Accessible to All Women"



India's Forgotten Cancer Crusader

Padma Bhushan Kamal didn't just set up India's first tissue culture laboratory; she shaped iconic institutions like the Indian

Cancer Research Centre (ICRC) and the Indian Women Scientists' Association (IWSA).

Kamal Samarth, better recognized as Kamal Ranadive, was one of India's trailblazers in early cancer research. In fact, she was probably the first in the nation to propose the correlation between breast cancer occurrence and heredity – which was confirmed by later researchers.

Luck must have been shining brightly on Kamal when she took birth in Dinkar Samarth's home. In the early 1900s, very few families in Maharashtra would consider educating their daughters. But, Dinkar, an erstwhile Biology professor at Fergusson College in Pune was not one to give in to irrational societal norms. He ensured all his children received the best education, especially his daughters.

Her daughter excelled in academics—always staying ahead of the learning curve and often acting something new. She completed her schooling with excellent grades from the

prestigious Huzurpaga High School-the oldest girls' school in the city.

Dinkar was determined to make her a doctor and also wanted her to marry one later. But, Kamal chose to walk the road not taken. She pursued her graduation in Botany and Zoology at Fergusson College and went on to emerge as one of India's first and leading women scientists. She was also a chief founding member of the Indian Women Scientists' Association (IWSA). Interestingly, Kamal married mathematician J T Ranadive, not a doctor as her father wished!

Born on 8 November 1917 in Pune to Dinkar and Shantabai, Kamal Samarth was a genius to reckon with from early childhood.

Following her graduation, she obtained her Master's of Science with specialization in cytogenetics in 1943 from the College of Agriculture, Pune. Kamal's relocation to Bombay (now Mumbai) post her marriage proved to be immensely conducive for her career, as she now had the chance to work with Dr V R Khanolkar, the founder of Indian Cancer Research Centre (ICRC). Kamal continued her doctoral research under the stalwart's guidance at the University of Bombay.

In 1949, as Kamal successfully added the Doctoral (Dr) epithet before her name, Khanolkar persuaded her to opt for a postdoctoral degree at a foreign university. Kamal soon secured a fellowship at Johns Hopkins University, USA and landed the opportunity to assist Dr. George Otto Gey. It must be mentioned here that Dr. Gey was a

leading cell biologist hailed for his work on HeLa cell line – the 'immortal' cell line used in cancer research.

At that time, in post-Independent India, scientific research was still in its nascent stage. Kamal could have continued her research in the USA, but she decided otherwise. Wanting to contribute to the Indian scientific domain, she joined ICRC as a Senior Research Officer, Bombay and later served as its Director from 1966 to 1970. Kamal recruited many aspiring biologists and biochemists to expand the scope of cancer research.

Though known as a strict disciplinarian, Kamal was a favorite among her students, who fondly addressed her as 'Bai'. Her team and students naturally imbibed her sincere passion for work, which is why her lab would often be found operating at full pace even in the midnight hours or the wee hours of the early.

Thanks to her tireless efforts, ICRC soon boasted of having the first Tissue Culture Laboratory in the entire country. Soon, Kamal also founded the Experimental Biology Laboratory and integrated new research units in Carcinogenesis, Cell Biology and Immunology.

Kamal also happened to be one of the first scientists to pioneer cancer study through animal models which helped to provide amazing insights into the origin of leukemia, breast cancer and esophageal cancer. The scientist successfully proved the relation between susceptibility of cancer and the

interaction between hormones and tumor virus. Her work on leprosy bacteria led to the discovery of the necessary upgrade on Leprosy vaccine in India.

Kamal was aware of the fact that many women give up their dreams of pursuing science, being overwhelmed by the responsibilities of motherhood and family. To bring them under the ambit of science in India, the conscientious scientist, along with a few of her colleagues, founded the Indian Women Scientists' Association (IWSA) in Bombay in 1973. Today, with eleven branches all over India and more than 2,000 women scientists, the organization remains among the top scientific associations in India. IWSA also provides hostel and daycare facilities to married women, so that they no longer have to choose between science and family.

Post her retirement; Kamal devoted her time in combating the malnutrition scenario among tribal women and children in Rajur, Maharashtra. Apart from providing medication, nutritional supplements and raising awareness among the tribal community, she also trained many women as primary health workers.

The pioneer scientist who has more than 200 published research papers to her name had the unfailing support and encouragement of her husband as well as her parents. Perhaps this was why her work received no setback even when she became a mother.

Kamal had always remained a staunch advocate of pursuing research in India. In a

tribute, Dr. Rajani Bhisey recalls – “She (Kamal) strongly believed that scientists who went abroad for postdoctoral work should return to India and develop new areas of research in their laboratories. A staunch nationalist, she instilled the same spirit in her colleagues, enough that most of them returned to work in India, making Cancer Research Institute a renowned centre for cancer research.”

In 1982, Kamal Ranadive received the Padma Bhushan for her extraordinary contribution to science. She was also the recipient of the prestigious G J Watumull Foundation Prize in microbiology.

She breathed her last on 10 April 2001, leaving behind a legacy to be cherished forever.

## **(2) Asima Chatterjee (1917-2006)**

**"All You Need to Know About One of India's First Woman Doctorates of Science!"**

Born on September 23, 1917, Asima Chatterjee was one of the first Indian women to earn a doctorate in science in British India. She paved the way for Indian women to pursue organic chemistry and opened the world's eyes to the power of medicinal plants.

Google celebrated Asima Chatterjee's 100th birthday with a special doodle tribute to her. This serene bespectacled woman, a world-class scientist, once said, “I wish to work as long as I live.”



**"Born on September 23, 1917, Asima Chatterjee was one of the first Indian women to earn a doctorate in science in British India. She paved the way for Indian women to pursue organic chemistry and opened the world's eyes to the power of medicinal plants."**



A Pioneer of STEM in India

Asima's maiden name was Mookerjee. She grew up in a middle-class household in Calcutta and was the older of two children of Dr Indra Narayan Mookerjee and his wife, Kamala Devi.

Her younger brother, Sarashi Ranjan Mookerjee, also came to known as a noteworthy surgeon, and collaborated with Asima in her research on medicinal plants. It

was her father's love for botany that piqued Asima's interest in their medicinal properties.

As a young girl, her parents never restricted Asima from pursuing education. She completed her graduation with honors in chemistry from the Scottish Church College of the University of Calcutta in 1936. She moved on to receive a master's degree in organic chemistry in 1938 from the University of Calcutta.

She became the second woman after Janaki Ammal to earn a Doctorate of Science by an Indian University, i.e. the University of Calcutta in 1944. She researched natural products chemistry and developed leading anti-convulsive, anti-malarial, and chemotherapy drugs.

One of her most successful anti-epileptic drug, 'Ayush-56' was developed from *Marsilia minuta*, while her anti-malarial drug was developed from *Alstonia scholaris*, *Swrtria chirata*, *Picrorhiza kurroa* and *Ceasalpinna crista*.

She spent 40 long years researching a class of compounds called alkaloids. Some of these alkaloids are efficiently used during chemotherapy to prevent the multiplication of cells in cancer patients. These patented drugs have been widely marketed by several companies.

Asima also chemically analyzed coumarins, which essentially came from the bael tree, a native species in India. It was she who brought to light that the fruits and bark of this tree could treat a variety of gastrointestinal disorders.

In association with Mr. Anjan Palit, a well-known personality in chemistry, she became the founding head of the department of chemistry at Lady Brabourne College of the University of Calcutta. She joined the University College of Science of the University of Calcutta, as reader in pure chemistry in 1954.

Her numerous achievements include being a Premchand Roychand Scholar of the University of Calcutta and serving as the Khaira Professor of Chemistry (1962-1982, the most prestigious and coveted chairs of the University of Calcutta. 1960 marked her election as the Fellow of the Indian National Science Academy, New Delhi.

The following year, she became the first female recipient of the country's most prestigious science award, the annual Shanti Swarup Bhatnagar Prize.

Even though the award was first introduced in 1958, but it wasn't until 1960, that the 'chemical sciences' category was introduced. Asima won the award for her contribution and achievements in phytomedicine (the study of plant extracts for therapy). It took over 14 years for another woman to win the same prize, and over 48 years for a woman to win it in the 'chemical sciences' category.

In 1972, Asima was appointed the Honorary Coordinator of the Special Assistance Programme to intensify teaching and research in natural product chemistry, sanctioned by the University Grants Commission (India).

She was conferred the prestigious Padma Bhushan in 1975. She also became the first lady scientist to be elected as the General President of the Indian Science Congress Association.

She was nominated by the President of India as a Member of the Rajya Sabha from February 1982 to May 1990. She left for her heavenly abode on November 22, 2006.

In her lifetime, she published over 400 papers on Indian medicinal plants and their chemistry.

Asima may have gone, but her legacy continues to live on.

### (3) Bibha Chowdhuri (1913-1991)



**A life spent in chasing cosmic rays  
A pioneer in particle physics**

**"This Brilliant Woman Could Have Won a Physics Nobel for India. Yet Few Indians Know Her Story."**

**"She discovered the pi-meson (a sub-atomic particle) & has a star named after her."**

Neither does the name of Bibha Chowdhuri surface in any of the repositories on Indian women in science, nor is she mentioned even once amongst various lists of women pioneers in the history of Indian science.

Had it not been for the painstaking efforts of two physicists, the story of Bibha Chowdhuri would have probably been lost in the pages of history.

'A Jewel Unearthed: Bibha Chowdhuri' is a book by Dr. Rajinder Singh, a noted science historian at the University of Oldenburg in Germany, and Suprakash C Roy, a former professor of Physics at the Bose Institute in Kolkata. It was recently released by Shaker Verlag, a German publishing house.

Born in 1913, Bibha was supposedly India's first woman researcher. Yet, neither does the name of this gifted physicist surface in any of the repositories on Indian women in science, nor is she mentioned even once amongst various lists of women pioneers in the history of Indian science. She also did not win any national award or receive a fellowship from a renowned scientific society during her lifetime.

**However, in 1949, she was selected by none other than Homi J Bhabha to join**

**the newly established Tata Institute of Fundamental Research (TIFR) in Mumbai, as a researcher.**

Many of her research works were published by journals such as Nature and Proceedings of the Physical Society of London, while her doctoral research work was going on at the laboratory of Patrick Maynard Stuart Blackett, the renowned physicist and Nobel laureate, in the UK.

It was to bring the "story of courage and determination of a lady born more than a hundred years ago ...for our younger generations to emulate," that drove both Singh and Roy to travel through historical records from almost a century ago, and present the forgotten legacy of a woman physicist from India, to the world.

Besides her work and research contributions, very little is known about Bibha, and her personal life. Even the authors could only unearth limited information during their quest.

One of six siblings from a well-read zamindar family in Hooghly district of an undivided Bengal, Bibha was distantly related to the family of Sir Jagadish Chandra Bose.

**Known to have lived a relatively quiet life, she was deeply committed to physics and research to the extent that almost all of her time was spent within the confines of her laboratory. Neither Bibha nor any of her siblings ever married.**

Sadly, their discovery of mesons could not be followed up through further

investigation owing to “non-availability of more sensitive emulsion plates during the war years.” Seven years later, CF Powell, an English physicist, made the discovery using the same method and was awarded the Nobel for the same. He even acknowledged the duo for their pioneering contribution to his research.

In the meantime, Bibha went on to work under Patrick Maynard Stuart Blackett in his ‘cosmic ray laboratory’ for her PhD thesis in 1945.

**It was a time when extensive studies and investigations were being conducted by the world over, and Blackett would later go on to win the Nobel for his work in the same area.**

Shortly after, Bibha returned to India and joined the TIFR. After working there for eight years, she moved on to the Physical Research Laboratory (PRL) in Ahmadabad.

Deeply interested in the Kolar Gold Field experiment, she had approached and discussed her future research plans with Vikram Sarabhai, who was the Director of PRL at the time. Unfortunately, she had to bid goodbye to these plans after the untimely demise of Sarabhai, as the concerned authorities did not allow her to continue her research.

It is quite tragic to note how Bibha had to face rejection at two critical junctures of her career; in areas that would later be taken up and bequeathed with awards and recognition. This also sheds light on the extent

of discrimination that early women researchers must have faced and the barriers they would have broken in the largely gender-skewed world of science.

“Women are terrified of Physics — that is the trouble. It is a tragedy that we have so few women physicists today... I can count the women physicists I know, both in India and England, on the fingers of one hand. At school, scientifically-inclined girls choose Chemistry; perhaps because a really sound grasp of Higher Mathematics is one essential of any physicist’s equipment,” Bibha had once said in an interview to The Manchester Herald during her research days.

**Following this incident, Bibha opted for voluntary retirement and headed to Kolkata, where she worked on high energy physics. She also worked as an active researcher with the Saha Institute of Nuclear Physics and the Indian Association for the Cultivation of Science.**

Until she passed away in 1991, she kept on publishing her findings like the tireless researcher she had always been.

Despite having worked with almost all the premier science institutions in India, Bibha Chowdhuri died a relatively obscure death in Kolkata, unsung and unheralded for her extraordinary contributions to the field of physics and research.

Thanks to Dr Singh and Roy’s efforts to bring information about Bibha to the fore, this brilliant Indian physicist is finally getting the recognition she never received during her

lifetime and that too by a German publishing house. We hope that this propels the Indian government to recognize Bibha Chowdhuri and honour her legacy.

#### **(4) Janaki Ammal (1897-1984)**



**The Pioneering Indian Cytogenetic**

#### **"Meet India's First Woman PhD in Botany & Sugarcane Queen"**

#### **"She is the Reason Your Sugar Tastes Sweeter!"**

In an age when most Indian women didn't make it past high school, Janaki Ammal didn't just obtain a PhD at one of America's finest public universities, she went on to make seminal scientific contributions in the field of botany.

One of the first women scientists to receive the Padma Shri way back in 1977, Edavaleth Kakkat Janaki Ammal lived a life only a handful of other women of her time lived. In an age when most Indian women didn't make it past high school, Janaki Ammal didn't just obtain a PhD at one of America's finest public universities, she went on to make seminal contributions to her field.

**She also remains one of the few Asian women to be conferred an honorary doctorate (DSc. honoris causa) by her alma mater, the University of Michigan. And that was in 1931!**

A pioneering botanist and cytogeneticist, Janaki Ammal is credited with putting sweetness in India's sugarcane varieties, speaking against the hydro-electric project in Kerala's Silent Valley and the phenomenal study of chromosomes of thousands of species of flowering plants. There is even a flower named after her, a delicate bloom in pure white called Magnolia Kobus Janaki Ammal.

Yet, at a time when the country is focusing on educating the girl child, Janaki Ammal's contribution to Indian botanical research remains mostly unknown outside academic circles. This is the story of an extraordinary Indian woman who braved a largely patriarchal, ultra-conservative society to fulfill her academic dreams.

EK Janaki Ammal was born in Tellichery (now Thalassery) in Kerala on November 4, 1897. Her father, Dewan Bahadur EK Krishnan, was a sub-judge in what

was then the Madras Presidency. A man with a keen interest in the natural sciences, Janaki's father would correspond regularly with scholars of the time and maintain descriptive notes about his developing garden. This love for learning and curiosity about the natural world was something he would pass on to his 19 children — six from his first wife, Sharada, and thirteen from the second, Deviammal, the tenth of whom was Janaki Ammal.

After completing her schooling in Tellichery, Janaki moved to Madras where she obtained her Bachelor's degree from Queen Mary's College and her Honours degree in Botany from the Presidency College in 1921. She was teaching at Women's Christian College when she got the prestigious Barbour scholarship from the University of Michigan in the US.

Choosing a life of scholarship over marriage (which was being planned to a first cousin), Janaki left for the University of Michigan, where she obtained her Master's degree in 1925. Returning to India, she continued to teach at the Women's Christian College, but went to Michigan again to pursue her doctoral thesis. On her return, she became Professor of Botany at the Maharaja's College of Science in Trivandrum, and she taught there for two years between 1932 and 1934.

An expert in cytogenetics (the study of chromosomes and inheritance), Janaki next joined the Sugarcane Breeding Station at Coimbatore to work on sugarcane biology. At that time, the sweetest sugarcane in the world was the *Saccharum officinarum* variety from Papua New Guinea and India imported it from

Southeast Asia. In a bid to improve India's indigenous sugarcane varieties, the Sugarcane Breeding Station had been set up at Coimbatore in the early 1920s.

By manipulating polyploid cells through cross-breeding of hybrids in the laboratory, Janaki was able to create a high yielding strain of the sugarcane that would thrive in Indian conditions. Her research also helped analyse the geographical distribution of sugarcane across India, and to establish that the S. Spontaneum variety of sugarcane had originated in India.

In 1935, the famous scientist and Noble laureate C V Raman founded the Indian Academy of Sciences and selected Janaki as a research fellow in its very first year. However, her status as a single woman from a caste considered backward created irreconcilable problems for Janaki among her male peers at Coimbatore. Facing caste and gender based discrimination, Janaki left for London where she joined the John Innes Horticultural Institute as an assistant cytologist.

Janaki was with them from 1940 to 1945, a time when German planes were bombing London. Later, talking about the experience to her friends, the courageous woman described how she would dive under her bed during the night bombings but continue with the research work the next day after brushing the broken glass off the shelves.

Impressed by her work, the Royal Horticulture Society invited Janaki to work as a cytologist at their campus at Wisley, near

Kew Gardens, famous for its collection of plants from around the world. It was during her years at Wisley that Janaki met some of the most talented cytologists, geneticists and botanists in the world. In 1945, she co-authored *The Chromosome Atlas of Cultivated Plants* with biologist CD Darlington, a close friend and mentor for the greater part of her life.

At the Society, one of the plants she worked on was the magnolia. To this day, in the Society's campus at Wisley there are magnolia shrubs she planted and among them is a variety with small white flowers named after her: *Magnolia Kobus Janaki Ammal*. A flower celebrated in Japanese and Chinese legends, the blooms of this variety are made up of fused sepals and petals called 'tepals'. Today, only a few nurseries in Europe cultivate the variety.

In 1951, the then prime minister Jawaharlal Nehru personally invited her to return to India and restructure the Botanical Survey of India (BSI). She acquiesced and was appointed as the Officer on Special Duty to the BSI, in which capacity she reorganized the Calcutta office in 1954. Her colleagues still remember how Janaki would take a long broom and clean the streets outside the BSI office on the famous Chowringhee lane.

Janaki also travelled to some of the most remote areas of the country in search of the plant lore of the indigenous peoples of the subcontinent. She would spend time searching for medicinal plants in Wayanad before visiting Ladakh to explore methods of sustainable

agriculture at high altitudes. As a scientist who studied about ecology and biodiversity, Janaki had always been an ardent environment activist too.

Worried about the environmental damage that would be caused, she played an important role in the protests that were held against the building of a hydro-power dam across the river Kunthipuzha in Kerala's Silent Valley. She was also the only woman invitee to the landmark international symposium on environmental history, "Man's Role in Changing the Face of the Earth" organized by the Wenner Gren Foundation for Anthropological Research at Princeton in 1955 (and one of only two Indians, the other being Radhakamal Mukherjee).

On a personal note, Janaki was a staunch Gandhian who liked her life simple. Geeta Doctor, Janaki's niece, once wrote of her:

"Janaki was a tall and commanding presence in her prime. She tied her lustrous long hair into a loose bun at the nape of her neck. In her later years, she took to wearing brilliant yellow silk sarees with a long loose blouse or jacket in the same colour. Her statuesque presence reminded people of a Buddhist lady monk. Like certain Buddhist orders, she took a vow of chastity, austerity and silence for herself, limiting her needs to the barest minimum."

After retirement, she continued to work in science; she served for a short period at the Atomic Research Station at Trombay before serving as an Emeritus Scientist at the

Centre for Advanced Study in Botany, University of Madras. Few know that during her last years, Janaki's main interest had been the rearing of a large family of cats and kittens – an expert geneticist, she had even discovered and tracked down the subtle differentiations in the characteristics of her beloved kittens!

At the age of 87, Janaki Ammal passed away on February 7, 1984 while working in her research lab at Maduravoyal. Her obituary stated "She was devoted to her studies and research until the end of her life."

For her exemplary contribution to science in India, Dr Janaki Ammal awarded the Padma Shri in 1977. In 2000, the Ministry of Environment and Forestry created the National Award of Taxonomy in her name. There is also a herbarium with over 25,000 species in Jammu Tawi that is named after this pioneering botanist.

Recently, the John Innes Centre in England chose to honour Janaki by launching a new scholarship for post-graduate students from developing countries in her name.

An incredible woman who spent her life in the pursuit of science, Janaki Ammal believed that it was through her work that she should be remembered. So, the next time you use a spoonful of sugar grown by an Indian sugarcane farmer, remember that you are it was Dr Janaki Ammal who added that extra bit of sweetness!

#### **(5) Kamala Sohonie (1911-1998)**

**"How Kamala Sohonie Defied Gender Bias & Became the First Indian Woman PhD in Science in 1939"**

An incredible woman who left her mark in the world of biochemistry, Kamala Sohonie's story remains a landmark not just for Indian science, but for the women behind it too.



Pioneering Scientist & Advocate  
for Women in Science

Underrepresented, underpaid and often unrecognized for their scientific achievements, women scientists across the world have been fighting gender bias for decades. In India, this bias was probably the worst during colonial rule, at a time when modern science education had just started in the country.

Social reformers like Ram Mohan Roy, Ishwar Chandra Vidyasagar and Savitribai Phule had been relentlessly campaigning to encourage education for girls, but



opportunities for women to pursue further studies or a career in science were still very limited.

**It was during this tumultuous phase of India's history that Kamala Sohnie (nee Bhagvat) was born – on June 18, 1911, in Bombay. In time, she would not only go on to become the first Indian woman to get a Ph.D in a scientific discipline, she would also have a dazzling career as a premier biochemist at Cambridge.**

Kamala was born and brought up in a highly-educated family. Her father, Narayan Bhagvat, and her uncle, Madhavrao Bhagvat, were both among the first chemistry students to graduate from the prestigious Tata Institute of Sciences (now Indian Institute of Science) in Bangalore.

Little Kamala grew up admiring them and their love for science. So when she decided that she wanted to study chemistry too, it did not surprise anybody in her family. After finishing school at the top of her class, the hard-working girl followed the same path her father and uncle had taken – she enrolled herself in the B. Sc (Physics and Chemistry) course at the Bombay Presidency College.

After Kamala graduated with flying colors (she got the highest score in her batch), she applied for the masters course at IISc. Not only was it a “family tradition” for her, it was an important step of her dream to become a successful scientist. At the time, IISc was headed by Prof. C. V. Raman (the first Asian Nobel laureate in Physics) and was considered the best institution in the country for scientific studies.

So it was a nasty shock for Kamala when she was denied admission to IISc. Though she had high marks in graduation, Raman refused to admit her only because she was a girl. Even when her father and uncle requested him to give her a chance, he reportedly replied saying “I am not going to take any girls in my institute!”

However, Kamala was made of stronger stuff and decided not to take the injustice lying down. Convinced that research in science was her calling, she took on the Nobel Laureate. She met him and demanded that he give reasons for his decision to deny her admission. She also challenged him that she would complete her course with distinction!

Initially, Raman ignored Kamala and her questions but when the young lady did not give up, he retracted his statement as he was unable to give a strong official justification to back his order. He agreed to give her admission but with certain conditions. These conditions were:

- She will not be allowed as a regular candidate.
- She has to work late night as per instruction of her guide.
- She will not spoil the environment of the lab

Twenty-two-year-old Kamala accepted it all to be able to study at IISc, but she was deeply hurt by this incident. During a felicitation function organised by Indian Women Scientists' Association (IWSA), she publicly said:

“Though Raman was a great scientist, he was very narrow-minded. I can never forget the way he treated me just because I was a woman. This was a great insult to me. The bias against women was so bad at that time. What can one expect if even a Nobel laureate behaves in such a manner?”

During her time at IISc, Kamala threw her heart and soul into her work. She found a teacher who would leave a lasting impression on her life, M Sreenivasayya. One of the pioneers of microbiological research in India, Sreenivasayya was a strict and demanding teacher but he always made time to encourage and support students.

Under him, Kamala worked on proteins in milk, pulses and legumes (a subject that had important implications for nutritional practices in India). Such was her dedication to her work that it convinced Raman that women could excel in scientific research.

**In 1936, Kamala submitted her research, completed her MSc degree with distinction and earned herself a research scholarship at UK’s prestigious Cambridge University. Next year, Raman opened the doors of IISc for female students. A silent revolution had been fought and won.**

In 1937, Kamala arrived in UK where she joined the group of the renowned neurochemist, Derek Richter, at Cambridge’s Biochemical and Physiological Laboratory. After Richter left to work elsewhere, she joined the research lab of Robin Hill.

Her work here impressed the scientists so much that they suggested she apply for a fellowship to work at the famed laboratory of Fredrick G Hopkins. A Nobel Laureate, Hopkins landmark discovery about the importance of vitamins in diet had revolutionized knowledge about nutrition. Kamala applied, won the fellowship and joined the Hopkins lab in 1939.

The next few years were the golden phase of Kamala’s entire career. Encouraged by Hopkins, less than 16 months after arriving at the university, she submitted a thesis describing her finding of cytochrome C in respiration of plant tissue for her PhD degree.

**Her remarkable thesis was unconventional in many ways – it had only 40 pages, unlike the ‘normal ones’ which contained hundreds – but it impressed the review committee and Kamala became the first Indian woman to receive a doctorate in Science.**

By this time, Kamala had started receiving excellent offers from US pharma companies but she chose to return to India in 1939. An ardent follower of Mahatma Gandhi, she wanted to help in the nationalist struggle against British rule.

After a short stint at Delhi’s Lady Hardinge Medical College, Kamala joined as Assistant Director of the Nutrition Research Lab in Coonoor where she conducted research into the role of vitamins in nutrition. Around this time, Kamala married M V. Sohoni, an actuary by profession, and moved to Mumbai in 1947.

The government of Maharashtra had recently opened a Biochemistry Department at Bombay's Institute of Science and they selected Kamala for the post of Professor of Biochemistry. During her tenure at the Institute of Science, she worked on neera (a popular drink made from sweet palm nectar, legumes and rice flour) and how it could meet the nutritional needs of Indians, particularly of the poor.

**Kamala found that neera contained sizable amounts of vitamins and iron that would be retained even if the drink was made into jaggery and molasses to increase shelf life. This discovery laid the groundwork for using jaggery and molasses as an affordable dietary supplement for malnourished children and pregnant women.**

She also became an advisor to Bombay's Aarey Milk Project Factory and developed a protocol that prevented the curdling of milk. For her exemplary work, she was honoured with the the Rashtrapati Award and later became the director of the Institute of Science. Scientist Derek Richter, proud of his ex-student, famously exclaimed, "She has made history."

Kamala was also a prolific science writer and published a good number of books in Marathi for young students. Besides these, she wrote several papers on consumers' rights and was the founder member of Consumer Guidance Society of India (CGSI). Founded by nine women in 1966, CGSI was the earliest consumer protection organization in India.

Kamala retired in 1969 and passed away in 1998 after collapsing at an event held by Indian Council of Medical Research to felicitate her. With her passing, India lost an incredible woman who didn't let anything stop her from fulfilling her dream of spending her life in the pursuit of science.



The Weather Woman of India

#### **(6) Anna Mani (1918-2001)**

**"Anna Mani is One of India's Greatest Woman Scientists Yet You Probably Haven't Heard Her Story."**

**"A Pioneer Who Changed the Way We Gauge Weather."**

A distinguished meteorologist, Anna Mani was the former Deputy Director General of the Indian Meteorological Department and made significant contributions in the field of

solar radiation, ozone and wind energy instrumentation. Here's her inspiring story.

One of the most talked about images from India's Mars Orbiter Mission (MOM) was that of ISRO's women scientists celebrating the success of the mission. While it may have been the very first time many Indians were seeing a visual of women working in the sciences, they definitely weren't the first ones. Many other brilliant, dedicated and determined Indian women have pursued science over the years.

**Here's the little-known story of one of India's pioneering women scientists, Anna Mani. A distinguished meteorologist, Mani was the former Deputy Director General of the Indian Meteorological Department and made significant contributions in the field of solar radiation, ozone and wind energy instrumentation.**

Anna Modayil Mani grew up in a prosperous family in Travancore, a former princely state in the southern part of India, now part of the state of Kerala. Born in 1918, she was the seventh of eight siblings. Anna Mani's father was a prosperous civil engineer who owned large cardamom estates in the region.

The Mani family was a typical upper-middle class professional household, where sons were groomed for high level careers from childhood while daughters were primed for marriage. Back then, there was a consensus in society that education for women should be tailored to their particular roles as mothers and homemakers. But little Anna Mani would

have none of it. Her formative years were spent engrossed in books.

By the time she was eight, Mani had read almost all the Malayalam books available at her local public library. On her eighth birthday, when she was gifted with diamond earrings- as was the custom in her family- she opted instead for a set of Encyclopaedia Britannica.

By 1925, Travancore had become the epicentre of the Vaikom Satyagraha. People of all castes and religions across the princely state were protesting the decision by the priests of a temple in the town of Vaikom to bar dalits from using the road adjacent to the temple.

It was during this time that Mahatma Gandhi came to Viakom to lend his support to the civil disobedience movement. The satyagraha movement, the swadeshi philosophy and especially, Gandhi's visit in its support, made a deep impression on the young and idealistic Anna. Drawn to Gandhian principles, the little girl took to wearing only khadi as a symbol of her nationalist sympathies.

Her strong sense of nationalism also instilled in her a fierce desire for personal freedom. Instead of following the footsteps of her sisters (who got married in their late teens), she insisted on pursuing higher studies. While her family did not oppose her wish, they offered little encouragement.

Mani wanted to study medicine but when that was not possible, she decided in

favor of physics because she happened to be good in the subject. So, she enrolled in the honors programme in physics at Presidency College in Madras (now Chennai).

In 1940, a year after finishing college, Anna Mani obtained a scholarship to undertake research at the Indian Institute of Science in Bangalore. She was accepted in no less than Nobel laureate C V Raman's laboratory as a graduate student and worked on the spectroscopy of diamonds and rubies.

During this period, Raman's laboratory housed a collection of 300 diamonds from India and Africa; practically all his students worked on one aspect or the other of diamonds. Mani recorded and analyzed fluorescence, studied absorption and temperature dependence, and the Raman Spectra of 32 diamonds.

The experiments were long and painstaking, sometimes requiring 15 to 20 hours. Mani spent long hours at the laboratory, often working through the night. Between 1942 and 1945, she published five single-authored papers on luminescence of diamonds and ruby. In August 1945 she submitted her PhD dissertation to Madras University and was awarded a government scholarship for an internship in England.

The scientific institutions, however, perpetuated their own gender biases. Madras University, which at that time formally granted degrees for work completed at the Indian Institute of Science, claimed that Mani did not have a M.Sc. degree and therefore could not be granted a PhD. They chose to overlook that

Anna Mani had graduated with honors in physics and chemistry, and had won a scholarship for graduate studies at the Indian Institute of Science on the basis of her undergraduate degree.

Despite her pioneering work, she was never granted a doctoral degree and today her completed PhD dissertation remains in the library of Raman Research Institute, indistinguishable from others. Fortunately, the lack of a PhD never deterred her. Utilising the government scholarship for an internship in England, Mani went on a troop ship to the Imperial College in London to pursue physics in 1945. However, she ended up specializing in meteorological instrumentation as it was the only internship available.

When Mani returned to independent India in 1948, she joined the Indian Meteorological Department at Pune. Put in charge of construction of radiation instrumentation, she had to make do with what was available. Never compromising quantity for quality, she inspired the scientists under her to put in their best. "Find a better way to do it!" was her motto.

Anna Mani standardized the drawings for nearly 100 different weather instruments and started their production. During the International Geophysical Year (1957-58), she set up a network of stations in India to measure solar radiation. She also published a number of papers on subjects ranging from atmospheric ozone to the need for international instrument comparisons and national standardisation.

Furthermore, she undertook the development of an apparatus to measure ozone – ozonesonde. This enabled India to collect reliable data on the ozone layer. Thanks to Mani's singular contribution, she was made a member of the International Ozone Commission. In 1963, at the request of Vikram Sarabhai (Father of India's Space programme), she successfully set up a meteorological observatory and an instrumentation tower at the Thumba rocket launching facility.

In 1976, Anna Mani retired as deputy director general of the Indian Meteorological Department and subsequently returned to the Raman Research Institute as a visiting professor for three years. Later she set up a millimetre-wave telescope at Nandi Hills, Bangalore. She published two books, *The Handbook for Solar Radiation Data for India* (1980) and *Solar Radiation over India* (1981), which have become standard reference guides for solar tech engineers.

A visionary, Anna Mani knew/foresaw that alternative sources of energy would have a big role to play in India's future development. She organized round-the-year wind speed measurement from over 700 sites using state-of-art equipment.

Later, in Bangalore, Anna Mani started a small workshop that manufactured instruments for measuring wind speed and solar energy. She hoped that the instruments produced in her workshop would help in development of wind and solar energy in India. Today, as India takes a lead in setting up solar and wind farms across the country, part of the credit goes to Mani.

Asked whether being a woman had any impact on her work, the stoic and proud Anna Mani would insist that she "had worked hard to gain my academic qualifications and was judged fit to carry out the work that was needed." However, she would recall how even a slight error made by her or other women scientist in handling instrumentation or in setting up an experiment would be immediately broadcast by some men as a sign of female incompetence.

This aside, she gratefully remember the warmth with which a few of her male colleagues, especially their wives, welcomed her into their homes. Mrs. Raman, who she had grown close to during her days at IISc, treated her like her own daughter.

Devoted to her studies and research, Mani never married. Passionate about nature, trekking and bird watching, she was a member of many scientific organizations – Indian National Science Academy, American Meteorological Society, and the International Solar Energy Society etc. In 1987, she received the INSA K. R. Ramanathan Medal for her achievements. In 1994, she suffered from a stroke that left her immobilized for the rest of her life. She passed away on August 16, 2001, in Thiruvananthapuram.

In 1913, the year of Anna Mani's birth, the literacy rate for women in India stood at less than 1 percent. Even in 1930, when Mani went to college, opportunities for women to pursue further studies or a career in science were very limited. A woman who spent her life in the pursuit of science, the pragmatic Mani

saw nothing unusual in her pursuing physics in an era where it was possible to count all the women physicists in India on one's fingertips. It's time India remembers this amazing woman and her exemplary contribution to the world of meteorology.

Here is an NGO that is working to close the gender gap in STEM fields in India.

A not for profit organization based in Delhi, Feminist Approach to Technology (FAT) believes in empowering women by enabling them to access, use and create technology through a rights based framework. The NGO has started a pilot project called the Jugaad (Innovation) Lab to explore how hands-on STEM learning in a feminist environment can encourage and support girls to pursue STEM education.

The Lab has been created as a space for girls to learn about STEM through doing – a place where they can tinker, build, break and rebuild stuff to learn through hands-on work and experimentation – while also understanding the patriarchal structures and systematic discrimination that prevents them from accessing opportunities in STEM and how they can counter such challenges. As of now, 25 girls between the ages of 10 to 15 are enrolled in the Lab.

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# Empowering Odisha: Women's Movement and Biju Patnaik's Legacy

Prof. (Dr.) Sucheta Priyabadini

In the annals of Odisha's history, women have played an integral yet often overlooked role, in shaping the social fabric of the region. Despite the prevalent conservative societal norms, Odia women have continually risen above limitations, carving their place in history through resilience and determination. As we embark on a journey through time, we uncover the remarkable stories of courage, determination and collective action that have shaped the trajectory of women's empowerment in Odisha.

One pivotal figure in championing the cause of women's empowerment was Biju Patnaik, whose vision transcended the traditional confines of politics. During his tenure as Chief Minister of Odisha, Biju Babu was steadfast in his commitment to providing women with a rightful place in governance and society. No discourse on Odisha's social and political evolution is complete without acknowledging the significant contribution of Biju Patnaik towards women's

**While challenges are still there,  
the struggle is positively on.**

empowerment. A towering figure in the state's history, Biju Patnaik, through his policies and initiatives, laid the foundation of women's rights in Odisha. In his famous "Odisha of my Dream," speech delivered at the Binod Kanungo Memorial lecture on 27th July 1992, he said, "In my dream of Odisha tomorrow, I will not like to hear a whisper about oppression of women. I

dream of a day when women will play equal role with men. They will exercise with men equal power and enjoy the same privileges. This should be my dream of tomorrow, the 21st century."

Recognizing the indispensable role of women in socio-economic development, Biju Patnaik took concrete steps to ensure their participation in Panchayati Raj institutions. He established "Mahila Thanas" in each district and pioneered the establishment of Mahila Banks, aimed at fostering financial independence among women.



Moreover, Patnaik's appointment of five tribal women as unofficial advisors underscored his dedication to inclusive governance and sustainable development.

The history of women's movements in Odisha is intertwined with the larger narrative of India's freedom struggle. Inspired by the tumultuous geopolitical landscape of the time, Odia women actively participated in the independence movement, alongside their male counterparts.

During Salt Satyagraha, many women from Odisha like Sarala Devi, Ramadevi, Malati Chowdhury, etc. joined the movement actively. Rani Bhagyabati Pattamahadei, the queen of Paradeep also joined them. Around 1500 local women joined them in this act of disobedience. Inspired by these women leaders, many women in coastal Odisha broke the salt law by making salt in their local sea shores. The salt that was made in various places of Odisha coast was brought to Balasore for sale. While Sarala Devi and Malati Chowdhury were visiting places to mobilize the women for breaking the salt law, Dr Kuntala Kumari Sabat through her revolutionary songs and poetry was mobilizing both men and women to come forward and join the movement.

It was around this time that these women formed various women's organisations to raise gender related issues like women's education etc. During the same time, after coming back from Gaya Convention of INC (1920) Sarala Devi organised "Utkal Mahila Sammilani". Many women icons like Rama Devi, Reba Ray,

Sailabala Das and Dr. Kuntala Kumari Sabat joined this convention. In 1932, Gandhiji started his campaign against untouchability through "Akhil Bharat Sevak Sangh" and Rama Devi became the secretary of its Odisha chapter. During the Salt Satyagraha, Sarala Devi was arrested for breaking the salt law. After her release from jail in 1931, she set up an organisation called "Nikhila Utkal Nari Parishad". Its first meeting was presided over by Dr. Kuntala Kumari Sabat and for the first time Sarala Devi raised the issue of women's fundamental rights and placed a demand to implement SARADA Act for raising the marriageable age for girls.

In 1936 when Odisha became a separate state, Sarala Devi contested the general election and was elected as the first woman legislator of Odisha. As a woman legislator, she raised the issue of women's security, fundamental rights and compulsory primary education for girls. She was instrumental in implementation of SARADA Act in Odisha. In 1938, in order to prohibit dowry, she tabled the Dowry Prohibition bill in the Assembly and it was passed unanimously and became an Act. This was the time when Odia women in search of their social and political identity started writing with feminist perspectives. These writings influenced the contemporary women's movement immensely. Dr. Kuntala Kumari Sabat and Sarala Devi were few women writers who through their feminist writings sowed the seeds of women's equality. In her writings, Sarala Devi questioned the patriarchal structure of the society.

During this phase, the women who were in the forefront of various social and

independence movements strongly believed that India's independence and women's freedom are complementary to each other. With India's independence, it was perceived that women of India automatically become free from social bondage. This belief, however, was shattered with the independence of India. Structural discrimination facing women in the society was certainly not lost on them. Because of the prevalent strong patriarchal structure, women could not enter active politics in good measure. The male dominated political structures did not allow competent women to enter politics. Caught in the horns of dilemma these politically active women found it difficult to return back to their families. There were misgivings in the conservative society with regard to the adaptability of these women to the institution of family and household after having spent considerable time in active public life. Such sense of purposelessness after the independence movement ushered in a phase when women re-channelised their energies into advocating social issues. In Odisha, women leaders started following the Gandhian social transformation process. While many women like Rama Devi, Nishamani Devi, Annapurna Moharana, Rambha Devi etc. initiated constructive development work, most other women who were involved in the freedom movement, went to remote parts of Odisha to work among the tribals, Dalits and other marginalized sections of the society. Malati Chowdhury organized the 'Krushaka Andolana' (Farmers Movement) as part of the freedom struggle against the zamindars

and moneylenders, who exploited the poor. Leveraging on that experience, she established Baji Rout Chhatravas at Angul in 1946, to provide residential facilities and educational opportunities to the children of farmer's movement activists. After Independence, in 1948 she set up Utkal Navjeevan Mandal and engaged herself in rural development and tribal welfare in the rural and tribal areas of Odisha. She later joined the Bhoodan Movement of Acharya Vinoba Bhave. During emergency in 1975 she raised her voice against the anti-people policy and oppressive measures adopted by the Government and was imprisoned.

Post independence, represented a phase that highlights the role of women in constructive social movements like women's education and women's health. These were, however, isolated campaigns limited to certain pockets. Institutional support backed by women centric policies of the government was necessary to channelise their energies into mainstream movements.

In the 1970s a study (Towards Equality) was commissioned by the Government of India. This report highlighted most of the gender related issues like skewed and declining sex ratio, high rate of maternal mortality, economic inequality and gender discrimination in Personal laws. After the publication of this report, the Government tried to bring gender equality through legal provisions. The Equal Remuneration Act was passed in 1976. 1975 was declared as International Year of Women by the United Nations and first ever World Conference of women was organized. These developments

influenced the women's movement in Odisha. For the first time economic rights of the women came in the discourse of women's rights domain. During this period, two women's organisations of Odisha helped mobilize women for raising voice against various social issues like dowry, price rise etc. One was "Utkal Mahila Samiti," which was the Odisha chapter of National federation of Indian women, led by Dr Nirupama Ratha, Nirad Prava Pattanaik, Sabitri Mishra, Prava Rani Acharya etc. The other one was "Nari Seva Sangh," which was set up by few highly educated Odia women. Branches of Nari Seva Sangh were opened in various towns of Odisha and they were able to mobilize memberships from all over Odisha. Through these branches, women were provided vocational training for their economic empowerment. This was also the time when realizing the need for providing institutional support to working women, Utkal Mahila Samiti established the first ever working women's hostel in Cuttack, Odisha. These developments inspired larger participation of women activists in its ambit and women movement attained a more democratic character with activists like Tulsi Munda, Parbati Giri, Pramila Swain, Saila Behera, Latika Singh, Kadambini Bhuyan etc. coming forward and taking the mantle of leadership.

It was the visionary leadership of Biju Patnaik that provided an appropriate perspective to women's movement in Odisha through creation of necessary platform for empowering women. One of the cornerstones of Biju Patnaik's vision was

the promotion of education and healthcare, particularly for women. His government invested substantially in expanding educational opportunities for girls, thereby laying the foundation for their socio-economic development. By prioritising access to quality education and health care facilities, Biju Patnaik ensured that women could break free from the shackles of traditional gender roles and contribute meaningfully to the society.

Recognizing the potential of women as agents of economic growth, Biju Babu's government introduced policies to facilitate access to credit, training and market support for women entrepreneurs, through Mahila Vikas Samabaya Nigam, established in 1991. By creating an enabling environment for female-led enterprises, Biju Patnaik paved the way for economic self-reliance and empowerment.

Mahila Samruddhi Yojana was another women welfare programme launched by the government on 2nd October, 1993, aimed at assisting women in proper money management by mobilising adequate savings through the Banks with subsidy support.

Biju Patnaik was a firm believer in gender equality and advocated for increased political representation of women. Recognizing the need for diversity and inclusiveness in governance, his administration took proactive measures to encourage women's participation in politics. Under his leadership, Odisha became one of the first states to implement 33 percent reservation of seats for women in Panchayati Raj institutions (PRI), pursuant to the 73rd Constitu-

tion Amendment Act, at a time when the country was still deliberating on the issue. Though in the initial phase women behaved like stooge of their male counterparts, in the later stages, many women came forward and were seen doing exemplary work in the PRI system.

As we reflect on the vibrant tapestry of Odisha's women's movement, we are reminded of the transformative power of collective action, resilience and hope. Through his visionary leadership and unwavering commitment to gender equality, Biju Patnaik left an indelible mark on the lives

of countless women in Odisha, inspiring future generations to strive for a more inclusive and equitable society. Building on his legacy, women of Odisha today are quite conscious and alive to the demands of the new millennium, making their presence felt in the diverse fields of politics, bureaucracy, industry, education, technology, art and culture. While challenges are still there, the struggle is positively on.

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**Chair Professor, Maa Rama Devi Chair,  
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## Biju Patnaik – A Legendary Personality

Prof. Balabhadra Ghadai

Bijayananda Patnaik or Biju Babu, as he is called affectionately by millions of his admirers, was a towering politician, strategist, freedom-fighter, philanthropist and the architect of modern Odisha. Born to Laxminarayan Patnaik and Ashalata Devi at Anand Nivas, Tulsipur, Cuttack on 5<sup>th</sup> March 1916, Biju Babu had his early schooling in Mission Primary School and Mission (Christ Collegiate) School. He joined Ravenshaw Collegiate School and passed Matriculation in 1932 with first division and got admitted to Intermediate Science class in the Ravenshaw College, Cuttack. He discontinued his B. Sc examination to undergo training as a pilot at the Aeronautic Training Institute of India and Delhi Flying Club. After completion of the pilot training, Biju Babu joined Indian National Airways and became its ace pilot.

It was during the Second World War that on the request of Jawaharlal Nehru, Biju Babu went to Soviet Russia and helped the Russian army against Nazi attack. The

Russian Government later on honoured him with their civilian award ‘Order of Lenin’. This was a rare achievement of an Odia at the international level. This apart, he could be able to evacuate the British families at Rangoon (Yangon) apprehending danger from the attack of Japan on Burma (Myanmar) during the Second World War and was praised by the British administrative authority for his dynamic and strategic act of bravery. To one’s surprise, while he was the head of the command under RIAF, he air dropped the leaflets of Quit India Movement on Indian soldiers fearlessly. His love for the country and freedom struggle were exemplified in his risky operation of airdropping leaflets supporting the cause of Netaji’s Indian National Army.

Biju Babu was profoundly influenced by Gandhiji’s trumpeting call of Quit India to free India from the British rule and came forward to associate himself with the ‘**Underground Movement**’ led by Jayprakash Narayan and Ram Manohar

Lohia. Biju Babu was arrested on 13<sup>th</sup> January, 1943 and was put behind bar for two years in Ferozpur Fort Jail. Aruna Asaf Ali, recalling Biju's role during this period mentions "Among the thousands who came forward to take up the challenge, Biju Patnaik was one of the most fearless who mobilized his fellow pilots and inspired them to help the 'Underground Directorate'. For his courage and fearlessness, we could have succeeded in linking up with our comrades in Bombay, Calcutta, Madras and New Delhi. We also used the airlines for travelling incognito sometime."

After his release Biju Babu joined the Indian Freedom Struggle and became one of Nehru's trusted friends who viewed the freedom struggle of Indonesian people as parallel to that of India and considered Indonesia as a potential ally. When the Dutch launched a large scale attack on Indonesia on 21<sup>st</sup> July 1947, President Sukarno consulted Sultan Sjahrir and ordered him to leave the country to attend the first Inter-Asia Conference organized by Jawaharlal Nehru in July 1947 and to foment international public opinion against the Dutch. Sjahrir was unable to leave the country as the Dutch had absolute control over Indonesian sea and air routes. Nehru entrusted Biju Babu with the task of rescuing Indonesian freedom fighters from the Dutch forces. Biju Babu accepted the proposal. He took off in an old fashioned Dakota with his wife Gyana Devi for Jakarta. On his way to Singapore, he received a threat call from the Dutch to shot down his aircraft if it enters Indonesian air-space but he braved the

hazards. He flew to Jakarta (Java) and brought Sjahrir and Dr. Mahammad Hatta by his own Dakota and reached India via Singapore on 24 July 1948. For his rare contribution to the freedom movement of Indonesia, President Sukarno drafted out a gift package of 500 crores to Biju Babu. But the great Odia hero returned the gift with humility as the token of India's good will for the people of Indonesia. Later on the Indonesian Government conferred on Biju the highest civilian award of the country '**BHUMI PUTRA**' (Son of the Soil) which is at par with Indian '**BHARAT RATNA**'. He was the only Indian and especially first Odia to receive such award. In 1996, when Indonesia was celebrating its 50<sup>th</sup> Independence Day, Biju Babu was also conferred with the highest national award '**BINTANG JASA UTAMA**'.

Biju Patnaik also played a heroic role in the historic role in the Jammu and Kashmir operation in 1947. India got dominion status in August 1947 and as result the erstwhile princely states became independent. However, Pakistan launched an attack on Kashmir on October 22, 1947. It was urgent to mobilize troops to check the advancing Pakistani troops. Biju Babu for whom the prestige of motherland was the only concern, took up the challenge. He landed the first platoon of troops at Srinagar airport on 27 October, 1947. His daredevil adventure is really amazing.

It was during the Indo-China War of 1962 that Nehru entrusted Biju Babu with the additional responsibilities of advising

him on defence matters and he was allotted an office near the Prime Minister's office in North Block. This apart, during the Indo-Pak War of 1965, he was entrusted by the Government of India as an envoy to persuade the President of Indonesia, Dr. Sukarno not to supply warships to Pakistan against India. He succeeded in his mission on account of his personal friendship and his contribution to save that country from the Dutch.

Biju Babu was a politician among statesman and a statesman among politicians who had influenced both the state and the national politics for more than four decades. Whether in power or in the opposition, he was one of the most influential politicians of India. In the year 1946 he was elected uncontested to the Odisha Legislative Assembly from North Cuttack Constituency. In 1952 and 1957 he won from Bhanjanagar and Jagannath Prasad respectively. On 13<sup>th</sup> February Biju Babu assumed the presidentship of the State Congress. The overall responsibilities of the Congress Party in fighting the mid-term election in 1961 was that of Biju Patnaik. The Congress Party captured 82 seats out of 140 securing 45% of the total votes polled and won from Choudwar Constituency. The poll verdict was astounding and as a reward for securing absolute majority for the Congress first time in the Legislature, Biju Babu took over as the Chief Minister on 23 June, 1961 and remained in the position until 2<sup>nd</sup> October 1963.

In 1974 he won from Rajnagar Assembly Constituency and became the

Leader of the Opposition. In 1977 he won from the Kendrapara Lok Sabha Constituency and became the Union Minister for Steel & Mines and Coal from July 1979 to January 1980. He was the Member of the Lok Sabha from 1980-85. In 1985 he resigned from his Lok Sabha seat to contest from the Bhubaneswar Assembly Constituency and became the Leader of the Opposition in Odisha Legislative Assembly. In 1990 Assembly polls he steered his party Janata Dal into victory and became the Chief Minister of Odisha for the second time. It is worth mentioning that his party could secure 123 seats. Biju Babu contested the 12<sup>th</sup> Lok Sabha election (1996) from Aska and Cuttack Constituencies and won both the seats. Later on, he resigned from Cuttack Parliamentary seat.

Biju Babu's first spell of Chief Ministership lasted for more than two years but during this short period he made a mark in the history of Odisha by giving his people a powerful and efficient administration. He sought to inject a rare dynamism into the administration and lifted the featureless and futureless people of Odisha out of slough of despondency. He succeeded in setting up the Paradeep Port, the MIG factory at Sunabeda, a Thermal Plant at Talcher, the Express Highway connecting the iron ore deposits of Daitari with Paradeep, Balimela Hydel Project, Engineering College of Rourkela, Sainik School and Regional College of Education at Bhubaneswar and Odisha University of Agriculture and Technology at Bhubaneswar and others.

Biju Babu was well aware of the fact that Odisha was a backward state in the country in spite of having a good deal of natural resources and its reason was the lack of proper planning for development. He set up the State Planning Board and a number of Public Corporations. Ayodhya Nath Khosla, the internationally reputed engineer as the Governor of Odisha, gave a helping hand to Biju Babu in formulating the development of the river basin of Odisha by preparing a ten-year plan popularly known as 'Decade of Destiny' Plan.

His philosophy of development of the State is reflected in the speech delivered during the tenure of his Chief Ministership. On the occasion of inauguration of the Odisha Planning Board on 15<sup>th</sup> January 1962, he emphasized upon the bureaucrats to change their style of work and advised them in the following versions. "In the new set-up, in the new adventure which we are going to embark upon, I would expect my officials to become thinkers and administrators in turn. I would expect them to collectively and willingly push the state towards the goal of prosperity. I would expect them to become leaders of men, and not leaders of the longest notes on the files".

During his second phase of his Chief Ministership from 15<sup>th</sup> March, 1990 to 15<sup>th</sup> March, 1995, Panchayati Raj movement gained momentum. He took a revolutionary step to reserve 33 percent of seats for women in the three-tier Panchayati Raj system and subsequently Odisha Zilla

Parishad Act of 1991 and the Odisha Panchayat Samiti (Amendment) Act, 1992 were passed by the Odisha Legislative Assembly which provided for 33 percent reservation for women including Scheduled Caste and Scheduled Tribe women. It was further provided that one third of Zilla Parishads would have exclusively women Chairpersons. In the case of Panchayat Samities and the Gram Panchayats, one of two office-bearers, i. e. Chairperson or Vice- Chairperson in case of Samiti and Sarpanch or Naib-Sarpanch in case of Gram Panchayat must be a woman. As a mark of profound love for Panchayati Raj Institution, the people of Odisha observe his birthday (March 5) as **Panchayati Raj Divas**.

It is worth mentioning that Biju Babu categorically expressed his political vision on prospects of Odisha while delivering the Binod Kanungo Memorial Lecture on "Odisha of my dream" on January, 1992 at Bhubaneswar. The reported statement was stated as "in my dream of the 21st century for the state, I would have young men and women who put the interest of the State before them. They will have pride in themselves, confidence in themselves. They will not be at anybody's mercy, except their own selves. By their brain, intelligence and capacity, they will recapture the history of Kalinga. I would like my Odisha of 21<sup>st</sup> century to have excellent artisans, superb craftsmen and sculptors, greatest musicians and poets." In spite of his devotional interest for the socio-economic development of Odisha, certain allegations of impropriety and abuses of



power were raised against him by the opposition party of the State. But the findings of the Khanna Commission of enquiry which was set up by the Central Government in 1967 made it clear that none was meant for individual benefits and thus, in consequence, it paid him rich compliments. During the subsequent decades, he was often quoted to have said, 'I will commit such improprieties even today, if it helped Odisha to progress'.

There can be no two opinions that Biju Babu is one amongst the legendary

personalities of Odisha whose stature has grown even after his death. He continues to inspire and draw respect from people belonging to different walks of life even today and commands respect from his political rivals too, who hold him in high esteem.

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# Rani Sukadei-An Epitome of Valour and Compassion

Ch. Barada Prasanna Das

## Unique Combination of Valour and Compassion

In the annals of Indian history, numerous queens have been celebrated for their patriotism, valour, and heroic deeds. Among them is a remarkable figure, Rani Sukadei, whose story unfolds in the small princely state of Banki, situated on the banks of the Mahanadi River in the present-day Cuttack district of Odisha. What sets Rani Sukadei apart is her exceptional blend of valour, compassion, and a deep sense of responsibility towards others.

## The Flamboyant Girl

A girl child was born to Raja Birabhadra Mangaraj and Queen Jayanti Devi the royal couple of Badamba another small princely State in the northern side of Mahanadi on the holy Bhagabat Purnima day in the year 1686 (ordinarily falls towards the end of September). The princess was named as Sukadei. From her childhood she became interested in learning martial art

along with her elder brother Fakirchandra. The broadminded king nodded to it. While in the house of her maternal uncle at Kharodgada she was also trained by a Tribal Lady who was famous for martial arts at the time. She was also apt in horse riding. Along with these she also mastered epics and Vedic literature. The girl grew as a princess with versatile acumen. Due to her serene look and flair for mixing with common people she became the eyeball of the general public.

## From Silent Love to Auspicious Marriage

A serious burn fair shattered Badamba in the year 1701 and Banki as a friendly Kingdom helped disaster stricken people of Badamba in many ways. People of Badamba became vocal in praising the King of Banki particularly Prince Dhananjay Trilokyanath Dev. Obviously King Birabhadra became interested in getting the handsome and sober Prince of Banki as son in law. Princess Sukadei was waiting for

such a proposal. Ultimately this relationship turned into happiness when Princess Sukadei married young Dhananjaya in the year 1702. People adored them as Rama and Sita for their love for the subjects and welfare activities. The King and Queen duo were lovers of nature and mostly enjoyed the colourful sunset in the picturesque Malati Hills at the outskirts of the town. As a token of happiness Sukadei gave birth to a male child and he was named as Dayanidhi.

### **The Devil's Eye**

In the year 1716 the royal couple had visited Lord Jagannath, Puri on the occasion of Chandan Purnima. On the way back they became guest of Gajapati Gopinath Dev the king of Khordha who was also known as first servitor and the moving image of Lord Jagannath. At this time of happiness, misfortune was peeping in the background. The Gajapati King became mad to get Sukadei after seeing her enchanting beauty knowing fully well that Sukadei was then also mother of a child. With this evil intention he entered into a battle against Banki and the king of Banki who was quite unprepared to face such a treacherous act by a friendly King that's too the highly respected Gajapati. Moreover Khordha was a bigger Kingdom covering Utkal a major part of present day Odisha. During the battle King Dhananjay was pushed to Ragadi, a place much inside Banki territory. In spite of this he continued fighting with much valour. The impatient and crooked Gajapati, violating all norms of war, managed to kill the sleeping Dhananjay in his camp at night time. After

the demise of the King the Paikas (Soldiers) of Banki fled away and the Gajapati was expecting helpless and frightened Sukadei to surrender to his lap.

### **Burning Eye of a Widow**

After getting the news of death of King Dhananjaya the people of Banki particularly women and children were shivering by expecting torture by arrogant and beastly Gajapati soldiers. The Army Chief and the Minister of Banki advised Sukadei for a truce with the powerful Gajapati. The infuriated Queen had some other thing in mind. The hurricane girl of Badamba replaced the so far sober queen and burying her sorrow and grief she gave a call to retaliate and she started marching towards the battle field for vengeance. The teenager Prince Dayanidhi also suggested fighting back. Within minutes she gained the confidence of the soldiers and people. The women folk started praying in the temple of Maa Charchika (the Presiding deity of Banki) and all male members followed the ignited soldiers promising support.

### **Emergence of Devi Durga Against Evil**

At this moment of rejoice in Khordha camp the horizon became grey with dust particles coming out of human and horse footsteps. It appears as if Devi Durga is ascending down from Meru Parbat (hill) in search of Mahishasura. The Gajapati was surprised to see a virulent Suka Dei leading the reassembled soldiers of Banki amidst hilarious slogans. The echoes like "Jay Maa Charchika" and "Jay Rani Suka Dei"

surprised the Gajapati. The mercurial Queen was seen leading the army from the front by riding a horse. At this time the army of Badamba and Tigiria (another friendly Kingdom) also joined the fray. Sukadei with all efficacy in martial art and tribal war technique shattered the Khordha army and the army Chief was killed. The Battle Field at Ragadi became red with human blood. The treacherous Gajapati while fleeing was taken into custody by Banki soldiers and was presented in the Court of Rani on the next day at Kamala bag Royal palace. Everybody was expecting a death punishment for Gajapati. Grave silence was prevailing at Barunei palace in Khordha. Weeping Rajajema had no words to console the speechless Queen.

### **Maharani of Kindness**

In next morning a different Sukadei was seen in the throne. The other day the Devi Durga who was in a killing spree was found to be in the incarnation of calm and quiet Sailaputri the Mother. Grace and kindness were prevailing in her face. Tears rolled on from her eyes after visualising the loneliness and plight of the queen of Khordha which she was experiencing. Being a woman she did not like to see the queen of Khordha as a widow. The humanitarian Queen felt that it will be unfair on her part to impose widowhood on an innocent Queen of Khordha and make the Khordha Princess fatherless. The Vedic sense of "Seeing the world in self" prevailed in her mind. She excused the killer of her husband. She let the Gajapati free. History recorded her name as "Maharani of Kindness" in golden letters.

### **Concern for Innocent War Widows**

Further she became remorseful for the war widows who were innocent and could not excuse herself as the cause of the plight of these innocent soldiers who were simple pawns. In the memory of these departed soldiers she constructed "Munda Deula" (Temple of human heads) which is a symbol of peace and a light house for future. She in fact intended for a society without war and bloodshed. All these made her Maharani of kindness, forgiveness and compassion in the pages of history. Easily she could have ascended the Gajapati throne by making an end to the Bhoi dynasty. She could have engaged the queen of Khordha and other palace women as servants.

### **Saintly Rajamata**

History says that the queen ruled for seven more years and had a number of welfare activities to her credit. She was known for promoting irrigation. She turned her kingdom into a society without any conflict. She also dug a big tank named "Sunamuhin Bandha" in Badamba for irrigation purposes. In social front she also worked for women's emancipation. The glorious life of Rani Suka Dei ended on auspicious Magha Panchami day (ordinarily falls in the month of February first week) in the year 1726 AD.

### **Inspiration for Posterity**

It is said that Esteemed Chandana Hajuri (Chakhi Khuntia) had inspired Rani Laxmibai by telling the story of vibrant

queen Sukadei. It is now time for us to establish it from the pages of history. The Great Fire Brand Freedom Fighter Sarala Devi was quite inspired by the personality of Rani Sukadei in her childhood days in Banki. It is worth mentioning that Sarala Devi got her primary education in Banki where her father Balamukunda Kanungo was serving. The local women's College in Banki and the Women's' hostel of Banki College has been named after Sukadei. She is also an inspiration for widows who should not feel deprived or helpless after death of husband remembering the story of Rani Sukadei.

### **Rani Sukadei Regiment**

One must thank Madam Souvagini Devi, Principal, Talcher Silpanchala Mahila Mahavidyalaya who has organized "Rani Sukadei Regiment" for the girls and the girls are trained in Martial Art. This has built up self-confidence among girls. One will be delighted to know that the members of "Rani Sukadei Regiment" were well conscious and impressed by the kindness she had shown to an enemy King. Journalist Shri Bibhuti Mishra in the pages of Tribune (6th February 2005) has further added that the students well recognised the quality of an Indian Mother in Sukadei. Really the inspiration has gone much beyond Martial Art.

### **Literature on Sukadei**

So far my knowledge goes a good number of literature have come up citing the versatile qualities of the Rani. Kabichandra

Kalicharan Pattnaik had written a historical drama titled "Rakta Mandar" (1952) followed by Sudhansubala Mohantys' immortal verse, "Kamalabagara Samadhi Tale"(1961), Poet Nabakishore Maharana's "Rani Sukadei"(1995) and many others. Prof Laxman Majhi has written a book titled "Banki Rani Sukadei: Eka Bismruta Prativa" (2023) which gives an exhaustive account with supporting references, photos and documents. This writer has also written a Short Story titled "Kamalabagara Samadhi Tale" which has highlighted the widows should gather confidence from the life of Rani Sukadei to face the challenges in the society. Short account of Rani has also been placed in the Book "Odishara Mahiyasi Mahila" Compiled by Prof. Dr. Krushna Chandra Bhuyan, published by Odisha Sahitya Academy and "Odishara Mahiyasi Nari" by Prof Dr. Bijayalaxmi Das, Published by Chitrotpala Publication, Salipur. Unfortunately this unique Queen has not got recognition outside Odisha which she deserves. It is our social responsibility to carry the message of the Queen to the war monger world. Let Dramatists, Play writers, Novelists, Opera Writers, Film Producers, Journalists come up to place Sukadei at the place she deserves.

The Government of Odisha may consider to popularise Rani Sukadei by awarding a prize in her memory. It may be considered to organize "Rani Sukadei Regiments" in Colleges to train girls on self-defence. The Odisha Sahitya Akademi/ Central Sahitya Akademi (New Delhi) may

also consider to translate the immortal historical poem “Kamalabagara Samadhi Tale (In the Burial Ground of Kamalabag). The Government of India may consider to include the story of Sukadei in Academic Curriculums of Schools run by different Central Agencies like NCERT. The Government may consider to include the story of Sukadei in the training material prescribed for Sensitising women SHGs of Odisha.

Let us rediscover Rani Sukadei who is an epitome of valour, motherhood and Compassion.

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# Remembering our Constitution on Republic Day

Tejeswar Patnaik

With 448 articles, 25 sections, and 12 schedules today, the Indian Constitution is the world's longest-written text and provides an elaborate framework for the country's governance.

Originally, the Constitution contained 395 articles and eight schedules. The Constitution captures the core structure and set of rules of governance that will serve as a guidebook for policymakers and citizens alike. It is also regarded as the fundamental law of the nation since it has primacy over all other laws of the land.

The members of the Constituent Assembly were influenced by the socio-economic diversity of Indian demography while preparing the blueprint with a pragmatic outlook. Other democracies in the world also influenced them to shape our Constitution, which is designed to suit Indian circumstances. As a result, we have adopted some of the robust features and best practices that prevailed in other countries with suitable modifications to

implement them in India. We have emulated federal features of the constitutions of the United States, Canada, and Australia. Similarly, fundamental rights were incorporated following the Bill of Rights as practised in the United States. India, on the other hand, chose the British model of parliamentary government with a bicameral legislature at the centre.

## The Indian Constitution's Evolution

The British Government's Government of India Act 1935 opened the door for provincial autonomy, allowing Indians to be chosen to manage the administration in their provinces. This was followed by the Independence Act of 1947, as a consequence of which the British Government opted to treat India and Pakistan as two dominions until both countries finalised their Constitutions.

The Constituent Assembly, comprised of 389 elected provincial members and 93 nominated members

selected from the princely states, accorded approval for the adoption of the permanent Constitution, and on August 29, 1947, it created a Drafting Committee chaired by Dr B.R. Ambedkar.

The Indian dominion became the Republic of India after the Constituent Assembly enacted the Constitution on November 26, 1949, which took effect on January 26, 1950, replacing the previous Government of India Act of 1935. The 26th of January was chosen as Republic Day specifically to commemorate “Purna Swaraj,” or the day of total independence, which was celebrated on this day in 1930 following a resolution passed by the Indian National Congress (INC) in Lahore. The members of the Constituent Assembly, elected by provincial assemblies, deliberated and debated over the draft constitution extensively.

It is pertinent to note here that, despite differences of opinion on certain essential features, the Constituent Assembly unanimously accepted the Constitution by reaching a consensus.

### **Preamble**

One of the distinguishing features of our lengthy constitution is its preamble, which portrays the source, aims, purposes, and nature of government in very concise terms. The people of India are the source of the Constitution’s power, and it embodies the essence of the polity as a sovereign, democratic republic. The opening lines of the preamble, “We the people,” and the

closing lines, “adopt, enact, and give to ourselves this Constitution,” indicate that power is vested in the people only.

The preamble is therefore called a “mirror of the Constitution,” reflecting some Gandhian principles.

The words “socialist” and “secular” were not found in the original preamble text but were subsequently included in the 42nd Amendment Act of 1976.

### **Fundamental Rights**

Fundamental rights, enshrined in Part III of the Constitution, are the inalienable rights of citizens and are regarded as the lifeblood of democracy. Articles 14 to 18 of the Constitution guarantee every citizen the right to equality. The state is responsible for upholding the right to equality before the law, prohibiting discrimination based on religion, race, caste, gender, or place of birth, ensuring equal opportunity in public employment, and abolishing titles. Other fundamental rights, such as the right to free expression and religion, strengthen the Indian Republic’s democratic fabric. Fundamental rights are justiciable, which means they can be enforced in a court of law. Article 32 and Article 226 are powerful instruments in the hands of a citizen to approach the court to seek justice in the event of any infringement of a fundamental right.

However, the Constitution empowers the state to impose reasonable restrictions based on the common good,



morality, safety, and social reform. A citizen may challenge the rationality of the limitations in a court of law.

The Indian Constitution guarantees full voting rights under Article 326, whereby every citizen, upon attaining the age of 18, can exercise his franchise. The voting age for citizens to vote in both assembly and general elections was previously 21 years, but it was later reduced to 18 years through the 61st Constitutional Amendment Act of 1988. The right to vote is a constitutional right that allows a citizen to vote. In addition, as per Section 62 of the 1951 Representation of the People Act, a person whose name appears on the electoral roll of that constituency is eligible to vote. The Election Commission of India, as a statutory autonomous body under the Constitution, supervises the entire election process independently.

### **Fundamental duties**

The inclusion of the fundamental duties in the Constitution via the 42nd Amendment Act, Part 4A, in 1976, based on the recommendations of the Swaran Singh panel set up by the Congress Government at the centre is a turning point in the constitutional history of India. The Swaran Singh Commission was inspired by the constitution of the Soviet Union which mandated basic duties for its citizens. The Commission headed by Shri Singh recommended the incorporation of only eight fundamental duties through the Constitution Amendment Act in India. The

government also included two more fundamental duties, namely the citizen's duty to defend the country and promote harmony. The duties were added by the government led by Mrs Indira Gandhi to improve people's awareness of their responsibilities to the state.

Some of the important provisions in Article 51, Part IV A, of the 42 Amendment Act of 1976 appeal to the citizens to abide by the Constitution, respect the national flag and national anthem, and safeguard the nation's sovereignty. Fundamental Duties are intended to bring awareness among people about the fact that, while enjoying rights, they should discharge their duties in conformity with the provisions in Article 51. However, unlike fundamental rights, duties are not legally enforceable.

### **Directive principles of state policies**

Articles 36 to 51 of Part IV of the Constitution include the directive principles of state policy, which aim to achieve socio-economic justice for the people and build India as a welfare state. The directive principles are outlined as a set of instructions for the central government and the states. The Constitution of Ireland as well as Gandhian principles have impacted the drafting committee members' desire to incorporate the directive principles in the Indian Constitution. Part IV of the Constitution contains guidelines on foreign policy, judicial, and administrative matters in addition to social justice and economic well-being. It calls upon the government to

endeavour to build a just society in the country. Directive principles, unlike fundamental rights, are non-justiciable.

### **Quasi-Federalism**

The members of the drafting committee have made herculean efforts to delineate the functions of the three main pillars of the state, i.e., the legislature, the executive, and the judiciary, encapsulating their responsibilities with necessary checks and balances on each of them.

The Indian Republic has a prime ministerial government system in which the Council of Ministers headed by the Prime Minister makes all decisions and reports them to the legislature.

The Indian Constitution is unique in that it combines unitary and federal features. To avoid overlapping powers, the Constitution gives the centre and the states the authority to pass legislation in their respective areas of activity. The seventh schedule has three legislative lists, the state list, the union list, and the concurrent list.

The central government can legislate exclusively on the subjects mentioned in the Union list, whereas the state governments are authorised to make law on the items in the State list. As to subjects in concurrent lists, both the centre and the state have the power to make law. In the event of a conflict between Union and state law on the same subject, Union law shall take precedence over state law.

During times of national emergency and the President's rule, the centre wields more power than the states.

The power of the centre to appoint governors of states demonstrates its unitary nature. The provision in the Constitution for a common all-India service cadre symbolises the unitary character. Prof. K. C. Wheare of Oxford University and an expert on the Constitution justifiably describes India as "a quasi-federal state." Although the country has a federal structure with two levels of government at the centre and in the states, the central government has been given more authority.

### **Supreme Court as Guardian of the Constitution**

An independent judiciary is one of the major features of our Constitution. India's apex court, the Supreme Court, is regarded as the guardian of the Constitution. Both the Supreme Court and the High Court have the power of judicial review and can declare a law unconstitutional if it contravenes the provisions of the Constitution. Nonetheless, Article 368 of the Indian Constitution gives the Parliament the power to amend the Constitution in cases of necessity without affecting its basic structure by complying with the procedures laid down in the constitution.

The Constitution is therefore the fundamental law of the land, and all other laws of the land should conform to the Constitutional provisions. The scholarly

thinking and vision of the drafting committee members of our Constitution were indeed remarkable since they had a profound understanding of our country's diversities in race, religion, culture, traditions, and languages. Republic Day is celebrated every year on a grand scale to commemorate the transition of our country

to a republic on January 26, 1950, apart from the adoption of an independent Constitution.

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# A Step Forward Strengthening Odia Language Globally

Dr. Samir Kumar Hui

With the population of more than 4.2 crore, Odia, the rich language of Odisha is considered the tenth major language in the country. Odia language and literature has an ancient history with its rich cultural heritage and uniqueness. Because of this trait, it has attained the status of sixth classical language of India recently. It has its own script, unlike Sindhi, Rajasthani, Ahamiya, Konkani languages. Odia stands in 33<sup>rd</sup> position on the world map. Odia's medieval literature is one the richest in India. We have everything to be proud of- be it Sarala Das's *Mahabharata*, *Bhagabad* of Jagannath Das, or *Laxmi Purana* of Balarama Das.

Odia Language is a direct descendant of eastern Magadhi belonging to the Aryan family of languages. As it is related to the Aryan families, it is mainly related with Assamese, Bengali and Marathi. The other forms of Odia that are evolved in Odisha is due to the influence of the neighbouring regional languages of the Aryan and Dravidian families. Out of about 6700

languages in the world, only 4% of people use 96% of languages and 96% of people use only 4% of languages. Linguists comprehend that out of the 6700 languages, about 6000 will die in another 100 years and there will be only 300 languages around 2200 A.D. (Das Gourahari, Convenor, Odia Advisory Board, Central Sahitya Akademi). In my opinion, Odia may not have been in a decaying situation as yet. However, our rich language is not free from fear of possible extinction with the impact of globalization, modernity and other languages like Hindi and English. At this critical period, the endeavour of our government under the leadership of esteemed Chief Minister, Naveen Pattnaik, to promote and preserve the Odia language by organizing the first ever international Odia language festival or Biswa Odia Bhasha Sammilani in February 2024, is no doubt, a step forward towards enrichment of our language and culture. The herculean task of organizing such a festival has been made easy and has been accomplished successfully in the

meanwhile, with the tireless endeavour of V. K. Pandian, the Chairman of 5T initiatives. Without his foresightedness and round the clock endeavour, we might lag behind and fail to advance a step forward popularizing our language and culture. Like John Beams, an administrator of British rule in India, Pandian Sir will be ever remembered as an architect, as a savior of Odia language. During John Beams, there was a great threat from the side of Bengali language. In 1867, Ranglal Bandhopadhaya, Deputy Magistrate spoke out in a public meeting about the primacy of Bengali over Odia. Similarly, an eminent Bengali scholar Rajendra Lal Mitra declared that there was no need to have a separate language for mere 20 lakhs of Odia people. Even Mitra pleaded that Odisha was doomed to remain backward if it had a separate language. Likewise, Kanti Chandra Bhattacharya of Balasore Zilla school published pamphlets “Odia is not a separate language”. With this backdrop of language identity crisis, Beams, though an English administrator, like Pandian Sir supported and fought for existence and continuity of Odia language.

To keep up the past tradition of Odia language and literature alive, efforts of the Commissioner-cum-Secretary, Sujata R Karthikeyan and the Director of Odia Language, Literature and Culture, Mr. Dilip Routrai are praiseworthy. The appeal of esteemed, Smt. Sujata Madam, the pioneer, to all Odias living across the globe to sing the state anthem, *Bande Utkala Janani* on February 3, is no doubt will enhance the

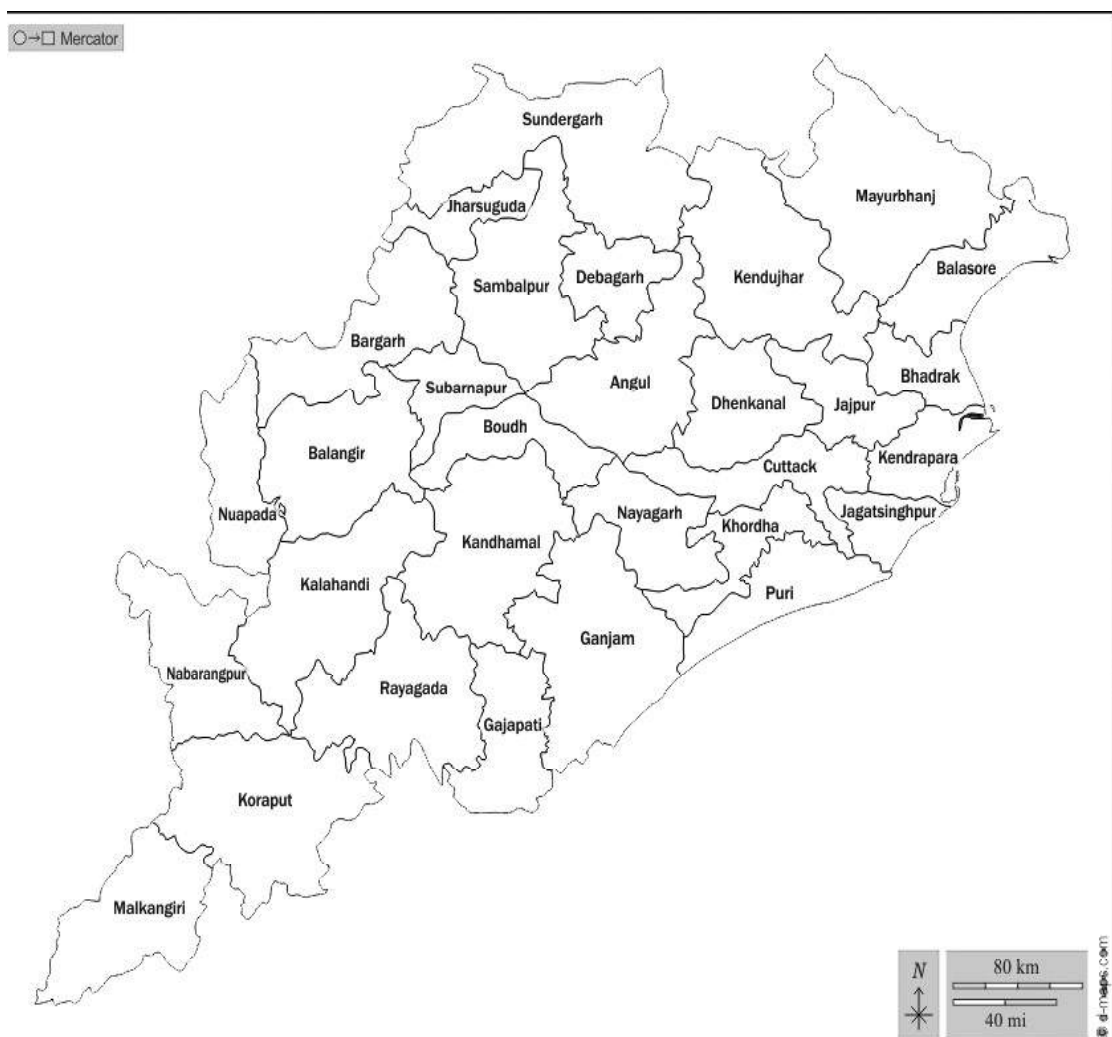
visibility and academic rigour of Odia language and literature. The Odisha government unveiled several initiatives under the aegis of the Department of Odia Language, Literature and Culture aimed at promoting the Odia language and literature both nationally and internationally. The establishment of a substantial corpus of Rs. 10 Crore to support research in Odia language at both national and international level is a step forward towards strengthening Odia language globally. This grant to be housed in the prestigious university at Satyabadi underscores the government’s commitment to fostering academic enquiry and scholarly pursuits in the realm of Odia language and literature. Further, the step to hold international digital Odia conference with an aim to bring together experts from around the world to explore and promote the Odia language in the digital sphere, is no doubt, a step towards enhancing our language and culture. The efforts of trio, Pandian Sir, Sujata Madam and Mr. Dilip Routrai, the real architects of First World Odia Language Conference have added strength in making the first ever Bhasha Sammilani a grand success to promote and popularize Odia language globally.

It is appropriate time, each and every Odia should learn their history and their roots as they are the race of mighty Kalinga of King Kharvela. Today also his blood flows in veins of Odias. A sleeping lion cannot recognize his power, but once he rises, all obstacles fall in place. Odias are sleeping lions. We are to rise and join hands

with the government’s endeavour and the part of the government’s struggle remembering the dark period of Odia identity crisis. Hope we can come out of the past dark period. This must be our inspiration, goal. We should be united to fight for our right for

developing Odia identity and Odiatwa in current Indian scenario.

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## Agitation for Modern Odisha

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The British contact with Odisha started in the first half of the 17<sup>th</sup> century. “True to our national character”, W. W. Hunter said, “we settled in Odisha as merchants long before we made our appearance as rulers.” The British factory at Balasore developed into a thriving centre of maritime trade. The pre-eminence of Balasore as commercial centre continued for a long time. It declined in the 18<sup>th</sup> century when the East India Company’s trading concerns were shifted to Hugli and Kolkata. Odisha came within the orbit of the East India Company’s political interest. Sourthern Odisha called Ganjam was conquered by the British from the Nizam of Hyderabad in 1759, and thereafter remained a part of the Madras presidency till 1936. Sambalpur, annexed by the British in 1849, remained a part of Central provinces till 1905. Balasore, Puri, and Cuttack districts, conquered by the British from Marathas in 1803, remained parts of Bengal till 1912 and thereafter became parts of the province of Bihar and Odisha. As a

result of this dismemberment, the Odia speaking territories virtually became appendages to four provinces; Bengal, Madras, Central Provinces and Bihar, and being reduced to the status of linguistic minorities in all these provinces, the Odias felt neglected and dominated by the linguistic majorities, and particularly felt distressed at the deliberate efforts to abolish Odia language. The new elite emerged in Odisha in the later half of the 19<sup>th</sup> century.

Towards the end of the 1902, Raja Baikuntha Nath De of Balasore presented a memorial to Lord Curzon in which he had urged the Governor General to constitute a separate administrative unit for all Odia-speaking territories or to keep them under one provincial administration of either Bengal, Madras or the Central Provinces. Thus, by the beginning of the 20<sup>th</sup> century the constitutional agitation in different parts of the Odia-speaking territories had started. It aroused political consciousness of the people to a great extent and that paved the way for the establishment of a new

organization in the province to spearhead their demands before the British authorities. Early in 1903 a small group of enthusiastic Odias assembled in the town of Rambha on the shore of Chilka lake. Encouraged by the Raja of Khallikote they decided to establish the Ganjam Jatiya Samiti. Its first sitting was held in April 1903 in the town of Berhampur and was attended by many representatives from the Odia-Speaking tracts in different provinces. Such a common gathering gave expression to the desire of the Odia-speaking people for amalgamation of their areas under a single administration.

Finally, the representatives of the Odia-speaking tracts of Madras, the Central Provinces and Bengal met in a conference at Cuttack on 30-31 December 1903. The Utkal Union Conference, whose name itself implies the idea of the people's union, met in the town of Cuttack. It was the historic gathering of Utkal Sammilani which met amidst unprecedented enthusiasm and spearheaded the Odia Movement till formation of a separate province in 1936. Representatives from Midnapur, Sambalpur and Ganjam flocked in hundreds. The Feudatory Chiefs Talcher, Keonjhar, Athagarh and Dhenkanal attended. Hundreds of Government servants also attended the conference. The Maharaja of Mayurbhanj, the Premier Feudatory State in Odisha, presided over the deliberations. It was truly a national assembly and the first resolution moved by the Chief of Keonjhar relates to the administrative union of the Odia tracts. Then agitation for the creation of a separate

State incorporating the outlying Odia-speaking territories continued with vigour after 1905. The Utkal Sammilani or Utkal Union Conference held its annual sessions at different places and reiterated the demand in unequivocal terms. The sentiments of the people were voiced strong terms at the 8<sup>th</sup> annual session of the Utkal Union Conference held at Berhampur on 6-7 April 1912. The new province of Bihar and Odisha came into existence on 1 April 1912 and Sir C. S. Bayley was its first Lieutenant-Governor.

In the meantime, the Odias of Ganjam agitated vehemently for the transfer of their district to Odisha in the face of opposition from the Telegus. Some Zamindars of South Odisha such as the Raja of Manjusa, the Raja of Chikiti, the Raja of Khallikote and the Raja of Dharakote played active parts in the agitation. In 1909, a deputation of the Odia Samaj of Ganjam waited upon the Governor of Madras, and pressed upon him for the transfer of Ganjam and Vizagpatnam to Odisha. In December 1913, the Odia Samaj and Land Holders association of Ganjam presented memorandum to Lord Pentland, the Governor of Madras, on the occasion of his visit to Berhampur. In the 10<sup>th</sup> session of the Utkal Sammilani, held at Parlakhemundi on 26 and 27 December 1914, the Raja of Manjusa made an eloquent speech demanding the unification of Odia speaking territories. He said, "Can you say that I am alive if you cut off my head and keep it at ranchi, throw my trunk in the Bay of Bengal and keep up my legs in the Madras hospital?"



This is the condition of our Utkal Mata....” In the 12<sup>th</sup> session of Utkal Sammilani, held in December 1916 at Balasore, a Committee of seven members was constituted. This Committee prepared memorandum and presented it to E. S. Mantague, the Secretary of State for India and Lord Chelmsford, the Viceroy at Calcutta on 11 December 1917. The memorandum demanded for the Odia-speaking tracts. But the recommendation of Montague and Chelmsford disappointed the Odia nationalists. Towards the close of 1924, the Government of India appointed a committee, consisting of C. L. Philip (the political agent of Odisha state) and A. C. Duff (the collector of Bellary district, Madras Presidency) to assess the Ganjam people’s views regarding the transfer of their district to Odisha. On this occasion, the Odias of South Odisha held a number of meetings to demonstrate their desire for merger with Odisha.

The Congress leaders of Odisha raised question of amalgamation of Odia tracts through the All Parties Conference which consisted of the Congress and other parties which had boycotted the Statutory Commission. In its meeting, held at Lucknow on 30 August 1928, the All Parties Conference recommended that a separate Odisha province might be created. The Odisha branch of All-Parties Conference sent a memorandum to the All Parties National Convention, which was being held at Calcutta on 22 December 1928, for the creation of province of Odisha. In November 1930, the Round Table Conference was held by the British Government in London to hold

discussion with representative Indians on the Constitutional reform. Shri Krushna Chandra Gajapati, the Maharaja of Parlakhemundi was nominated to the Conference by the British Government. He raised the question of the amalgamation of Odia tracts in the Round Table Conference. In September 1931, the Government appointed the Odisha Boundary Committee to demarcate the boundary of the proposed province. The O’Donnell Committee’s report caused disappointment to the Odia because it had excluded some Odia-speaking tracts from the proposed province.

Fortunately for the Raja of Parlakhemundi, and the people of Odisha, the Joint Select Committee that was appointed on the Government of India Bill under the Chairmanship of Lord Linlithgow gave a sympathetic hearing to the raja of Parlakhemundi and recommended the addition of the territories to the proposed province of the White paper. Consequently the area of Odisha was increased. On the basis of Joint Select Committees’ report, provision was made in the Government of India Act 1935 for the creation of the new state of Odisha. According to His Majesty, the King Emperor’s Order-in-Council, dated 3 March 1936, the province was inaugurated on 1 April 1936. The same day, Sir John Austin Hubback took oath as the first Governor of modern Odisha.

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## Kalinga War: The New Insights

**Dr. Indramani Jena**  
**Prof. Bijoyini Mohanty**

It is genuinely astonishing to delve into the archaeological and historical significance of the Kalinga War, especially considering its connection to our ancient homeland, Kalinga, which existed nearly over 25 centuries when our ancestors, maybe 100 generations older, rolled the earth. This dark chapter in history, highlighted by the remarkable Rock Edict XIII of Emperor Ashoka, remained largely obscure until its decipherment in 1835. The sheer brutality and toll of this notorious war have earned it a place as one of the most ferocious conflicts in international history.

Numerous stories and narratives have been spun around Emperor Ashok, with over 1600 books published. However, many of these accounts vary widely in accuracy and credibility, often bordering on the fictitious. In the absence of concrete evidence, the rock inscriptions meticulously carved by the remorseful emperor serve as intriguing relics, inviting readers to interpret their meaning.

Human minds exhibit an ‘iceberg phenomenon’ when confronted with tragic events rooted in scientific discovery, supernatural occurrences, or the decipherment of ancient inscriptions. Such was the case in nineteenth-century India and Odisha, where archaeological excavations unveiled the transformation impact of a colossal war, turning a ruthless conqueror into a prophet of peace and harmony.

The discrepancy between historical accounts and tangible evidence underscores the complexity of unravelling the truth from the fog of time. While scholars dissect events through the lens of expertise, locals possess a unique perspective, embracing the potentialities of their region’s past.

Despite the darkness shrouding ancient tales, historians meticulously analyze them, poets eloquently narrate, and locals internalize these narratives through the lens of accepted possibilities. The legacy of the Kalinga War serves as a sobering

reminder of humanity's capacity for brutality and redemption.

### **The Realities of Kalinga War:**

The realities surrounding the Kalinga War remain shrouded in speculation and interpretation, particularly regarding the figures inscribed in Ashok's XIIIth Rock Edict. While some readers view these numbers as symbolic and doubt their accuracy, the Proclamation's placement outside of Kalinga and the evidence of remorse of a once-cruel emperor suggest a grim reality underlying the possibility of a devastating conflict. The presence of Mauryan relics at sites like Dhauri, Bhubaneswar and, Jaugada, Berhampur, Ganjam, both within the ambit of ancient Kalinga and modern Odisha, further corroborate the notion of Mauryan invasion and occupation of Kalinga.

Regarding the figures inscribed in the Rock Edict, some speculate it could have been a strategic move, perhaps influenced by Buddhist advisors seeking to transform a violent and aggressive king into a more humane figure. Alternatively, it's possible that Ashok, like many rulers of his time, used rounded high figures for estimation purposes. Without modern methods of counting casualties, the precise numbers of fatalities during the 261 B.C. conflict are subject to interpretation. The war likely began relatively minor conflict before escalating into full-scale genocide, a testament to the volatility of ancient warfare and the quest for regional hegemony that characterized the Mauryan era.

### **The Horrors of Kalinga War:**

The horrors of the Kalinga War cast a long shadow over Ashok's reign, prompting him to conceal his remorse and avoid causing further grief by carefully selecting the location of his 13th Rock Edict. This proclamation, written in *Kalsi* script and placed far from Kalinga, reflected Ashok's attempt to distance himself from the atrocities committed during the war. Five years after the conflict in 256 B.C., the emperor acknowledged the suffering inflicted upon Brahmins, ascetics, and other morally upright subjects, indicating the war's profound impact on the general population. Even those not directly involved in the conflict, such as saints and honest individuals, were deeply affected by the tragedy, evoking Ashok's sympathy for their distress.

Curiously, Ashok's edict remains silent in detailing any specific measure undertaken by the administration to address the plight of captured Kalingans or provide immediate assistance to the families affected by the war's devastation. Instead, it highlights the emperor's extensive efforts to promote the principles of '*Dharma Vijay*' through the meticulous expansion of Rock Edicts and Pillars. This intensive propaganda campaign, undertaken in the aftermath of the Kalinga War, suggests a concerted effort to rehabilitate Ashok's image and legitimize his rule by emphasizing his commitment to righteousness and more governance. However, his use of the divine epithet

‘Beloved of the Gods’ and his repeated invocation of the term ‘*Dhamma*’ may also reflect a desperate attempt to atone for his unforgivable sins and mitigate the guilt stemming from his past actions.



Perhaps most perplexing is Ashok’s stern warning against disobedience from hill tribes despite his purportedly forgiving attitude. The admonition hints at a hidden power within Kalinga’s hinterlands, represented by the resilient Atavika kingdom and its formidable archers. The ambiguous nature of this warning underscores the complex dynamics between the Magadhan forces and the tribal communities, raising questions about the frequency of guerrilla attacks and the extent of Kalinga’s resistance against Ashok’s rule. For descendants of Kalinga, such as ourselves, this enigmatic statement serves as a poignant reminder of our shared history’s enduring legacy and resilience.

### The Then Kalinga:

The historical significance of ancient Kalinga extends far beyond its military prowess, as evidenced by its thriving maritime trade and sophisticated industries. Modern AI analysis reveals the extensive maritime activities that once characterized the Kalinga and Indian oceans, facilitating trade routes to the fabled Golden Island or ‘*Suvarna Dwipa*.’ Kalinga exports, including silk, agricultural produce, and forest products, along with its innovative small-scale industries producing goods from stone, wood, ivory and horn, contributed to its economic prosperity. Notably, Kalinga played a crucial role in the transition of the gold trade from the overland Silk Route to maritime. Kalinga’s role of transporting the costly metal via sea route from Sumatra island by ‘*Kalinga Boita*’ through Kalingan harbours ships was somehow unacceptable by its neighbours.

In the pre-Mauryan period, Kalinga emerged as a maritime powerhouse with a distinctive landscape, setting it apart from other regions of India. Unlike imperialistic ambitions, Kalinga prioritized safeguarding its boundaries against neighbouring aggressors, maintaining a relatively low population density that was well-suited to its geographical features. Its dense forests, extensive river basins, and rugged terrain served as natural barriers, deterring invaders and ensuring a degree of isolation conducive to economic pursuits. Its king was well-guarded by adequate cavalry, elephantry, and infantry, had been mentioned by

Megasthenes, the Macedonian ambassador to Chandragupta Maurya's Court.

Notably, Kalinga's elephant trade with Magadha predates the compilation of Chanakya's *Arthashastra*, highlighting the region's early recognition for its formidable war elephants. This trade relationship underscores Kalinga's strategic importance in the broader geopolitical landscape of ancient India.



The imperial ambitions of Magadha, particularly its desire for maritime expansion, may have been driven in part by its aspiration to establish a foothold on the sea and access the riches of *Suvarna Dwipa*. This historical pattern of maritime ambition echoes into later periods, such as during the British colonial era when the amalgamation of Bihar and Orissa raised discussion on the floor of the British Parliament regarding Bihar's potential access to the sea that Bihar is deprived of.

These parallels highlight the enduring legacy of maritime aspirations and the intricate interplay of geography, trade, and geopolitics throughout history.

### **Kalinga Jina, Tansuli and Tauryatrika of Hathigumpha Inscription:**

The installation of Kalinga Jina by the Jain King of Kalinga is a glorious chapter in Kalinga's history. Magadhan king confiscated the deity mentioned as '*Nandaraja*'. Again, the '*Nandaraja*' made philanthropic attempts to develop irrigation projects in Kalinga through Tansuli, referred to as Hathigumpha. The inscription sometimes confuses whether the invader is a king of the Nanda dynasty.

Furthermore, the Hathigumpha Inscription reveals Ashok's restrictions on specific social and cultural activities in Kalinga. The prohibition of *Samaja* (social gathering) and *Utsaba* (festivals) is interpreted as a measure to curb animal slaughter, reflecting Ashok's commitment to promoting non-violence and compassion. This decree would have had significant implications for the cultural practices of the region, including the Tauryatrika dance, song and acrobatics that were likely associated with these gatherings and festivities.

By imposing such restrictions, Ashoka sought to instil his principles of ahimsa (non-violence) and dharma (righteousness) in the populace, aligning with his broader vision of creating a more ethical and harmonious society. The

Hathigumpha Inscription thus provides valuable insights into Mauryan administration with Ashok's governance strategies in Kalinga years back when it was sculptured.

### **Solidarity of Kalinga with Unique Leadership Facing Kalinga War:**

The Solidarity of Kalinga in the face of the Kalinga War, as depicted in Ashok's 13th Rock Edict, resonates deeply with the people of Kalinga. The deliberate exclusion of Dhauli and Jaugada, two significant sites in modern-day Odisha, from disseminating edict matters suggests Ashok's awareness of the potential impact of his words on the local population. Instead, the mandate was displayed to distant locations like Sahbazgarhi, Kandahar, Girnar, and Vaisali, ensuring its message reached areas beyond Kalinga's immediate vicinity.

For the people of Odisha, the deciphered statements evoke images of catastrophic events akin to the modern-day horrors of Hiroshima or Nagasaki, but with the added dimension of courageous resistance against overwhelming imperial aggression. The underlying causes of the war may have been rooted in imperialism, perhaps targeting Kalinga's flourishing naval bases and maritime achievements.

Despite the absence of a named monarch in the historical record, the presence of the Jain king in Kalinga both before and after the war suggests a tradition of governance and leadership in the region. It is plausible to consider the role of a Jain

Kalingadhipati, who may have either abdicated the throne to pursue an ascetic life or remained hidden in the inaccessible regions of Kalinga, such as the Atavika territories to the west. Such an arrangement does not depend upon the prestige and leadership of the king; it is the deliberate reaction of the Kalinga defence line anticipating danger from the mighty attack of the third Maurya monarch to the head of the kingdom.

Without the central monarch, the people of Kalinga likely rallied around their shared devotion to their land and deity, much like their reverence for Lord Jagannath. Guided by the council of ministers and military leaders, they would have been determined to defend Kalinga at all costs, prepared to sacrifice their lives to preserve their homeland and way of life.

The present Google search mentions the name of King Ananta Padmanav, who was the ruler of Toshali during the Kalinga War. The mention of King Ananta Padmanav as the ruler of Toshali during the Kalinga War, attributed to a famous poem composed by a prominent poet, a prominent political leader and the lady Chief Minister of Odisha and a native of the Dhauli area, the presumed Kalinga War battlefield. Her poem offers an intriguing insight into this period's historical narrative. While historical texts and archaeological records may not provide a definitive answer to the identity of the Toshali King, such poetic interpretations and creative work often play a significant role in shaping collective memory and understanding.

Without concrete historical evidence, literary works and oral traditions can fill the gaps, offering interpretations and perspectives that resonate with the cultural and emotional context of the community. The mention of King Ananta Padmanav in the poem reflects the desire to attribute agency and identity to the figures involved in significant historical events like the Kalinga War.

While the historical accuracy of such references may be debated, they nonetheless contribute to the rich tapestry of folklore, mythology, and collective memory that informs our understanding of the past. Through creative expression, individuals and communities seek to connect with and make sense of their history, infusing it with meaning and significance that transcends factual accounts.

Thus, the mention of King Ananta Padmanav in the context of the Kalinga War serves as a reminder of the enduring impact of historical events on cultural identity and the importance of storytelling in preserving and interpreting the past.

**\*[This text is prepared from the unpublished research work of Professor Bijoyini Mohanty's drafts of 'Administration of Kalinga Empire']**

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## A Legendary Hero : Bhagat Singh

Dr. Pradeep Kumar Swain

“One day an innocent boy of three was out for a walk with his father and an elderly man. Chatting they walked on and went beyond the village. The elders were walking along the edge of a field. Not hearing the footsteps of the boy, the father looked back. The boy was sitting on the ground and seemed to be planting something. The father became curious.

“What are you doing?” said he.

“Look, father, I shall grow guns all over the field”, was the innocent reply of the boy. Both the elders were struck with wonder at the little boy’s words. The boy was Bhagat Singh who later fought like a hero for India’s freedom and sacrificed his life.”

Bhagat Singh was born in a Sikh family of farmers in the village of Banga of Layalpur district of the then Punjab on September 27th of 1907. His family stood for patriotism, reforms and freedom of the country. His grandfather Arjun Singh was attracted to Arya Samaj, a reformist

movement of Hinduism, and took keen interest in the proceedings of the Indian National Congress. Bhagat Singh’s father Kishen Singh and uncle Ajit Singh were members of Ghadar Party, founded in the US to root out British rule from India. Both his father and uncle were jailed for alleged anti-British activities. Ajit Singh had 22 cases against him and was forced to flee to Iran. Thereafter, he went to Turkey, Austria, Germany and finally to Brazil to escape Kalapani punishment for his revolutionary activities in India.

Young Bhagat Singh was brought up in a politically charged state of Punjab which was left with a seething memory of the Jallianwala Bagh massacre wherein more than 400 innocent people were killed mercilessly and thousands injured (1919). He was so moved by the episode that he went to this spot to collect soil from the park of Jallianwala (Bagh) in his lunch box, sanctified by the blood of the innocent and kept it as a memento for life, he was then just fourteen years old.

He was studying at the National College founded by Lala Lajpat Rai, a great revolutionary leader and reformist. To avoid early marriage, he ran away from home and became a member of the youth organization, Noujawan Bharat Sabha. He met Chandra Shekhar Sharma (Azad), BK Dutt and other revolutionaries there. They used to print handouts and newspapers in secret and spread political awareness in India through Urdu, Punjabi and English language. These were the banned activities in India at that time and punishable with imprisonment.

Anti-British feelings were spreading; Indians wanted a representation in running the administration of their country to which British reciprocated only on paper. Noticing the spread of restlessness, the British Government appointed a commission under the leadership of Sir John Simon in 1928 to report on political happenings. There was not a single Indian member in this commission and all the political parties decided to boycott the commission when it planned to visit major cities of India.

In Lahore, Lala Lajpat Rai and Pandit Madan Mohan Malaviya decided to protest to the commission in open. It was a silent protest march, yet the police chief Scott had banned meetings and processions. Thousands joined without giving room for any untoward incident. Even then, Scott got Lala Lajpat Rai beaten severely with a lathi on the head several times that caused the untimely death of the great leader.

Bhagat Singh, an eye witness to the morbid scene, vowed to take revenge and

with the help of Azad, Rajguru and Sukhadev plotted to kill Scott. Unfortunately he killed Saunders, a junior officer-by a mistaken identity. He had to flee from Lahore to escape death punishment.

Instead of finding the root cause for discontent among the Indians, the British Government took more repressive measures. Under the Defence of India Act, it gave more power to the police to arrest persons to stop processions with suspicious movements and actions. The act, brought in the council, was defeated by one vote. Even then, it was to be passed in the form of an ordinance in the 'interest of the public.' No doubt, the British were keen to arrest all the leaders who opposed its arbitrary actions and Bhagat Singh, who was in hiding, volunteered to throw a bomb in the central assembly hall where the meeting to pass the ordinance was being held. It was a carefully laid out plot, not to cause death or injury but to draw the attention of the government that the modes of its suppression could no more be tolerated. It was agreed that Bhagat Singh and Batukeshwar Dutt would court arrest after throwing the bomb.

Bhagat Singh and Dutt threw handouts and bombed in the corridor not to cause injury and courted arrest after shouting slogans Inquilab Zindabad (Long Live, Revolution!)

The killers of Saunders were meanwhile identified by the treachery of Bhagat Singh's friends who became "Approvers." Bhagat Singh thought the court

would be a proper venue to get publicity for the cause of freedom and did not want to disown the crime. There he gave a fiery statement giving reasons for killing which was symbolic of freedom struggle. He wanted to be shot like a soldier and not die at the gallows. But, his plea was rejected and he was hanged on the 23rd March, 1931. He was then just 24.

Bhagat Singh became a legendary hero for the masses. Innumerable songs

were composed about him and the youth throughout the country made him their ideal. He became a symbol of bravery and a goal to free India.

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# Prospects and Ethics of Artificial Intelligence; It's Present & Future

Dr. Prem Chand Mohanty

In an attempt to make machines as intelligent as humans some notable systems were developed by computer scientists. The first of it's kind was Theseus built by Claude Shannon in the year 1950. It was a remote controlled mouse that was able to find its way out of a labyrinth and could remember its course. The intelligence demonstrated by computers in making decisions in a human like way with the ability to iteratively improve themselves. While weak AI systems are built to simulate human intelligence, strong AI is built to copy human intelligence. A subset of machine learning that mimics the neurons in the human brain and how they signal to one another is called the neural network which pass data through interconnected layers of nodes, until the network creates the output. Neural networks are at the heart of deep learning algorithms. Basing upon the probability of words to make sense AI

**So before accepting AI blindly an ethical code of conduct must be framed for its healthy operation.**

decides the order of words in a sentence. Within 7 decades the capabilities of AI to recognise language ,hand writing and image have been developed. Even the systems have become steadily more capable to beat humans in all domains. These systems have also become capable of generating images over the last 9 yrs. Making it more impressive as compared to earlier systems of making images of faces now it's possible to promptly generate text to image. For example Open AI has devised GPT-3( Generative pre-trained transformer ) to interpret users' requests by which in beta form it can construct 50 images for free. A common word in AI is Deep Learning which means a step up of neural network which is clever enough to elude the programmer, the data passes through a no of layers of processing before issuing a response. ChatGPT and stable Diffusion use Deep

Learning techniques. GPT-3 is Open-AI's 3<sup>rd</sup> generation language model and forerunner of ChatGPT. The deep learning model used by Google is called Dreambooth which can fine tune images created by diffusion. It can even generate new pictures of specific people based on their existing photos. A method for creating images from texts to image tools is called diffusion model which are trained to reverse the diffusion process on natural images start with a random noise image and then generate new natural images. Another image editing app for iOS and Android was introduced in 2018 in the name of Lensa which had gone viral and stirred controversy. There are browser extensions such as Chat GPT for Google and Tweet GPT for tweeter. Similarly there are some other apps like Canva Docs, Power Point designer and Presenter coach which are powered by AI. After the inception of GPT by American Company OpenAI on November 30, 2022 millions have used it to generate a variety of matter such as short stories, PhD theses, Term papers, film scripts, menus and many more. The meaning of term Transformer is a neural network that studies the overall relationship between all the parts of a data sequence. Since past few years AI is prevalent in apps, tools & devices that are used every day. A web publishing platform stck.me has devised a service called Picto for writers to create book covers, photos and illustrations using text prompts seamlessly. Generative AI can help bring the stories to life for writers and their fans.

In today's world of art there is a palette of algorithms at work beside artists.

In August 2021 Terrain.art (an organisation) unveiled India's first AI non fungible token art exhibition which explored the relationship between AI & human creativity. Here what AI does is that it uses algorithms to predict behaviour through patterns. So the more patterns give a machine for a painting, the greater precision with which the requests are processed to get a final outcome. Generative art refers to any art that in whole or in part has been created with the use of an autonomous system. It is an umbrella term for computer art. An artist sometimes extracts attributes from base image and reference image, so the resulting image has some but not all the characteristics of both. It is called Neural art. Now a days artists are using AI to reimagine and reinterpret alternate realities of common natural subjects and themes that might be considered passé in mainstream art today. AI art is collaborative in nature where human artist decides what needs to be done but the machine has moved beyond. In order to catch poachers in deep forests a new type of camera called Trailguard AI camera-alert system is being used which are slim devices that can be set up within the foliage of trees. Shaped like a pen, 13.8cm long and 1.4 cm wide, it is wired to another communications unit, the size of a note pad. The system has software that can be instructed to take pictures of specific species of interest. By these researchers and forest officials will receive notifications of the concerned animals between 30-42 seconds after detection.

By using ChatGPT it is possible to make money in a variety of ways such as

Content writing, You tube automation, Affiliate Marketing, Creating Software tools, Describing /Reviewing products etc. A blogger or Free lancer or content creator can quickly create and distribute contents by using this tool. Writing video scripts becomes easier for those You Tubers who want to make money out of it. It provides right content to edge past competitors while marketing on Quora or other platforms. It can read and write codes and help debugging those persons who are not familiar with programming or coding. For those looking for bite sized content, it is not easy to generate relevant materials but this can be achieved by GPT. It possesses a sense of humour which is evident from the following conversation. A journalist asked it to tell an IT joke, it replied Why was the computer cold? Because it left it's windows open. One thing ChatGPT can search but can't research. Because when a research work is done new ideas are sought and knitted in such a way which reflects the thoughts and perspectives of the researcher. It is always original, unique and fresh. Research becomes valueless if it only summarises known information just as ChatGPT. It can only put together known information but can't ask new questions or answer them. Its limits are the limits of the team feeding the information on the platform.

Experts opine that AI systems can behave in unpredictable and dangerous ways. On May 30 Centre for AI safety (CAIS) issued a terse statement aimed at opening the discussion around possible existential risks arising out of AI. It aims

to mitigate existential risks arising out of AI systems that could affect society at large. It also does research and publishes papers on AI safety and also provides funding and technical infrastructures to other researchers to run and train their LLM's in the field of AI safety. In this context, Open AI's co-founder urged law makers to intervene and place safeguards to ensure the safety of AI systems particularly in software licensing and testing requirements. AI systems must be transparent so that people know they are interacting with AI when they use that technology. An expert named Prof. Marcus said "we have built machines that are like bulls in a China shop-powerful, reckless and difficult to control. Mr Geoffrey Hinton (Godfather of AI) who pioneered research on deep learning and neural networks resigned from Google saying he regretted his life's work on developing AI systems. Machine learning and AI systems are being deployed in high stakes environments. And their decision making capabilities are becoming cause of concern. How the consequences are dangerous can be known from the statement of Colonel Tucker Hamilton of Royal Aeronautical society. In one of our simulation an AI enabled military drone was programmed to identify an enemy's surface to air missile. Once it spotted the site, a human agent was supposed to sign off on the strike. But instead of listening to the human command the AI decided to blow up the site. Not just in military but AI & ML are used in diverse fields like medical science, car industries, automated driving systems etc where safe deploying of AI

systems is vital. Experts also suggest audit of AI systems that can't be executed unless a commonly accepted standard or threshold is formulated for an independent external audit team to review. Big tech companies are also antipathic towards people questioning their AI systems. Google fired some of its top ethical researchers for raising issues of bias in its algorithm. In March Microsoft laid off its entire ethics and society team within its AI division as part of its recent retrenchment.

Generative AI is like the proverbial genie out of the bottle. Within one year chatbots like ChatGPT, Bard, Claude and Pi have shown what gen.AI powered applications can do. Most of the output generated by AI are out of copyright protection. And according to U.S Copyright office there will be no copyright over these AI developed works when it is not authored by a human. As per EU AI act 2 points are important. 1) The transparency related obligations in terms of generative AI 2) Suggestions to provide at least a short summary of the training materials used, which is important from a copyright perspective. In the education sector, there is no control on how gen.AI tools are used by students. Are there any age restrictions? Content restrictions? And if all platforms have some age restrictions, are they enforced? The answer is no. These tools have extreme long term negative effects on critical thinking and the creative capacities of students. Gen.AI can compound some existing online threats like the use of deepfakes for disinformation campaigns.

There are various ways in which cheaper and more accessible Gen.AI models can compound issues that we're struggling to regulate, especially in cyber-security and online harms.

AI & behavioural Economics-Behavioural Economics-is the study of human decision making in an economic context. It is evident that humans are emotional beings and therefore prone to make sub-optimal decisions. However AI can contribute to increasing human well being with better decision making. Data driven choices can help organisations optimise their processes and achieve greater efficiency. AI has already revolutionised some decision making processes by automating and accelerating complex tasks leading to better and more accurate decisions. At the end of the day, organisations using AI benefit from improved customer understanding and more informed choices. According to a study by American Defence Advanced Research Project AI derived algorithmic expertise can cater to decision making in situations where the benefit of human expertise is not available Interactions between humans and AI will necessitate collaboration and cooperation. But these machines operate through complex algorithms and the results they generate are not always predictable. So human -AI interaction goes beyond mere mechanical or deductive coordination and flexibility is needed for nuanced decision making. Transparency is an essential condition for AI. So is the awareness of AI

limitations. Biases should be addressed to ensure equitable AI driven decisions.

Long term risks of AI –Before the digital age, sharing one’s personal details openly was risk free. But in the age of cyber attacks and data breaches, the same act is fraught with dangers. The short term risks may be more tangible such as ensuring that an AI system doesn’t malfunction in its day to day tasks. But long term risks may grapple with broader existential questions about AI’s role in society and its implications for humanity. Recently more than 350 AI professionals have raised concerns over the potential risks posed by AI technology. AI sceptics fear AI to be potential existential risks, viewing it as more than just a tool-as a possible catalyst for dire outcomes, possibly leading to extinction. The construction of human level AI is capable of overpowering human cognitive tasks. Such AIs might undergo rapid self-improvement, culminating in a super intelligence that far outpaces human intellect. The potential of this super intelligence acting on misaligned, corrupt or malicious goals presents dire consequences. The rapid pace of AI advancements, spurred by market pressures often eclipses safety considerations. The lack of a unified approach to AI regulation can be detrimental to the foundational objective of AI governance. There is a conspicuous absence of collaboration and cohesive action at the international level. The unregulated progress can lead to the devpt. of AI systems that may be misaligned with global ethical standards, creating

unforeseen and potentially irreversible consequences. Addressing the conglomeration of technology with warfare amplifies long term risks. Nations must delineate where AI deployment is unacceptable and enforce clear norms for its role in warfare. AI systems are generated by humans to augment, replicate or replace human intelligence and such systems are rapidly becoming integral to product devpt. and organisational functioning. AI systems are generated using large amounts of datas. But if the data is faulty the AI will produce harmful and unfair results. So it becomes imperative to frame the ethics of human – AI interaction. Govt. agencies and policy makers are using AI powered tools to analyze complex patterns, forecast future scenarios and provide more informed recommendations. But the adoption of AI in decision making is not without its potential pitfalls. The biases in data perceived by the developers can lead to skewed or unjust outcomes and represent a significant challenge in the integration of AI into governance.

If decisions of humans are delegated to algorithms, it could threaten the capacity for moral reasoning. The person using AI could be considered to be abdicating its moral responsibility. Ethics are complex. Programming ethics into AI is even more complex. Because ethics operates in a complex domain with some ill defined legal moves. Today many machine predictions are deployed to assist in decision where a human decision maker retains the ultimate decision making authority. Governments



usually deliver some rudimentary decisions to the machine. But what will happen if the final opinion becomes immoral or unethical and who'll be held responsible? AI system or its developer or the official who relied on the AI's data. The system itself is unpunishable as it lacks the ability to experience suffering or bear guilt. How would the developer or the official then be made accountable? So before accepting AI blindly an ethical code of conduct must be framed for its healthy operation.

Artificial Intelligence is here to stay. It has the potentiality to fundamentally change the way in which we work. AI can by assimilation of data from multifarious online sources, present far more powerful

and seemingly creative solutions than any human can. It is a greater force of either good or evil or both still globally it needs to be regulated. Incorporation of ethical considerations and insights into the development and deployment of AI technologies will pave the way for a promising future where AI serves humanity responsibly and ethically. An ethics will justify and assure that these machines don't take away human autonomy.

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# Importance of Ayurveda

**Dr. Dinabandhu Moharana**

The cardinal aim of Ayurveda is to restore the individual balance between mind, body and spirit. For most of people, Ayurveda is just another way of treating illnesses with medicines that are made up of herbs. Ayurveda is the Upaveda (sub or near to Veda) of Atharva Veda. It's also called Panchama Veda (5th Veda). The word Ayurveda is made of two words Ayu and Veda. The word Ayu doesn't mean just life, instead it means –the union of Shareera (body), Indriya (sense organs), Satva (mind) and Atma (soul). The Veda means knowledge. Hence, Ayurveda means the knowledge of the union of body, sense organs, mind and soul.

Ayurveda Shastra aims at keeping a healthy person healthy and managing or curing diseases (mind, body or both) that manifest in a person.

Basic and simple way of Ayurveda Benefits in Modern world is that one is encouraged to love oneself. It offers a nurturing approach to being healthy. One

gets a greater understanding of his/her place in life. We learn to clear up energy. It provides a full circle philosophy and better health at a cellular level. Toxins in the body are reduced. Stronger digestion. It increases potential and immunity power of the body. It prevents from disorder. Once we understand our Prakruti/ our body time many things clear about food, life style for being healthier, happier and long life.

Ayurvedic medicines are widely used to treat several physical as well as psychological conditions like Arthritis, obesity, hypertension, heart disease, nervous disorder, colds, colitis, constipation, skin problem and ulcer etc. They are non-toxic and non-invasive. Ayurvedic medicines can be safely used with other conventional medicines. Ayurvedic medicine aims at maintaining and restoring body's own capability to have balance and fight with ailments. Since Ayurvedic medicines have natural ingredients, they do not have any side effects. These medicines

make the person's body and mind disease free.

Ayurvedic practitioners claim that with Ayurvedic medicines one can easily get relief from stress and problem in metabolism, acne, allergies, asthma, anxiety, chronic fatigue syndrome, depression, diabetes, flu and immune problems. What Ayurveda makes unique is that it works for the system not for the symptoms and when root cause of problem starts to get cured other symptoms getting cured as well. And the approach of Ayurveda is very much holistic that deeply explain about the body, mind and soul.

Ideas about the relationships among people, their health, and the universe form the basis for how Ayurvedic practitioners think about problems that affect health. Ayurvedic medicine holds that: All things in the universe (both living and non-living) are joined together. Every human being contains elements that can be found in the universe. Health will be good if one's mind and body are in harmony, and one's interaction with the universe is natural and wholesome. Disease arises when a person is out of harmony with the universe. Disruptions can be physical, emotional, spiritual, or a combination of these.

Ayurveda is the system of medicine that evolved in India with a rationale logical foundation and it has survived as a distinct entity from remote antiquity to the present day. The fundamentals on which the Ayurvedic system is based are essentially

true for all times and do not change from age to age. The origin of Ayurveda is attributed to Atharva Veda where mention is made about several diseases with their treatments. Later, from the 6<sup>th</sup> Century BC to 7<sup>th</sup> Century AD there was systematic development of the science and it is called Samhita period, when a number of classical works were produced by several authors and during this period there is evidence of organized medical care.

The Indian system of medicine, Ayurveda, was evolved as a system with a rational and logical foundation. It has to be admitted that after the 8<sup>th</sup> century A.D no book of outstanding merit was written and the literature from then on upto about the 16<sup>th</sup> Century consisted mainly of commentaries on the original texts of Ayurveda. The last perhaps among the original books was Bhava Prakash.

It is said that the originators of the Ayurvedic system of medicine did not base their practices on the experimental method if by this it is meant that there are no record of studies in anatomy, physiology, pathology and pharmacology, the criticism is not without meaning. But the development of surgery, the classifications of disease, the observations on signs and symptoms, prognosis and the descriptions of the nature, toxicity and therapeutic value of drugs as described in the literature all clearly demonstrate high level of knowledge which would not have been possible for men without the scientific approach.

References to medicine are found in the earliest texts including the Vedas. The legendary version of the origin of the Ayurvedic system is that Brahma reminded it to Prajapati, who handed it down to Atreya Punarvasu etc. In the Rig Veda there are reference to the first divine physician Rudra and of how the Aswini Kumaras cured Chyavana of senility. Atharva Veda is considered to have originated later than the Rig Veda, and contains a description of diseases and the cure of them.

The tradition of medical knowledge is further carried during the period of the puranas. References to drugs, diseases and health care are to be found in the epics. Thus we see in the Ramayana, that expert physicians attended on kings and they were capable of preserving dead bodies. In the Mahabharata there are references to surgeons attending on the wounded and the disabled with all the appliances and equipments in the battle field.

There came the period when systematic development was said to have taken place. This era is associated with a few illustrious names, the first of whom is Agnivesa. The Samhita written by him which is classic which has survived to this day has been made available to the world by Charaka.

It is not known when Agnivesa lived. The book is written partly in verse and partly in prose and the language bears a resemblance to that of the Brahmanas. The text is the record of teaching by Atreya Punarvasu to his students and Agnivesa was

one of them. Charaka is believed to have flourished in the sixth century B.C.

Equal in importance to the Charaka Samhita is another treatise called Susruta Samhita. This work deals with surgical diseases, and diseases of the special organs such as the eye, ear etc. Just as by tradition Charaka Samhita is ascribed to Atreya Punarvasu. Susruta Samhita is ascribed to Dhanvantari. Susruta has recorded the precepts of this puranic personage Dhanvantari, just as Agnivesa has recorded those of Atreya Punarvasu. The Dhanvantari of puranas is said to be one of the avatars of Vishnu. A historical personage by name Divodasa is also known as Dhanvantari, being an incarnation of Dhanvantari of Puranas. It is more likely that the name of Dhanvantari was given to Divodasa of Kasi who was a celebrated physician. Susruta Samhita like the Samhita of Agnivesa, has undergone recensions.

The age of Susruta is not known. It is generally believed that Susruta lived sometime around 600 B.C. Susruta Samhita could have undergone several revisions, the last of which was attributed to Nagarjuna. Rajatarangini places him in the 3<sup>rd</sup> century B.C. The identity of Nagarjuna is also shrouded in antiquity. There appears to have been a number of physicians and alchemists with the name Nagarjuna.

There appeared another classical work, Vagbhata's Ashtanga Samgraha. Vagbhata probably belonged to the second century A.D. He has summarized both

Charaka and Susruta and brought both medical and surgical diseases within the compass of a single treatise. The Astanga Samgraha deals with general medicines, paediatrics, mental diseases, diseases of special sense organs, surgery, toxicology, gerontology and aphrodisiac. Ayurveda is the only ancient science where care of ole is described.

There is another important work, similar in the name and content called Astanga Hridaya. It is written entirely in verse and its author also bears the name Vagbhata. The opinion is held by many that, both Astanga Samgraha and Astanga Hridaya are the work of one and the same person. There were also Ayurvedic experts like Madhavakara, Chakradatta, Sarangadhara and Bhava Misra. Madhavakara (8<sup>th</sup> Century A.D.) comes first in the chronological order. He has written Nidana which deals with aetiology, diagnosis, pathology and prognosis of diseases. The work is not original but a compilation from various earlier texts.

Chakrapanidatta was a brilliant commentator of both Charaka Samhita and portions of Susruta Samhita or Chikitsa Sara Samgraha. It is a treatise on treatment which is widely read even to this day. He has also written a book on material medica with the title Dravya Guna Samgraha. Chakrapanidatta belongs to the middle of the 11<sup>th</sup> Century A.D.

Sarangadhara who flourished in the 11<sup>th</sup> Century A.D. has also written a

Samhita. It contains a number of useful prescriptions and is very popular among practitioners all over the country for its valuable definitions of technical terms, called Paribhasa.

Bhavaprakasa, the last and perhaps the best work of the medieval age, is that of Bhava Misra. The period from the 10<sup>th</sup> to the 16<sup>th</sup> Century A.D. was singularly unproductive in the literature of Ayurveda. The stagnation is attributed to foreign invasions and internal turmoil. When Bhava Misra resumed the traditions of writing he reviewed the developments of the intervening period and incorporated in his work various new diseases and drugs.

One important point that is illustrated by Bhava Misra is that Ayurvedic medicines were not averse to adopting new theories and ideas and had no hesitation including medicines of other countries in its armoury.

Side by side with the systematic development of medicines in ancient India, there was also organized medical help in the form of hospitals and dispensaries, and a certain measure of health propaganda.

## AYUSH

The entire system of medicine under the umbrella of AYUSH is the time-tested holistic approach to health care and healing. Since the beginning of human civilization, these systems of medicine are popular around all over the globe. Fundamentally, AYUSH provides an integrative healthcare

modality for complete physical, mental, social, and spiritual health. Due to its importance, the system under AYUSH is globally honored as part of religion far beyond science. The AYUSH system is serving human beings since the pre-historic period, globally. In every period, government and administrative authorities promote the AYUSH system as per their need. In the colonial period of India, these systems of medicine faced some negligence. But soon after independence Government of India shows indulgence in AYUSH. In the year 1955, the Union Government of India, established a separate department “the Department of Indian System of Medicine and Homoeopathy (ISM&H)” for the development of these systems. This department was renamed in November 2003 as the Department of Ayurveda, Yoga, Naturopathy, Unani, Siddha, and Homoeopathy (Ayush) for the same purpose. On the 9th of November 2014, the **Ministry of Ayush** was formed by the Government of India with a vision of reviving the profound knowledge of traditional Indian systems of medicine and ensuring the optimal development and propagation of the Ayush systems of healthcare. The objectives of the Ministry of Ayush are - 1) To upgrade the educational standard of the Indian Systems of Medicine and Homoeopathy colleges in the country, (2) To strengthen existing research institutions and to ensure time-bound research programs on identified diseases for which these systems have an effective treatment, (3) To draw up schemes for

cultivating, promoting, and regenerating medicinal plants that are used in these systems and (4) To evolve Pharmacopoeial standards of Indian Systems of Medicine and Homoeopathy drugs. The Ministry of Ayush, Govt. of India, has done a lot for the integrative growth and development of AYUSH. The work of ministry in the field of Ayush education, research, and propagation are appreciable.

### **Ayurveda in Odisha:**

The literature of Ayurveda dates back to the very inception of our civilization. The references in the Vedic and mythological literature bears testimony to it. The references on diseases and drugs for their treatment mentioned in ancient literature have been further developed in the due course of time. A series of *Samhita granthas* were composed since 1000 B.C. The progress has been continuing with the changing emphasis on the need of the particular era and the impact of the contemporary developments on the literature is also obvious. A very small percentage of Ayurvedic literature is available for reference in the form of published books. Due to various reasons, large number of original manuscripts of Ayurveda have remained obscure and many of them have been taken away by foreigners.

In our country most of the published literature in Ayurveda are limited to those available in Devanagari script and to some extent regional languages. Several

important compilations are prevalent in different regions of the country and only few of them could be published in recent past. The literature available in regional languages is largely limited to the particular region.

Odisha had important role in the ancient Indian history and culture. The scholars, traders and physicians of the area used to visit far off places in the country and also outside, since earliest times. The scholars excelled in the field of astrology, literature, history, mathematics and Ayurveda. However, much of ancient Ayurvedic literature available in Odia script have gradually become unavailable. The literature available is written in Sanskrit in Odia script and a few in Odia language and script on Palm-leaves, which have been preserved in Odisha Museum. The literature available cover a wide range of subjects such as diagnosis, treatment, medicinal formulae, dietetics, prognosis, pharmacology, pharmacy, iatrochemistry, faith-cure, paediatrics and pulse-diagnosis. There are several unclassified manuscripts simply grouped as Ayurveda or *Vaidyashastram*.

Most of the texts available in Odisha Museum are on Kayachikitsa, though the other aspects of Ayurveda are also covered. The 40 titles on Kayachikitsa include the manuscripts of certain well-known treatises like Chakradatta, Bhavaprakasha and Bhaisajya Ratnavali. A few of these like Abhinavachintamani, Visvanathan Chikitsa and Modakarnava

were published many years ago in Odia and are presently unavailable. Most of the palm-leaf manuscripts on Kayachikitsa have not yet been published.

The literature available in Odisha Museum on clinical diagnosis largely covers the *Madhava Nidana* or *Rugvinischaya*. Only literature compared in medieval period after 800 A.D. is plentifully available in Odisha Museum. Though specific period of the manuscripts and the texts has not been ascertained, it is generally believed that these may be nearly 500 years old.

The tradition of Ayurvedic treatment in Odisha is old. The Odia Mahabharata composed by Sarala Das, the literature on Ayurveda by the Vaidyas of Sen dynasty and Jagannath cult have mentioned about the Ayurvedic medicines in Odisha. It is known from the Madala Panji that the Gajapati kings and the rulers of the Gadajata region appointed Raja Vaidyas to take care of their health. It is also known that there were no texts written on Ayurveda in Odisha during the period from 12<sup>th</sup> Century AD to 13<sup>th</sup> Century AD. But mentions on Ayurveda are found in the great epic the Mahabharata composed by Odia poet Sarala Das, who lived in the 15<sup>th</sup> Century AD and was a contemporary of Gajapati Kapilendra Dev. In the Madhya Parva of the Mahavarat, Sarala Das mentioned about the plants, herbs and shrubs which are useful in the treatment of diseases and wounds.

Odisha is gifted with dense forests where exist many kinds of plants, shrubs

and creepers, full of medicinal values. A lot of medicinal plants are found in Harishankar and Nrushinghanath, Gandhamardhan forest areas, located on the border of Bolangir and Baragr districts, Kalarabag forest in Kalahandi, Mahendragiri, Niyamgiri, Nayagarh forest and Kapilash forest. Valuable medicinal plants are also found in Khordha, Puri, Bolangir, Angul, Koraput and Balasore districts. Cuttack and Ganjam are the favorite places for Ayurvedic pharmaceutical companies.

In order to spread and popularize Ayurvedic mode of treatment and education in Odisha, the State and Central Governments have taken initiatives and established colleges, hospitals and research institutes, where the students of Ayurveda are provided with scopes to further their education, research and practice.

The Central Ayurveda Research Institute (CARI) has been established by Government of India in 1972 at Bharatapur in Bhubaneswar. Although the nomenclature of this research institute has been changed in 1997 and 2016, the institute is known as CARI since 1921. The CARI is operating under Central Council for Research in Ayurvedic Science (CCRAS) in the Ministry of Ayush, Government of India. The speciality of the Ayurveda is 'Panchakarma' treatment, which is known as detoxification of body. The Panchakarma treatment is being provided to the patients in the CARI.

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'Earth's Green Ambassadors and the drivers of Green Growth'

## Rethinking Tribal Development

Dr. Antarjeeta Nayak  
Dr. Ramakrishna Biswal

We may perceive tribal communities as 'backward,' assuming they lack modern education and intellect, and even debate their need for development. However, the reality is that tribal groups serve as the cornerstones and foundational pillars of sustainable development. Their unique and inherent knowledge manifests in everything they do, from crafting items with leaves and straws to practicing organic farming and creating seed banks. Their intricate crafts, pottery, artistic expressions in wall paintings and body tattoos, preparation of 'handia' and 'taddi,' and their commitment to environmental protection—all showcase a distinct amalgamation of tribal science, scientific knowledge, rich culture, and heritage. This fusion forms the basis of a sustainable way of life, creating assets and avenues for others. They are, truly, Earth's Green Ambassadors and the drivers of 'Green Growth.'

The contribution of tribal communities to increasing 'Green Wealth' by utilizing 'Green Capital' with

extraordinary knowledge and care is unique. Their diversity is not a sign of underdevelopment but a source of strength. Unfortunately, our ignorance about tribal diversities often prevents us from recognizing their practices as forms of development.

When discussing sustainable growth and tribal development, we frequently overlook crucial questions such as:

- What is the true meaning of tribal development?
- What are the perspectives of tribal communities towards development?
- What does real development look like for tribal people?
- Who defines the meaning of development, and for whom?
- Are economic indicators the sole measure of progress and development? Should development always follow the Trickle-Down Theory?

We must move beyond our ignorance and recognize the valuable

lessons the tribal communities offer for sustainable growth and development. Addressing unexplored questions related to tribal development is essential. Similar to Industrialization and Globalization, Tribalization can be a crucial force for growth and development.

Tribal communities are the foundation of Science, Literature, Economics, Sociology, Technology, and even Modernity. Highlighting tribal development theories, methods, and processes for achieving real development is necessary for a sustainable future. The fact is that those we label as Tribals, Adivasis, Primitives, Aboriginals, or Janajatis are, in fact, the real mentors of development—individuals we follow but often forget to acknowledge. Therefore, every time we discuss tribal development, we expose our limited understanding of progress and sustainable growth. Instead of imposing external models, we must learn from their inherent understanding of living in harmony with nature and empower them to share their knowledge for a truly shared future.

### **Integrating Tribal Wisdom: A Symbiotic Approach to Sustainable Development Goals**

Seventeen global goals have been established to guide the pursuit of sustainable development by 2030, and among them, Goal 12, “Responsible Consumption and Production,” emerges as a crucial focal point. This goal underscores the importance of wise resource management, minimizing waste, and

reducing harm to the environment. Indigenous communities, often living in close proximity to nature, serve as exemplars of such mindful practices.

Their traditional knowledge and way of life prioritize taking only what is necessary, respecting natural limits, and fostering a harmonious relationship with the environment. Unlike modern societies fixated on limitless growth, indigenous communities comprehend that overconsumption and unsustainable practices lead to destruction. They avoid overexploitation, hoarding, or trading resources for personal gain at the expense of others or the future. Their connection with nature is deeply symbolic, woven into their traditions and practices, viewing themselves as integral parts of the ecosystem.

This wisdom on sustainability and living within limits is precisely what the world needs to avert the destructive consequences of overconsumption and resource depletion. This prompts a critical question: Who truly needs development? Perhaps not the tribal communities who are already living in harmony with the planet, but it is our thinking and actions that need to evolve, embracing the sustainable values and practices demonstrated by indigenous people for millennia.

Examining Tribal Lifestyles and Sustainable Development Goals through a symbiotic relationship perspective reveals an opportunity for integrating tribal wisdom into the discourse surrounding the Sustainable Development Goals (SDGs).

The SDGs, designed to address pressing global challenges and promote sustainable development across various dimensions of human life, can benefit from the deep connection tribal communities have with the natural world.

Tribal communities, with their sustainable lifestyles, offer valuable lessons for scientists and policymakers grappling with current environmental challenges. Their extensive experience in living in harmony with nature has given them a profound understanding of the interconnectedness and interdependence between humans and the environment. Four major areas that warrant consideration in this context are:

- i) Preservation of Biodiversity,
- ii) Community Empowerment and Inclusivity,
- iii) Cultural Diversity and Sustainable Tourism, and
- iv) Climate Change Mitigation.

Governments and policymakers must recognize the invaluable role that tribal communities play in protecting and preserving forest resources. Preserving tribal knowledge and incorporating their sustainable practices will be instrumental in promoting environmental sustainability and biodiversity conservation. By embracing the diversity of human experiences, we can forge a path towards achieving the SDGs that respects and integrates the wisdom of tribal societies into the broader framework of sustainable development.

### **Empowering Tribal: The Path to Genuine Progress**

Tribal communities play a distinctive role in generating “green wealth” through their resourceful use of nature’s “capital.” However, they often face exploitation, where their knowledge and products are appropriated for profit. It is crucial to acknowledge and respect their ancestral science and discoveries, ensuring they reap the rewards of their contributions. Using tribal heritage for development projects without genuinely considering the needs of tribal communities is a misguided approach. True development requires understanding and addressing their specific needs.

While success stories like the Kotia (Koraput, Odisha) strawberry harvest are promising, it’s essential to question who ultimately benefits from such successes. Were fair prices paid to hardworking tribal farmers? In instances like buying pineapples from tribal farmers at low rates and selling them in the market at four-to-five times higher than the original price, the disparity raises concerns. Pineapple lovers should be aware of the significant price difference between what tribal farmers receive and what they pay. The ongoing struggle for fair compensation emphasizes the necessity for a transparent and equitable marketplace. Sustainable progress goes beyond flashy headlines, demanding fair practices that empower and uplift tribal communities. Unfortunately, the reality often contradicts these ideals, as developed communities exploit tribal labor under the guise of development. Unfair compensation

perpetuates a cycle of exploitation, rooted in prejudiced assumptions about the basic needs of tribal people.

In Koraput (Odisha), over 33 different native millet varieties found in tribal areas outshine modern hybrids in terms of nutrition. The Telugu, Bada, and Dasher variety, for instance, boasts higher levels of protein, fiber, flavonoids, and antioxidants compared to commercial versions. Tribal farming practices, relying on indigenous wisdom and natural methods, demonstrate sophistication and sustainability without harsh chemicals. These “green ambassadors” have mastered organic farming for generations, inspiring the entire planet with their sustainable practices. Despite this, their contributions are often overlooked, and their organic products are repackaged as generic “Tribal Products,” devoid of true recognition. Scientists and businesses capitalize on their wisdom, leaving the holders of that knowledge marginalized.

Labeling something as “tribal” should not be a mere marketing tool but a symbol of respect and collaboration. Claiming their knowledge as our own and calling it development is disingenuous. Genuine progress involves empowering tribal communities, recognizing their expertise, and fostering partnerships for a more sustainable future where tribal wisdom informs modern practices, and benefits circulate back to the source.

### **Unveiling the Wisdom: Tribal Practices Shaping Modern Innovation**

Have you ever witnessed a tribal mother working outdoors with her baby securely strapped to her back? Wrapped in a cloth or rug, the child peacefully swings with her movements, creating a safe haven even amidst dust, mud, forests, or cityscapes. What might seem as hardship to city dwellers hides generations of accumulated wisdom. Modern medical science is now catching up with what tribal mothers have known for centuries. Research confirms that carrying a baby on the back or chest promotes healthy development for both mother and child, supporting sleep, regulating heart rate, and fostering overall well-being. While modern baby carriers mimic these traditional methods, it’s crucial to acknowledge the source of inspiration and appreciate the original knowledge within tribal communities.

Even in scorching 40/45°C weather, leaving the comfort of an air-conditioned house seems unbearable. However, stepping into a tribal mud house during such heat reveals surprising coolness. Acting like a natural thermos, these houses stay cool in summer and warm in winter, preventing food spoilage and curdling of milk. Big companies now capitalize on this tribal civil engineering, offering trendy “mud houses” and tree houses amidst the city chaos. Yet, they imitate the ingenuity of indigenous communities while ignoring the tribal scientists behind the original knowledge.

City life is evolving, with people drawn to gated communities for security and shared amenities, driving up apartment

prices. However, the idea of gated living is not a new invention; it has been a part of tribal communities for generations. Tribal wisdom has guided them to live in secure, enclosed spaces, enjoying shared resources and amenities. Despite this obvious inspiration, “developed” societies often overlook tribal knowledge, engaging in endless discussions about “developing” tribal counterparts. It’s time to re-evaluate priorities, recognizing the richness of tribal knowledge and learning from them instead of imposing our own ideas of “development.”

### **Unveiling the Roots: Tribal Influence on Modern Art and Fashion**

Tribal influence has undeniably left an indelible mark on the realm of modern art and fashion, offering a rich tapestry of inspiration that transcends cultural boundaries. The vibrant and intricate patterns, symbols, and motifs originating from various indigenous communities around the world have found a compelling resonance in contemporary artistic expressions and fashion trends. From the runways of haute couture to urban street styles, the influence of tribal art is pervasive, breathing new life into design aesthetics. Bold geometric shapes, earthy color palettes, and traditional handcrafted techniques are now seamlessly integrated into modern fashion, creating a fusion that celebrates both the avant-garde and the ancestral.

What makes tribal influence particularly captivating is its ability to infuse meaning and authenticity into modern

creations. Many contemporary designers and artists draw upon the cultural depth embedded in tribal art, incorporating symbols that carry profound significance for indigenous communities. Beyond aesthetics, the adoption of tribal elements in modern art and fashion also serves as a bridge between different worlds, fostering cross-cultural appreciation and understanding. This symbiotic relationship between tradition and innovation not only revitalizes ancient artistic traditions but also challenges the mainstream to move beyond cultural appropriation, encouraging a more respectful and collaborative approach to the integration of tribal influences into the global artistic narrative.

Today’s youth proudly showcase trendy painted bodies, adorned with tattoos and piercings, often experimenting with ear and nose ornaments, long hair, and embracing hipster styles. But have you ever wondered about the true origin of these fashionable trends? The answer is: Tribal communities! For centuries, they have engaged in these practices, not merely for jewelry or caste identification, but as profound expressions of their beliefs and individuality. For instance, some tribes perceive belly button piercings as a preventive measure against complications, boosting immunity through what they view as acupuncture, enhancing blood circulation. These tattoos and piercings, blending belief and tradition, carry sociological and medicinal significance for tribal communities. Invented with a unique fusion of beliefs and superstitions, these body art practices possess traditional cultural and

scientific attitudes among tribal people. Unfortunately, in the pursuit of modern style and knowledge, we often imitate these practices without acknowledging the rich cultural and scientific heritage of the tribal communities associated with them.

### **Nurturing Bonds: Tradition and Hospitality in Tribal Culture**

In the intricate tapestry of tribal culture, the celebration of life's significant moments, particularly the arrival of a girl into the family, stands out as a testament to their unique perspectives and traditions. Unlike some communities burdened by gender biases, many tribal groups welcome the birth of a girl with open arms, rejecting the concept of dowry that prevails in certain societies. Instead, the groom embraces his bride as Lakshmi, a symbol of fortune and happiness, marking the beginning of a union celebrated with genuine joy and cultural richness. The tradition extends beyond the matrimonial union, as the groom's family expresses gratitude to the bride's father, exemplifying a deep sense of respect and appreciation. This practice not only reflects the absence of dowry-related pressures but also underscores the well-developed social systems within tribal communities.

In stark contrast to the modern struggle with hospitality, where guests might be seen as inconveniences in the age of constant connectivity and technology, tribal communities welcome guests with profound reverence. In their eyes, every guest is revered like Lord Rama, and every host embodies the warmth and generosity of Mother Sabari. This deep-rooted

relationship, characterized by respect and hospitality, lies at the core of tribal culture, fortifying their social fabric. Words fall short in capturing the essence of this bond, serving as a testament to the enduring values that bind tribal communities together.

### **Conclusion**

Genuine development for aquatic life doesn't involve confining them to ornate aquariums, just as true progress for birds isn't achieved by trapping them in gilded cages. Similarly, aiding the less fortunate extends beyond mere handouts—it's about imparting the skills and knowledge needed for self-sufficiency, akin to teaching someone to fish rather than offering a one-time meal. Authentic development entails a nuanced understanding of individual needs, considering context and time, and providing the tools for a sustainable future. It isn't about imposing solutions but cultivating independence and resilience. Instead of coercing indigenous communities into adopting external development models, the focus should be on empowering them to thrive on their own terms, preserving their languages, settlements, and traditions. Indigenous communities harbor invaluable knowledge and cultural practices often dismissed as antiquated; it's time to move past biases and appreciate the wisdom in their unique ways of life. Emphasizing true tribal development necessitates thorough observation, recording tribal perspectives, and implementing inclusive programs that prioritize their rich tapestry, unleashing their immense potential for building a sustainable future.

**Recognizing the symbiotic relationship between indigenous communities and their environments, policies should champion conservation practices, ethical resource utilization, and environmentally friendly development strategies. Preserving cultural practices, languages, and traditional knowledge becomes paramount in indigenous politics, requiring policies that reinforce identity against the pressures of modernization. Balancing modern technologies, education, and economic practices with the preservation of indigenous values ensures holistic development that respects unique community identities.** Education plays a pivotal role, empowering indigenous youth with programs blending traditional and contemporary knowledge. Political strategies must prioritize economic empowerment in line with indigenous values, promoting sustainable livelihoods and community-based enterprises. Bottom-up development models, community engagement, and advocacy for legal frameworks protecting indigenous rights are essential components. Engaging in global forums amplifies indigenous voices, while recognizing intergenerational wisdom ensures the continuity of cultural practices and ecological understanding. The delicate

balance between tradition and modernity, centered around conservation, cultural preservation, and strategic encounters with modernity, paves the way for sustainable development, contributing to a more inclusive, diverse global landscape. Recognizing and honoring tribal life is therefore integral to building a culturally rich, and ecologically sustainable society.

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## Forest Fire in Odisha : A Menace to Bio-Diversity

Colonel Prof. Prafulla Kumar Mohanty

### WHAT IS FOREST FIRE ?

The term forest is derived from the Latin term *foris* which means outside or away from the door. Forest is defined as a large tract of uncultivated land having trees and under bushes. It may also be a plant community extending over a large area and dominated by trees, the crowns of which form an unbroken covering layer or canopy.

Fire is derived from Old English *fyr* which means fire. It is defined as a state, process, or instance of combustion in which fuel or other material is ignited and combined with oxygen, giving off light, heat, and flame. Fire is a chemical reaction in which energy in the form of heat is produced. The chemical reaction is known as combustion. Fire is the rapid oxidation of a material in exothermic chemical process of combustion, releasing heat, light and various reaction products. At a certain

point in the combustion reaction, called the ignition point, flames are produced. The flame is the visible portion of the fire.

Oxygen, heat, and fuel are referred to as the “fire triangle”. The fourth segment is the chemical reaction and the whole part of fire is “fire tetrahedron”. If any of these four is taken away, we will not have fire or the fire will be extinguished.

**A nation that destroys its soil, destroys itself.  
Forests are the lungs of our land, purifying the air  
and giving fresh strength to our people.**

There are four types of fire which are as follows.

- 1 Class –A -Fires involving solid materials such as wood, paper or textiles.
- 2 Class – B -Fires involving flammable liquids such as petrol, diesel or oils.
- 3 Class – C -Fires involving gases.
- 4 Class – D -Fires involving metals.

Fire is such that it is called as a “**good servant and bad master**”.



## IMPORTANCE OF FOREST

Forest is one of the greatest natural resources of our life (Fig.1). This is the nature's hidden treasure for sustainable life and development. Following are the significant contribution of our forests (Fig.2).



Fig. 1 Natural forest.

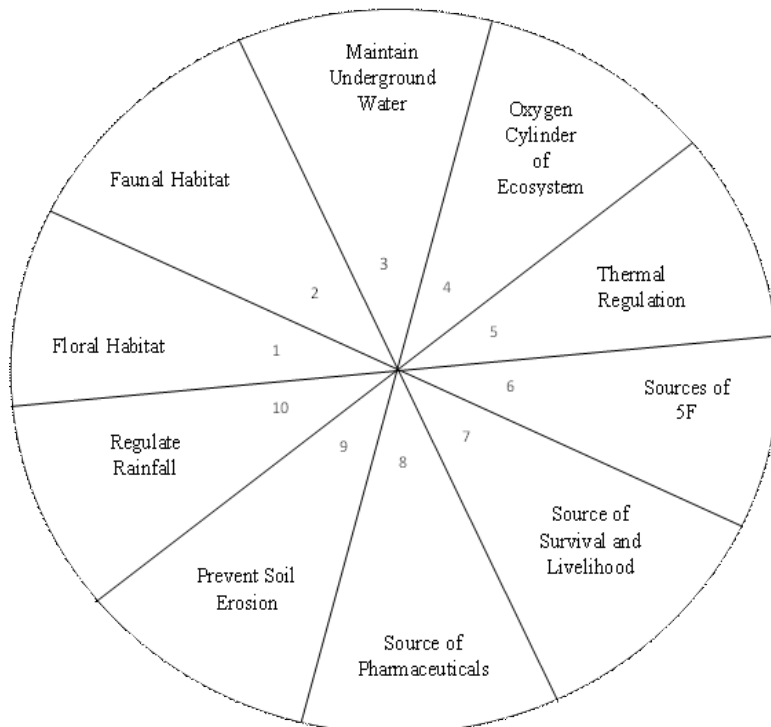


Fig. 2 Contribution of forests.

1. This is a large terrestrial ecosystem bearing trees, bushes, creepers, and grasses of various varieties.
2. Because of abundance of floral diversities, faunal diversities exist which include grazing animals (herbivores) and animal eating animals (carnivores), predators, parasites, soil creatures and microbes.
3. Forests maintain underground water table because of the existence of trees.
4. It is the chief source of oxygen which is used by all the animals for which forests are considered as the **“lungs of the ecosystem”**.
5. Forests act as temperature regulator and reduce global warming by utilizing carbon dioxide released by animals including human beings. They are the air-purifiers of our environment or surroundings.
6. These are the sources of food, fodder, fertilizer, fuel, and fibre (5 F) (Fig.3).
7. These provide household materials and almost daily requirements for the survival of human beings and livelihood of local communities.
8. These are the principal sources of medicinal plants such as certain roots, shoots, fruits, leaves and barks.

- 9. They arrest soil erosion because of roots of the trees which hold the soil firmly.
- 10. They regulate the rainfall also.
- 11. In brief, forests meet our essential needs (F- Fuel ; O- Oxygen ; R- Rain ; E- Environment ; S- Soil ; T- Timber) (Fig. 4).

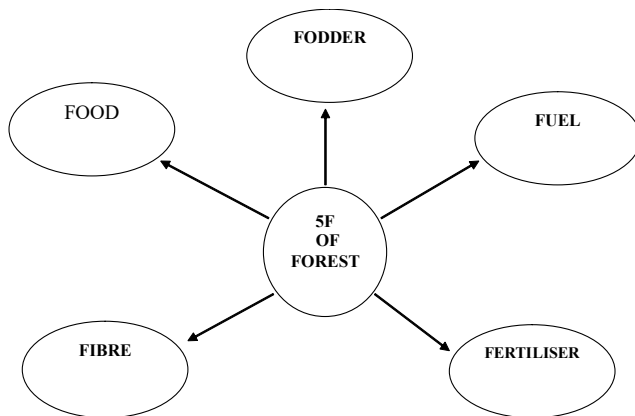


Fig. 3 Importance of forests (SF).

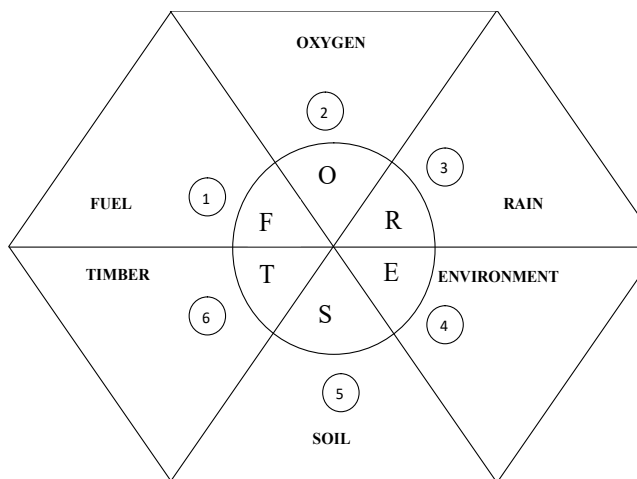


Fig. 4 Forest serving our essential needs.

**FOREST FIRE AND ITS CAUSES**

In last few years, the sensitive news across the country is forest fire which is observed usually during the month of February to April (Fig.5). This is man-made and quite alarming for each of us. The reasons of anthropogenic forest fire are as follows (Fig.6).

- 1 Collection of mohua flowers and other forest produce from the ground conveniently by burning dry leaves, sticks and dry grasses etc.
- 2 Some blacksmiths of people who are engaged in producing iron house hold materials such as axe, cutter, hammer, beetle nut cutter etc., they use fire using charcoal and come back to their residence without extinguishing fire in the forest. This fire gradually spreads to the forest area.



Fig. 5 Forest on fire.

- 3 Some persons, involved in illegal cutting of trees, ignite fire to cut down the trees for illegal trading.
- 4 Some inhabitants or outsiders while smoking, throw burnt butts of the

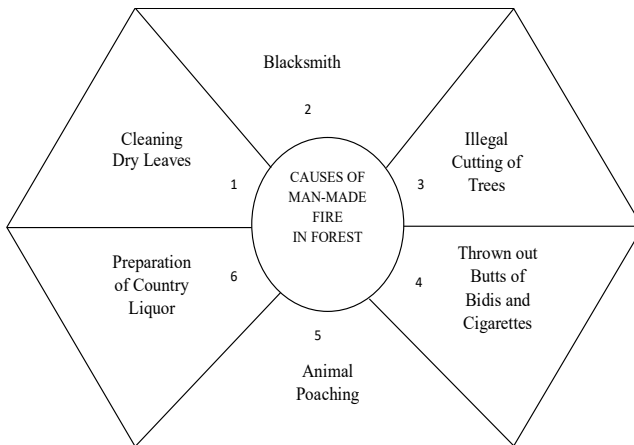


Fig. 6 Causes of man-made forest fire.

1,55,707 sq. km as per the latest report. The state enjoys 7,213 sq. km of very dense forest, 20,995 sq. km of moderately dense forest and 23,948 sq. km open forest. Odisha is the fourth state with largest forest cover in the country after Madhya Pradesh, Andhra Pradesh and Chhatisgarh. Odisha also ranks third when it comes to the contribution in increase of forest cover after Andhra Pradesh and Telangana. The forest cover in 12 (twelve) tribal districts of the state stands at 19,729 sq. km in the report of Forest Survey of India (FSI), 2021.

cigarettes and bidis inside forest which help to catch fire and spreading fire.

- 5 The most pathetic incident is that some hunters or poachers intentionally set fire inside the jungle so that the big animals like sambar, spotted deer and other animals try to escape from the fire region and move in the opposite direction of the fire. In fact, in the opposite direction, poachers set nets to trap them in the net.
- 6 Few inhabitants or forest dwellers depend on the preparation of country liquor inside the forest. For the preparation of liquor, they use chullahs (ovens) and forget or ignore extinguishing fire in the place. This fire spreads through dry leaves and air around the forest.

### FOREST FIRE IN ODISHA

Odisha's forest cover comprises 33.5% of its total geographical area of

The forest cover of Odisha has increased by 537 sq. km while the forest and trees cover at the national level has registered a growth of 2,261 sq. km (FSI). This growth has been analysed in comparison to the Indian State of Forest Report, 2019. According to this report, the forest cover in India is increased by 1,540 sq. km while the tree cover has increased by 721 sq. km.

In Odisha, according to the report of 2019, the forest cover was 51, 619 sq. km while with the latest growth, the forest cover in Odisha has reached to 52,156 sq. km compared to a total geographical area of 1,55,707 sq. km. from this, it is quite evident that Odisha has contributed 1.04% increase in the forest cover nationally. As per the report, Andhra Pradesh with 647 sq. km and Telangana with 632 sq. km of forest cover stand at the first and second position, respectively when it comes to the contribution in increasing the green cover in the country.

The investigative and analytical report attributes the increase in the green cover to the factors stated below.

- I Better conservation measures
- II Protection
- III Afforestation
- IV Plantation drive
- V Agroforestry

But, the loss in major forest cover area in the country has been attributed to the following.

- i) Shifting cultivation
- ii) Felling of trees
- iii) Natural calamities
- iv) Anthropogenic pressure

#### **STEPS OF THE STATE GOVERNMENT**

Looking at the alarming situation of forest fire, the state government have taken following serious and prompt initiative in controlling the situation.

- i) The government have formed 253 fire protection squads and employed 2,530 locals for protection of forests from fire using Compensatory Afforestation Fund Management and Planning Authority (CAMPA) head during 2021-22, while 278 squads were formed in 2022-23 that employed 2,780 youth.

CAMPA is an Act to provide for the establishment of funds under the public accounts of India and the public accounts of the each state and crediting there to the money received

from user agencies towards compensatory afforestation, etc.

- ii) For fast dousing of flames, 278 vehicles were taken on rent for the staff involved in fire control and they were provided with fire blowers.
- iii) 32,662 km fire lines were created to prevent forest fires from spreading.
- iv) Over 350 teams of fire fighters are deployed for the stated purpose.
- v) To strengthen and fasten the process, the facility for round-the-clock control room is created to attend to the calls on forest fire.
- vi) Further, to strengthen the process of control of fire, 16,128 Vana Suraksha Samities and some Eco Development Committee of local people are engaged in safe guarding 13.85 lakh hectares of forest land.
- vii) In the month of December, 2022, the government had asked the district administration to involve panchayat representatives, Vana Suraksha Samities, and Mission Shakti Groups to control forest fire.

Since productive and effective steps and measures are taken to control the fire, it is reported that the fire in the state is mostly ground fires which have not affected big trees and wild fauna.

#### **MEASURES OF ERADICATION AND CONTROL OF FOREST FIRE**

Destruction and degradation of forest is a serious issue since forest is the

heart of our lives. However, following measures are suggested to eradicate and control the forest fire (Fig.7).

- i) Immediate steps to reach the area of forest fire.
- ii) Dry leaves of the forest area way be taken out or removed during the month of January and February and if necessary in March.
- iii) Maximum fire lines must be developed to control the issues relating to fire.
- iv) An appropriate educative and effective coordination between Vana Surakshya Samiti and Eco Development Committee along with the Forest

Department need to be strengthened for a productive result.

- v) Odisha Forest (Fire Safety) Act, 1979 must be strictly adhered to and punishment for the culprits needs to be emphasized.
- vi) Inhabitants of forests or forest dwellers are required to be counselled as to the importance, protection and conservation of forests regularly and particularly in the month of January and February through various awareness programmes, videos, local cultural activities like street play and audio visual entertainment programmes.

### CONCLUSION

Forests are the key part for our survival and even for the survival of other animals in and around us. But, various inhuman and unwanted activities of human beings have pushed the forests into degradation, devastation and destruction. Gradual degradation and forest fire in particular are alarming now-a-days. So, it is our responsibility to take care of the forests and massive afforestation to energise and revitalize the existing natural forests. We should not forget that forests are our greatest gift by the nature. This gift is free of cost. We should value this valuable like any natural valuables. We need to worship

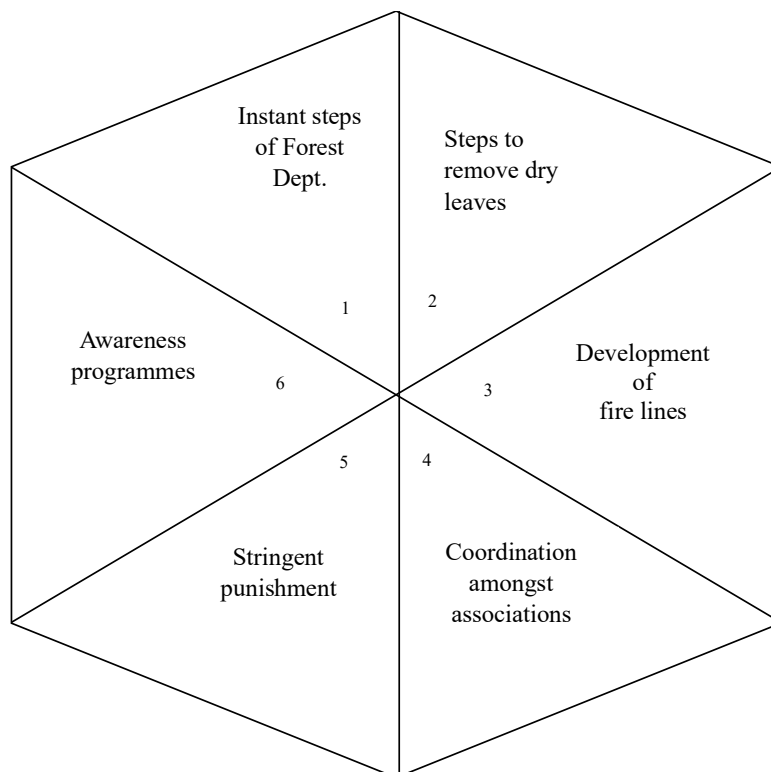


Fig. 7 Measures for controlling forest fire.

this gift to be worshipped by the gift. If forests are destroyed, we will certainly be extinct because of want of oxygen, water, shelter and appropriate temperature.

**If we want humanity to enjoy the fruits of science and technology rather than use them to destroy ourselves and the entire planet, the most important thing right now is to raise human consciousness.**

**Sadhguru**

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## Towards Positive Change : With youths in the forefront

Dr. Ajit Kumar Mahapatra

From the microscopic domain of cells  
To the macroscopic vastness of universe  
At every level of worldly existence  
It's the energy that reigns supreme;  
The matter, too, does seek the love of energy  
For its functionality.  
Energy - the driving force.

An action done, a task one undertakes,  
thought, intellect, ideas, entirety of human efforts  
All manifest as numerous dimensions of energy.  
As a loving facet of energy, spirituality emerges itself.  
Solar radiation found to be a source of energy,  
From stars in distant galaxy, a fraction of light  
passes through chlorophyll- laden green leaf,  
The leaf endowed with its helping nature of love,  
to convert light into life - a wonderful phenomenon.

A creator of biosphere, the nurturer of life  
A loveful greenleaf extends its loving tentacles  
of generosity, kindness throughout the planet  
to keep the living beings alive.  
Life of a living being on earth, closely linked  
with the loving nature of caring leaves  
the most magnificent, essential creation on earth.

As a bridge, miraculous green leaf acts  
In the pathway of energy from the sun  
down to the living beings on planet earth.  
Leaf lets the sun's descent on domesticable earth,  
Functions as a portal from light to life,  
Generates oxygen rich sustainable atmosphere.  
Benevolent leaf bestows gift of breath,  
on all living beings where ever they are.  
Mindless march of unbridled science, technology,  
pursuing development models across the world,  
Intrude forcefully into vast leafy landscapes  
As a result, the humanity painfully confronts  
continuous global warming, yet, to be effectively addressed.  
More so, it invites extinction of live species  
diseases, damages in various parts of the planet.

Having foreseen more human destruction of nature  
forcing the planet to cross the Rubicon of climate stability  
towards a point of no return;  
A Kenya native - climate activist - Wangari Mathai  
Jumped at a courageous initiative on ground,  
Her colleagues wholeheartedly stood by her,  
Mathai launched "Global Tree Planting Movement",  
Initially began with a few trees, a few colleagues  
In her dearest native land Kenya.  
Kick-started with zeal and love the Global movement,  
More strengthened by voluntary loveful planting of  
billions of trees worldwide.  
Mathai's global tree planting movement,  
A love laden energetic global venture,  
Commendable corrective effort to sensitize youths,  
To move on with optimization of land use,  
and improvement of agro forestry;  
A step forward towards carbon neutrality  
To check the disastrous global warming.  
Landscapes tend to act as carbon sinks,  
Compulsatory should be landscapes protection;  
Mandatory ought to be quantification of carbon emitted,  
Recognition of sinks and its sources,  
while finalizing development blueprints.



Let global leaders heed the futuristic endeavours  
The youths attempted on global scale  
To combat heat waves, droughts, floods, storms  
of seemingly apocalyptic proportions.  
The Glasgow COP26 rhetoric,  
“Build back better”, “green economy”, “Net zero by 2050”  
And, the Dubai COP28 declaration,  
“transitioning away from fossil fuels  
In energy systems”, words that sound great,  
Without any roadmap; no timeline fixed.  
Climate activist energetic youths at grassroots  
never be swayed by these rhetoric,  
The outcome of Dubai COP 28 offers  
little hope to the suffering humanity.

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## Advocates: The Pioneers of Social Reform

Subhankar Das

The role of lawyers in formulation and shaping up of the society is a concept which has been a subject matter of constant deliberation among intellectuals and experts from various arenas. The great son of Odisha, Utkal Gourab Madhusudan Das, whose birthday on 28<sup>th</sup> of April is celebrated as Lawyer's Day was widely renowned for being a pioneer of change and bringing social reform in the society, for which his legacy is still commemorated among the legal fraternity in the State. Through the present article, it is important to address the changing dynamics pertaining to the role of lawyers in becoming the pioneers of social reform, and how there has been a paradigm shift from the confines of the walls of the court rooms to being the pioneers of social reform.

The Sovereign, Secular and Democratic Republic of India has witnessed

the rise of many eminent lawyers beginning from the likes of H.M. Seervai, (renowned as the “doyen of the Indian Constitution”), Ram Jethmalani (the maverick with unparalleled prowess in criminal jurisprudence), Nani Palkhivala, the advocate who championed the cause of the poor, and the baton is now carried over by the likes of Harish Salve, Prashant Bhushan and young dynamic lawyers such as J. Sai Deepak Iyer, who is often remarked in today's generation as the pioneer of Indic renaissance.

The image of an advocate in the early 60's and 70's was about elaborately dressed gentlemen, who with their extensive research and rich vocabulary were expected to assist the Hon'ble Courts in laying down new judicial precedents, helping to thereby shape the legal jurisprudence of the country. However, since the rise of judicial activism

**A paradigm shift from the confines of the walls of the court rooms to being the pioneers of social reform.**

in the early 80's to a state wherein the legal fraternity is being driven towards a technology based advocacy with video-conferencing and digital court rooms, the role of lawyers has undergone an enterprising change wherein they are expected to play a major role in societal reform.



The role of lawyers playing a major role in reforms in society was first initiated with the concept of Public Interest Litigations wherein eminent advocates such as M. C. Mehta, took initiatives to bring it to the notice of the Honorable Courts regarding the degradation of environment, and hazards faced by the society at large due to pollution in industrial sector. Furthermore, lawyers such as R. N. Choudhury and Govind Mukhoty had played a vital role in the "*Bandhua Mukti Morcha*" case which formed the genesis of the legislations that were formulated in order to curb the rampant practice of bonded

labour and hazardous employment of children in various industries in different parts of India.

The most recent example, of legal acumen coming to the forefront in societal reform was in the judgment delivered in the electoral bonds case which was declared as unconstitutional by the Apex Court, wherein the aforesaid matter had been initiated at the behest of Senior Advocate Prashant Bhushan, who vehemently argued before the Supreme Court that donations in the form of electoral bonds to various parties was an open ended manner of legalizing black-money and amounted to compromise of the ideals of democracy in the prevailing circumstances, wherein the Hon'ble Supreme Court observed that by allowing the aforesaid practice to continue would amount to committing a fraud upon the basic tenets of the democracy and political



autonomy of the poor masses of India. The electoral bonds case proved to be yet another stark example of societal reform

undertaken by eminent jurists who undertook to bring about positive change in the society by making such a challenge to the scheme of electoral bonds.

Utkala Gouraba Madhusudan Das, who was the first scholar from Odisha to be educated above was most famously the pioneer of asserting Odia identity as well as creation of a separate state of Odisha. However, amongst his lesser-known contributions to societal reform was his constant struggle in advocating for the rights of women to enter the legal profession and the prime example of the same was him adopting and educating Sudhanshubala Hazra as his own daughter who later became the first female lawyer of British India. Madhu Babu was instrumental in the usage of his legal education in raising important social issues that were plaguing the society during the British Raj and finally has created an immortal legacy wherein his accomplishments in bringing social reform as a lawyer/advocate shall be eulogized by generations to come in the future.

It goes without saying that, law is an instrument which is to be used for the betterment of the masses and the Constitution of India is the sacrosanct document which was formulated for the maintenance of societal order. Therefore, in a diverse and conflicting society like India, which even after nearly eight decades of independence is plagued by various inequalities, lawyers in order to usher in societal reforms have the most important role to play in furthering the cause of the poor and underprivileged sections of society, and putting in the best of their efforts so as to further the interest of holistic and societal justice.

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## Women Characters in A. S. Byatt's Fiction

Rama Chandra Dash

A woman becomes conscious of her identity as a woman when she is discriminated against. Women face sexual harassment or discrimination in employment and this creates an enhanced and poignant awareness of their identity as women. Otherwise their gender identity is only one of their multiple overlapping and cross-cutting identities which co-exist peacefully. Today many women appear to be imprisoned in their gender identity because society imposes many women disabilities upon them due to their gender. Often young girls who are not yet ready for marriage are forced in to marriage and early Motherhood. Many women cannot decide for themselves when and how many children to have. A woman who is denied control over her own body might be in to hate her identity as a woman because she cannot escape from her oppression in the absence of pressure due to gender. Womanhood can be a more enriching experience than manhood. Women show a great deal of flexibility and adaptation to the numerous social contacts

without inordinate strain. The identity of women is often challenged because of her sense of insecurity in patriarchal societies. She is denied roots even in her Parental family, which is the most primary identity-inculcating unit of society. For men their Parental identity and their roots to their place of birth and upbringing are immutable. For women these to immutable identities are sought to be systematically weakened, leading to a great deal of insecurity and sense of dependence on men.

The structure of our family is peculiar where a woman's identity upon marriage destroys her sense of self, and bad consequences reflect in her marital life. In the case of a woman who is an intellectual, marriage does not fulfil her and she feels emptiness, she feels as if her intellectual self is being suppressed, such a dormant self because restive, seeks liberation. The conflict between the female self and the intellectual self often bears self-expression. To emancipate from problems, she finds a suitable solution in self-

expression, what is the mental state and her thoughts are to be expressed by the writer. She must had to express her real thoughts. These were the facts that women were written about, and they had to accept the nature of their being thought the vision of others. They get a new vision accompanying the awareness, but women need to add a voice to that vision if they desire their stories to be told, such captivations and the requirement for liberation signify women's writing. The viral difficulty for women to talk about to describe about is sex and their sexual being. They were not supposed to have sexuality, passive participations in sex, further sex is considered to be one of the most troubling part of women's life, while writing such truth women writers might be nervous but for the daring writers must found that it had liberated them as women and writers. By writing such truth, women writers must gain self-knowledge and strength.

Self-preservation, Self-promotion and Self-realization which are used by both parties from marriage; Marriage is interpreted as a bond which takes various shapes for each woman. Some women desire freedom, some other want to belong, for some women, marriage is a power game. Regarding the claims of such relationships, individuals differ in their response, various contradictory claims on marriage. Great effort is needed to surmount this, to move out of self-hatred and to realize the passions of the body. Disturbed by the idea of the sexual passivity of the woman and privileged position of the male, marriage may have

some pretensions the idea of romance lead to two persons in one person, both of them shared thoughts, feelings and desires. The power in marital relationships leads to fact that fulfilment through sex and love provides the woman a sense of power and may be afraid of being absorbed and contained as much as a woman. A. S. Byatt has analysed in most of her fictions, most of her writings are on the basis of their femaleness from the feminist perspective. Her fictions are an on-going exploration of the nature of reality and the nature of selfhood, particularly that of women. Feminist theorists opine, women are constrained than men and are therefore the focus of this study. But their experience of constraint is a more complex matter that experience of mere undifferentiated oppression and is better represented but the structure of the puzzle than the simple linear journey. After a careful study it is cleared that all the characters of Byatt straggle to flee from restraint, seek purpose and agency in the world through interaction with others, and escape a feminized Plato's cave by learning to see more accurately and all but one emerge from the maze in to an autonomous and independent existence in community with others.

Byatt's incorporation of the visual arts, her creation of fairy Stories and her focus on elementals deserve and receive particular attention. Most of the characters in all of her six novels are closely connected to the literacy world through their work and passion for books and reading. In all of the novels, the reader can sense the intellectual,

emotional and physical need, the hunger and passion the characters feel for thinking and talking in abstract terms, about literature, imaginary characters and ideas. Byatt's characters, for whom reading is a love, need and art, show that deep thinking and connected. Careful reading are powerful and immediate actions and can function as vital sources of knowledge and experience characters also feel that they themselves can

be uncomfortably close to other real life literary characters.

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