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INSTITUTION'S INNOVATION COUNCIL
(Ministry of Education Initiative)

विकसित भारत अभियान
1947 TO 2047

Souvenir Cum

BOOK OF ABSTRACTS

International Conference on Viksit Bharat: Innovative Business, Agriculture, Technology and Resource Management for Sustainable Growth

26-27 September 2024

Organised by

School of Management
Centurion University of Technology and Management
&
Operational Research Society of India
Bhubaneswar Chapter, Odisha

Editors

Dr. Anita Patra
Dr. R.N Subudhi
Dr. Prajna Pani
Dr. Susanta Kumar Patnaik

International Conference

On

Viksit Bharat: Innovative Business, Agriculture, Technology and Resource Management for Sustainable Growth

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Message from the President

Prof. (Dr.) Mukti K. Mishra
President, Centurion University

Dear Esteemed Guests, Scholars, and Participants

It is my great pleasure to welcome you all to Centurion University's conference on "Viksit Bharat: Innovative Businesses, Agriculture, Technology and Resource Management for Sustainable Growth." This conference comes at a pivotal moment for India, as we have set a goal to harness the power of innovation and collaboration to pave the way for sustainable and inclusive development, with a clear vision for a vibrant and resilient India by 2047.

At Centurion University, we are committed to being at the forefront of societal transformation by fostering knowledge, research and practical solutions to address critical challenges. This conference represents our dedication to creating a platform that brings together thought leaders, innovators, industry experts, students and policymakers to deliberate on the opportunities and challenges that lie ahead. It is our collective effort that will navigate India towards becoming a global leader in technology, agriculture, resource management and inclusive economic growth.

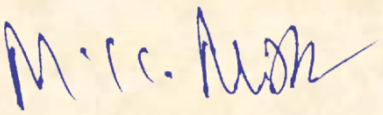
The multifaceted approach of this conference, with its focus on business innovation, agriculture sustainability, and cutting-edge technologies, reflects the interconnectedness of our world today. We are particularly proud of the special session dedicated to student research, where the next generation of scholars and innovators will present their insights. Their contributions, commitment and confidence are vital, as they will shape the future of our nation and beyond.

Through engaging discussions on disruptive business models, smart agriculture, artificial intelligence, renewable energy and resilient infrastructure, we aim to inspire new perspectives and actionable strategies. Our focus is on creating employment opportunities, promoting entrepreneurship, and ensuring that economic growth benefits all sections of society.

As we look towards the future, our vision aligns with the goals of Viksit Bharat 2047, where technological innovations, economic reforms and sustainable practices will play a crucial role in driving progress.

We hope this conference will spark meaningful collaborations and chart a path towards a prosperous and sustainable India.

Thank you for being part of this important journey. Together, let us work towards a thriving, sustainable, prosperous Bharat by 2047.



Mukti Kanta Mishra

Message from the Vice-President

Prof. D. N. Rao
Vice President, Centurion University

I am glad that Centurion University is focusing on Viksit Bharat: Viksit Bharat: Innovative Business, Agriculture, Technology and Resource Management for Sustainable Growth since the Hon'ble PM has given the slogan of Viksit Bharat by 2047, the nation seems to have got some definite goal to achieve. And the time period, many will believe, is extremely reasonable. In fact, many of us will be disappointed as to why the time period is pushed back so much! Can we not do it earlier? Having said, we are all aware of the enormous development challenges that await us. The sheer size of the population, our present standing in human development in the world, will make even the most optimists in the world, somewhat realists.

Centurion University has always been at the forefront of India's transformation story. Technology pursuit, Competency building and training youth to be confident have been its continued obsessions. What are the intermediate milestones for India to achieve, if we have to be a developed nation in 2047? Things like GDP growth are more easy to comprehend. Health, education, social well-being, infrastructure, gender and social equity are the more difficult parameters. No matter what, we all know agriculture needs the next level of transformation if India has to achieve this goal post. Agricultural incomes have a twofold impact: They improve the well-being of a large part of the population and not just on national income. In fact the impact on individual incomes is more profound perhaps than national incomes. Doubling farmers' incomes is that's why considered paramount. Technology has to be utilised. Smart is the way to go forward for everything. Smart is not of snob value. Smart means precise scientific

approach. Least of inputs giving the best results in the most sustainable way. A sustainable way is equally important. Otherwise, our endeavour to pull 1.4 billion people into a developed world will be derailed by nature.

I wish this conference all success and hope it will discuss the issues, and more than that, the approaches to take India to that goalpost.

Prof. D. N. Rao

Message from the Vice Chancellor

Prof. (Dr.) Supriya Pattanayak
Vice Chancellor, Centurion University

I am delighted to know that the School of Management is organising an international conference on "Viksit Bharat: Innovative Businesses, Agriculture, Technology and Resource Management for Sustainable Growth" in collaboration with the Operational Research Society of India, Bhubaneswar Chapter. This event is a testament to our commitment to fostering innovation and sustainable development.

Centurion University, known for its focus on skill development, provides the perfect platform to explore and synergise the realms of business, agriculture, technology and resource management. We aim to create a holistic vision for India's future by adopting a multidisciplinary approach, aligning with the Sustainable Development Goals (SDGs).

This event not only provides a platform for intellectual exchange but also serves as a melting pot of ideas and innovations that will contribute to the nation's growth. I am particularly delighted to see the enthusiastic participation from a diverse group of stakeholders, including students, research scholars, faculty members, NGOs and government officials. Their involvement is crucial in shaping the discourse and driving forward the agenda of sustainable growth.

At Centurion, we believe that collaboration and knowledge-sharing are the keys to explore new opportunities and create a prosperous future for all. I am confident

that this event will inspire new ideas, forge meaningful partnerships and set the stage for impactful solutions that will benefit not just the participants but society at large.

I would like to extend my heartfelt congratulations to the School of Management and ORSI for their efforts in organising this conference. I look forward to the insightful discussions and outcomes that will emerge from this gathering.

Together, let us work towards a brighter, more sustainable future for India. I wish the conference a grand success.

Prof. (Dr.) Supriya Pattanayak

Message from the Registrar

Dr. Anita Patra
Registrar, Centurion University

Dear Researchers, Faculty and Students

I welcome you to the "International Conference on Viksit Bharat: Innovative Businesses, Agriculture, Technology and Resource Management for Sustainable Growth". It is a great pleasure to have this conference at our University with all of you.

The challenges and issues in hand demand innovative solutions that not only drive economic progress but also ensure environmental sustainability and social well-being. Innovations seem to be inevitable for sustainable growth. This conference serves as a platform for exchanging ideas, fostering collaboration and exploring strategies that will contribute to the inclusive and sustainable development@Vikshit Bharat. I expect that our deliberations in this conference will include critical areas including innovations in agriculture, sustainable practices in aquaculture, livestock management and businesses leading to effective resource management. By bringing together Professors, Researchers and Experts from various fields, we aim to generate valuable and actionable insights that can help us shape a prosperous future.

I encourage you to engage fully in the sessions, share your knowledge and collaborate. I hope that the ideas and network that emerge from this conference will have a meaningful impact on our journey towards sustainable growth.

Thank you for your participation and I wish you a good time here at the conference.

All the Best!

Anita Patra

Dr. Anita Patra

Bhubaneswar Chapter

Operational Research Society of India, Bhubaneswar, Odisha

The **Operational Research Society of India** (ORSI), a non-profit educational institution, was founded in **1957** to provide an avenue to widen their horizons by exchanging knowledge and applying OR techniques to different real-life problems. It is representative of the International Federation of Operational Research Societies (IFORS) in India. It publishes a quarterly journal, OPSEARCH, which brings out high-quality research papers in OR and enjoys a broad spectrum of readership in India and abroad, covering academics and professionals from various organizations. The Society has also examined a Graduate Diploma in Operational Research since 1973 and annually holds its National Convention in different parts of India. The ORSI has seventeen chapters all over the country to extend and promote its activities.

The **Bhubaneswar Chapter** of the ORSI has many academicians and practitioners, as its members and it has conducted many activities since its inception. It conducted its 26th and 48th ORSI Annual Conventions at Utkal and SOA Universities, respectively. The conventions and subsequent conferences of this chapter were attended by many delegates from India and abroad. This chapter has been awarded with the 'best chapter of the year' twice by the central body, for its regular activities and best practices. Currently, it has over 80 life members of the ORSI.

The ORSI, Bhubaneswar Chapter is extremely happy to be associated with CUTM Paralakhemundi Campus to organise a one-day international conference on a theme, which is most relevant in Indian context today. The emerging and ever-shining, strong economy of India has already taken to the big league of the top

five economies in the world. Viksit Bharat, that is a developed India is now the call of the day and also the theme of this conference. This conference will deliberate useful insights, in this context, relating to sustainable agriculture, innovations, information technology and management in the present-day context. On behalf of the chapter, we appreciate the dedicated and coordinated efforts of the organising team to make it happen within a short period of time. We are so happy that our combined efforts have resulted in getting over 155 research papers from over 15 countries.

We from ORSI, congratulate the entire team and wish them success in all their endeavours.

Prof. Bijaya Krushna Mangaraj (President, ORSI Bhubaneswar Chapter)

Prof. Rabi Narayan Subudhi *(*Secretary, ORSI Bhubaneswar Chapter)

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Prof. B K Mangaraj
(President)

Prof. RN Subudhi
(Secretary)

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Message from the Convenor

Dr. Prajna Pani
Associate Dean, School of Management, Centurion University

It is with great enthusiasm I share the School of Management is hosting an international conference in collaboration with Operational Society of India (ORSI) - an event poised to become a benchmark in advancing collaboration and innovation. This conference is not merely a venue for knowledge exchange; it is intended to serve as a catalyst for ground-breaking joint research collaborations and projects that will leave a lasting impact on our academic and professional communities.

The conference on "Viksit Bharat: Innovative Businesses, Agriculture, Technology and Resource Management for Sustainable Growth," is thoughtfully designed to spearhead sustainable development across multiple sectors. Our primary objective is to ensure that economic growth is inclusive, benefiting all segments of society. A key focus will be on leveraging technological advancements to drive sector-wide development and foster innovation, aligning with the School's commitment to nurturing thought leadership and excellence in management education. The event will address a comprehensive range of themes, including Trends in Management and Operations, Sustainable Agriculture, Disruptive Technologies and Innovation, Sustainable Livestock and Aquaculture Best Practices and Enabling Inclusive Development. These themes are more than just topics for discussion; they represent the core pillars upon which we aim to build a sustainable and inclusive future. The School of Management at Centurion University is uniquely positioned to lead this discourse, given its commitment to

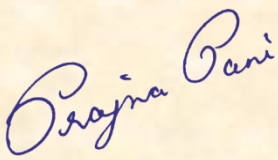
interdisciplinary research and its role as a hub for innovative thinking and knowledge creation.

I would like to extend my sincere gratitude to the Centurion University, the Operational Research Society of India and all the contributors from India and abroad, including distinguished professors and research scholars from Australia, Bangladesh, Ethiopia, Malaysia, Nepal, Poland, Sri Lanka, Syria, the UAE and the UK. Your invaluable contributions are instrumental in shaping the intellectual rigor and depth of this conference.

The unwavering dedication and passion of our organising team are set to exceed expectations, ensuring the success of this conference. Our programs and models are strategically designed to serve as unparalleled platforms for the convergence of ideas, innovation and sustainable growth. Together, we will explore new frontiers in sustainable development and chart a visionary path toward a prosperous and inclusive Bharat.

I eagerly look forward to your active participation and the insightful contributions that will undoubtedly enrich this significant event.

Best Wishes



Prof. Prajna Pani

Convenor, ICVBSG2024

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Abstracts of
Invited Speakers

0.1

Reflectivity and Linkages for Innovation: Putting the Entrepreneur and Civic Society Organizations as Central Actors in Innovation Systems

Dr. Avvari V. Mohan

Professor (Innovation and Strategy)
Deputy Head of School (Engagement & Impact)
Monash University (Malaysia Campus), School of Business
Malaysia.

Innovation systems are defined as a network of actors, organisations, and institutions that shape the innovation process and set the stage for technological advancement. Innovation systems include manufacturing firms, knowledge-intensive services, research and educational institutions, bridging entities and policy-making bodies. The effectiveness of an innovation system hinges on the degree of linkages developed among these 'actors, for which support through effective institutional frameworks is critical. Extant literature discusses innovation systems in various aspects, including the different versions (global, national, regional, and sectoral), the functions, and how understanding different institutional contexts is critical in shaping these innovation systems. But there is a lacuna in addressing two issues:

(i) the critical aspect of 'how' the linkages take place for innovation, especially in the context of small enterprises – for this, we look at the reflexivity, particularly of the entrepreneurs, in the development of linkages that help in the innovation. Reflexivity is the human consciousness and self-consciousness, as well as the

capacity to respond to environmental changes and interactions with other "beings'' or in this "actors".

(ii) We also would like to address the missing role of civic society organizations as critical actors in innovation systems to help embed local knowledge in non-spatially defined innovation systems.

We present these two issues, i.e., the central role of the entrepreneur and reflexivity that led to the linkages/collaboration and also the role of civic society organisations. We present these ideas through some field-based case studies that are being developed in Malaysia.

0.2

Viksit Bharat: Innovative Businesses, Agriculture, Technology and Resource Management for Sustainable Growth

Bobby Varanasi
CEO, Regenerative Futures
bobby@matryzel.com

Bobby Varanasi, COP | COP-GOV
CEO, Regenerative Futures, Malaysia

Technological advances over the past century have complemented human labour in a myriad of ways, resulting in significant net increases in productivity and yield from each ounce of human labour. While many believe that such gains can be had forever, there does come a point when value derived becomes marginal and commoditized. Continued increases to efficiencies have at some point plateaued out, thereby necessitating either an upheaval or a fundamental shift in input sophistication with the goal to continue creating "value". However, in the name of technological advances and intelligent machines (one can argue almost sentient), human endeavour seems to have embarked on an unending cycle of repeating yet the same mistake of the past – transactional emphasis on productivity at cheaper price points for the largest consumptive base, in the fastest time possible. What "innovation" was truly meant to be – that of enabling unfulfilled needs – seems to have morphed into a smorgasbord of unnecessary investments in effort, time and energy at accomplishing much the same things differently. Entire ecosystems seem to have endorsed such pursuits and, thereby promoting a distorted version of innovation for all to consume – producers, customers, suppliers, technologists and policymakers. The essence of underpinning growth (of an economy or business) must rest in the sustained and resilient longevity of the underlying "need" that is

being fulfilled (to the point of it becoming a utility in itself). Only then can true sustainability be ensured where responsible consumption and production replace today's unfettered consumption. This talk would delve into the complexities inherent in first appreciating the issue at hand, and then delving into solutions for the future, where the goal is not just to sustain, but to establish restorative and regenerative futures for all.

0.3

FUTURE OF WORK: IMPLICATIONS WITH MAN-MACHINE INTERPLAY

Bobby Varanasi
CEO, Regenerative Futures, Malaysia
bobby@matryzel.com

In 1930, the prominent British economist John Maynard Keynes warned that we were "being afflicted with a new disease" called technological unemployment. Labour-saving advances, he wrote, were "outrunning the pace at which we can find new uses for labour." There seemed to be examples everywhere. New machinery was transforming factories and farms. Were the impressive technological achievements that were making life easier for many also destroying jobs and wreaking havoc on the economy?

To make sense of it all, Karl T. Compton, the president of MIT from 1930 to 1948 and one of the leading scientists of the day, wrote in the December 1938 issue of this publication about the "Bogey of Technological Unemployment." He asked two pertinent questions: (a) should we think about the debate over technological unemployment as the loss of work due to the obsolescence of an industry or the use of machines to replace workmen or increase their per capita production?" and (b) Are machines the genii that spring from Aladdin's Lamp of Science to supply every need and desire of man, or are they Frankenstein monsters that will destroy the man who created them. Such questions have plagued the industrial world in

various forms and manners, with the common underlying theme that advanced technologies and machines were and continue to replace human labour. Some leading Silicon Valley techno-optimists even postulate that we're headed toward a jobless future where everything can be done by AI. In such scenarios, it is crucial to appreciate the poignance with Shoshana Zuboff's articulation about "behavioral surplus" is yet another substantial manifestation of replacing human labour as a new means of enhancing productivity.

It is however a foregone conclusion that all doomsday predictions of mass unemployment have almost always been unfounded. Growth continued to be derived through optimal deployment of humans and machines, resulting in discrete disappearance of certain jobs but not catastrophic unemployment altogether where industries themselves disappeared. Is it therefore pertinent to continue deliberating about job replacements and losses anymore, even with the advent of artificial intelligence – which is being termed the most significant evolution of mankind after industrialization – or is there a need to discern the underlying complexities and nuances that seem to be getting lost in translation within the narrow context of capital and labour?

0.4

VIKSIT BHARAT 2047: DIGITAL TRENDS THAT WILL SHAPE THE FUTURE

Prof. Ganesh Dash
Saudi Electronic University, Riyadh KSA

This new India can aspire to become a developed nation in the next two decades. To achieve the same, proper planning and strategic execution are the needs of the hour. In this talk, I outline the primary focal points in digital trends that can forever alter the nation's future. The Indian Government launched the ambitious "Digital India" program in 2015. Digital India, coupled with the JAM trinity, which includes Jan Dhan, Mobile and Aadhar, has transformed the lives of millions of people. The National Strategy for Artificial Intelligence (2018) outlines a comprehensive roadmap for harnessing the potential of AI across various sectors. In the last decade, the Government has focused on "*economic growth, digital infrastructure, digital India, entrepreneurship and innovation, and emerging technologies.*" In the next two decades, the focus should be on "Workforce Reforms and Digital Skills, Digital Governance and Service Delivery, *Digital Innovation Hubs, Made-in-India Social Networking Sites (SNS) (Adapt China with Bharatiyata), Democratizing the Internet, Edge computing and quantum computing, Circular Economy, etc.".* In a nutshell, Viksit Bharat is possible if executed in sync with STRIDE. S: Startups, T: Technology and Innovation, R: Research and Development, I: Infrastructure, D: Deployment and adoption, E: Enhancing skills and capacity.

Keywords: Artificial Intelligence, Digital India, STRIDE, Viksit Bharat

0.5

From Garbage Island to Global Leader: How Taiwan's Waste Management System Inspires India

Prof. Ajit Kumar

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'Viksit Bharat 2047' is an ambitious vision of India. To achieve it, we need a multifaceted strategy that boosts agriculture, deploys technology, and uses natural resources judiciously. India must be cautious in its approach toward 'Viksit Bharat 2047' because many countries that have developed nation tags are concerned about climate change and the depletion of natural resources. Therefore, focusing on the efficiency and effectiveness of natural resources is not enough; instead, India must recycle waste materials. India has been making efforts to recycle waste materials by managing garbage to address the issues of climate change and natural resource depletion. However, India is struggling with a significant garbage management issue due to the increasing amount of waste generated, the lack of infrastructure, and improper disposal techniques. Other nations had similar garbage management issues but found innovative recycling solutions. Taiwan is one such country that falls under this. Once, Taiwan was termed a 'garbage island' but now serves as a shining example of efficient and effective waste disposal practices, with a more than 55% recycling rate. The presentation will focus on how Taiwan turned its status from a Garbage Island to a Global Leader. Taiwan launched a recycling program in 1989 after an amendment to the Waste Disposal Act 1987. In 1994, the government established the 3R Foundation (Reduce, Reuse, Recycle) to prevent fraud and other scandals. Taiwan's waste management

model is based on the belief that citizens should take responsibility for generating, segregating (recyclable or non-recyclable), and recycling the garbage appropriately. Some crucial elements like 'paying more for generating more garbage,' 'reward if you recycle,' 'community engagement,' and 'strict regulation enforcement' were incorporated. As of now, Taiwan ranks among the top recycling countries, a rate much higher than the 35% rate of the US.

Taiwan's experience demonstrates that adequate policies, infrastructure development, community engagement, and technological innovation can transform a country's waste management landscape. 'Pay more for generating more garbage' and 'reward if you recycle' can be replicated in India because Indian citizens respond to incentives. India can learn valuable lessons and adapt them to create the infrastructure needed for waste management, integrate the informal sector, motivate behavioural change in citizens of India and embrace technology.

0.6

Smart Tribal Farming: Facilitating Digital Transformation to Unlock Opportunities in 1.45 Lakh Tribal Villages of India by 2030 Facilitating to be Part of Viksit Bharat by 2047

Prof. Moni Madaswamy
Professor Emeritus and Chairman
Centre for Agricultural Informatics and e-Governance Research Studies (CAIRS)
Centre for Agribusiness and Disaster Management Studies (CADMS)
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India aims to become a 5 Trillion Dollar Economy (TDE) by 2025 and 10 Trillion Dollar Economy by 2030. Rural India is a powerhouse with the potential to add 1.8 Trillion Dollars to the country's economy, and this potential could be realized only if Bharat and India merge, said Harish Manwani, Chairman of Hindustan Unilever Ltd (HUL), during the Annual General Body Meeting held in 2012. The

Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015, as a universal call to action, to end poverty, protect the planet, and ensure that by 2030, and people enjoy peace and prosperity by 2050. Since 2010, global Total Factor Productivity (TFP) growth (a measure of agricultural productivity) has been increasing only by 1.51%, against 1.75% – the required average annual rate to double agricultural productivity. The 2018 Global Agricultural Productivity Index™ (GAP Index™) Report (https://www.icrisat.org/) predicts that if this trend continues, farmers in low-income countries (where TFP growth is even lower at 0.96%) will use more inputs and resources to get higher outputs, disrupting natural resource bases, and therefore recommends strategic policy goals for a sustainably productive World, among the others, viz., "adopt Science-based and Information technologies" and "Invest in Agricultural Research".

Tribal Farming System in harmony with Nature - A Development Mission India is a land of villages. Acharya Vinoba Bhave said, "India is largely an agricultural country (Krishi-Pradhan Desh) and a country of villages (Gram-Pradhan Desh) more than 6.25 Lakh Villages". The agricultural sector is the foundation of Indian economy and the Economic Survey 2023-24 says that it provides livelihood support to about 42.3 per cent of the population and has a share of 18.2 per cent in the country's GDP at current prices.

The Tribal population of India constitutes about 8.9% of the total population in India, and spread, predominantly, across the forest and hilly regions of the country. The tribal economy is mainly concentrated around the collection and processing of Minor Forest Products (MFP) and cultivation largely for the purpose of domestic consumption. The Tribal Community usually struggle to meet their economic needs mostly through the Mahatma Gandhi Rural Employment Guarantee Act (MGNREGA) Programme. India has at least "1.45 lakh tribal villages, with more than 25 per cent of the Tribal population in such villages" who do practice agriculture but at a very primitive level of the value chain. In fact, the tribal economies lack organized markets as well as financial institutions to promote tribal products. There is a huge demand for tribal produce, especially organic and natural food products, but the supply side of this economy is way below the demand side, and the community fails to profit from its produce. Tribal

farming is recognized, traditionally, as a risk-minimizing system providing at least some food, even in adverse weather conditions.

Strategic Use of Digital Technology in Farming System Life Cycle

The Ashok Dalwai Committee on Doubling Farmers' Income by 2022 Report (2018) of the Central Government recognized Agriculture as a Value-led Enterprise and recommended "SMART Farming" (SMART Irrigated Farming, SMART Rainfed Farming, SMART Tribal Farming) in its Chapter 10, Volume 12 (B) titled "Digital Technology in Agriculture", as one of the seven DFI-2022 Mission Mode Programmes, for adoption in a time bound manner, to digitally transform more than 14.5 Crore operational farm holders of India and their farming activities viz.,

- *Digitalised Agriculture: Digital Technology and Innovation in Agriculture: Digital India, Make in India, Skill India and StartUps India Programmes for Transformational Reforms in Agricultural Sector (SMART Irrigated Farming, SMART Rainfed Farming and SMART Tribal Farming);*
- *Digitalised Agro-Met Advisories & Agricultural Risk Management Solution;*
- *Digitalized Agricultural Resources Information System and Micro-Level Planning for achieving SMART VILLAGE & SMART FARMING;*
- *Digitalized Value Chain for about 400 agricultural Commodities;*
- *Digitalised Access to Inputs, Technology, Knowledge, Skill, Agricultural Finance, Credit, Marketing and Agribusiness Management, to Farmers;*
- *Digitalized Integrated Land and Water Management System – Per Drop More Crop;*
- *Digitalized Farm Health Management for Reduction of Farmers' Losses.*

It is very timely that the International Conference on "Viksit Bharat: Innovative Businesses, Agriculture, Technology and Resource Management for Sustainable Growth" (ICVBSG2024) aims to drive sustainable development across various sectors by ensuring inclusive economic growth that benefits all sections of society, and adopts a multidisciplinary approach to create a holistic vision for India's

future by exploring Synergies between Business, Agriculture, Technology and Resource Management.

SMART Tribal Farming – Achieving Sustainable Agriculture and Livelihood Opportunities towards VIKSIT Bharat by 2047

This Paper details out the need for undertaking "SMART Tribal Farming – Pilot Initiatives through Digital Transformation of Agriculture in Tribal Areas for manifold increase in Tribal Farmers Income", in a cluster of 10-15 Tribal Villages in various States of the Country, initiated as an Outreach Research Project in 2022, by presenting to the Ministry of Tribal Affairs (Government of India), by the Centre for Agricultural Informatics Research and e-Governance Studies (CAIRS) of Shobhit Institute of Engineering and Technology Meerut, in association with Non-Governmental Organisations (NGOs),and Public and Private Research and Higher Educational Institutions of India. This will include "Care & Welfare", "Change & Development" and "Protection of Indigenous Knowledge on Farming Practices" for increased economic productivity of Tribal Communities, through the Action-Plans Programme. This has the acceptance in many States of India now, and the HEIs are in the process of establishing CAIRS to facilitate this Development Mission, and were also presented in the Change Maker Summit 20 (CH20) held on 19 August 2023 during the G20 Summit in New Delhi (India).

India is endowed with about 4500 Engineering Colleges, 45000 Non-Engineering Colleges (Higher Educational Institutions - HEIs) and about 1500 Deemed-to-be Universities offering Digital Technology related Courses and its applications in the area of GRIN (Genomics, Robotics, Informatics and Nano Technologies) Revolution facilitating ever-green revolution. This can be achieved by establishing a COE – Centre for Agricultural Informatics and e-Governance Research Studies (CAIRS) in HEIs across the Country to usher in Agriculture 4.0 in India, aligning with Industry 4.0 and Society 5.0.

This Paper further emphasizes that the SMART Tribal Farming Initiative is towards achieving "Food, Nutrition, Health, Livelihood Security and Economic Productivity of Tribal Communities" in India, facilitating Digital Transformation

to unlock opportunities in 1.45 Lakh Tribal Villages of India by 2030 facilitating to be part of Viksit Bharat by 2047. 77 Years have passed since 1947 and We have only 23 Years available for achieving this Development Mission in Tribal Villages, through possible intervention by and support of the Ministry of Tribal Affairs, STI (Science, Technology and Innovation) Hub in Tribal Areas of the Ministry of Science and Technology and the Digital Agriculture Mission 2024 of Ministry of Agriculture and Farmers Welfare of the Government of India.

0.7

Viksit Bharat: Innovative Businesses, Agriculture, Technology and Resource Management for Sustainable Growth (ICVBSG2024)

Inclusive Education and Livelihood Development: A Partnership Between Thamarrurr Youth in Australia and Centurion University in India.

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Enabling inclusive development navigates us towards truly sustainable growth, steering away from extraction and exploitation and reorientating towards regeneration, decolonisation and a redefinition of progress.

Indigenous peoples and small-scale farmers, two groups that are often excluded from the economy, with their deep connection to, and care for, the land and waters, may be the key to sustainable futures for all of us. Deep listening and genuine self-determination, together with inclusive access to education and institutions, enable the integration of meaningful, two-way learning and cultural sharing. This creates opportunities for sustainable growth, responsible resource management and innovative business and technology prospects.

Rather than seeing the economy as a number of chains consisting of individual links, we imagine a sustainable future that weaves together different cultural threads, while knitting ancient wisdom with emergent technologies and listening to the voices of our young people, together with their elders.

Thamarrurr Youth in Australia has partnered with Centurion University to offer inclusive education and skills training for Indigenous Australian students who are excluded from both the education and economic system in Australia due to language and cultural bias. Centurion's residential-based program reduces the inherent barriers to learning due to community pressures and remote locations, and the development of a flexible, skill-based learning model allows self-determination for sustainable economic growth, connecting through cultures and agency for future livelihoods.

Track-1

Trends in Management & Operations

[Paper Code - 1.1]

Effect of "No Added Sugar" Front of Pack Labeling on the Cognitive State of Consumers: An Experimental Study on Indian Consumers

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Abstract

This study investigates the impact of "No Added Sugar" front-of-pack labelling on consumer purchasing behaviour. Grounded in cue utilization theory, which posits that consumers rely on extrinsic cues like labelling when making decisions, this research formulates a central research question and employs a between-subject experimental design. Participants were randomly assigned to either an experiment group exposed to a breakfast cereal brand featuring "No Added Sugar" front-of-pack labelling or a control group exposed to the same cereal brand without such labelling. Post-exposure, the mean responses of both groups were compared using t-statistics, revealing a statistically significant difference. Specifically, the

experiment group exhibited a significantly higher willingness to buy compared to the control group. This study contributes to the existing literature on front-of-pack nutritional labelling and its influence on consumer behaviour, highlighting the effectiveness of "No Added Sugar" labels in enhancing consumer purchase intentions.

Keywords: Front of Pack Labeling, Experiment Design, Consumer, No Added Sugar

[Paper Code - 1.2]

A Two-Warehouse Model for Deteriorating Inventory Items with Varying Different Deterioration Rates in Two Warehouses Under Conditions of Permissible Delay in Payments

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Abstract

The objective of the proposed paper is to develop an optimal two-warehouse model for deteriorating inventory items with the incorporation of the following characteristics: 1) the two-warehouse inventory system considers only a single type of item, 2) deteriorating items follow varying deterioration rates in the two warehouses, viz. OW (Own Warehouse) and RW (Rented Warehouse), 3) demand is a constant function of time, 4) no shortages situations occur in the system under consideration. 5) the supplier encourages the customer to buy more quantities by providing a grace period for payment. The model is derived as well as the account is settled on the basis of the grace period under three main circumstances such as: Case 1: the duration of items in RW lies in between the grace period and the cycle length; Case 2: the grace period lies in between the duration of items in RW and the cycle length and Case 3: the grace period is greater than the cycle length of the two-warehouse system. An easy-to-use step-by-step solution procedure is approached to minimize the total relevant cost function by determining the duration of items in RW and the cycle length of the two-warehouse inventory system as two decision variables. In the end, the results are illustrated with a couple of numerical examples and a sensitivity analysis of several system parameters on the optimum solution is provided.

Keywords**:** Constant Demand Pattern, Deteriorated Items, Grace Period, Two-Warehouse System, Varying Deterioration Rates.

[Paper Code - 1.3]

An Order Level Optimal Policy for Weibull Distributed Deteriorating Items Varying with Generalised Demand, Shortages and Permissible Delay In Payments

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Abstract

The main objective of the proposed paper is to develop a deteriorating inventory model within the EOQ (Economic Order Quantity) framework satisfying the following characteristics: 1) the inventory system deals with a single type of item; 2) demand follows continuous, deterministic and time-dependent quadratic pattern; 3) deteriorating items follow a special form of Weibull density function; 4) the shortages in the developed system are assumed to be a natural phenomenon; 5) only complete backlogging cases are allowed to occur in the model. The quadratic demand precisely depicts the demand for a seasonal product and newly launched items coming to the market. Based on the occurrence of the grace period for account settlement and the existence of shortage time point, the model is derived into two main policies: Policy I: grace period is less than or equal to the shortage time point and Policy II: grace period is greater than the shortage time point. The model is well-explained with the help of a simple analytical solution procedure and a couple of numerical examples. In the end, sensitivity analysis of system parameters on the shortage time point, cycle length and cost function is carried out.

Keywords*:* Payments, Deteriorating Items, EOQ, Shortages, Time-Dependent Quadratic Demand, Weibull Distribution Function.

[Paper Code - 1.4]

A Projection of Benefits and Negative Effects of Retail Business in Balasore

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Abstract

The Indian retail industry has emerged as one of the most dynamic and fast-paced industries due to the entry of several new players. The retail industry is expected to grow from USD 32.68 trillion in 2024 to USD 47.24 trillion by 2029, at a CAGR of 7.65% during the forecast period (2024-2029). As internet penetration increases, more international retailers set up shops in India, and established Indian brands and retailers set themselves on a high growth trajectory; the share of the organised retail market is expected to increase from 12 per cent in FY 2019 to 25 per cent in FY 2024.The e-commerce market is estimated to grow from US$ 24 billion in FY 2019 to US$ 98 billion in FY 2024. By 2025, 220 million individuals in India are anticipated to purchase online, and the retail sector is forecast to increase to INR 13,97,800 crore (US$200 billion) by 2027, thanks to eCommerce. Small-format vendors and neighbourhood Kirana (grocery) shops make up around 90 per cent of India's grocery retail commerce. Kirana shops need to adapt to the changing retail landscape and customer expectations quickly. In order to keep possession of their sales volume, the retailer has to face a stiff competition in the retail business. The majority of functions have to be performed by owners themselves due to the limitation of resources. The main purpose of the study is to understand the socio-economic conditions of the retailers in Balasore to identify the difficulties faced by the offline retailers, and to estimate the benefits of retail business. The study is designed as a descriptive and analytical one. The research problem and interview schedule have been formulated and tested on the basis of

the research objectives. It is observed that around 92.5% of male retailers with the age bracket of 35 to 45 years with a monthly income of Rs.20000 are found in Balasore Municipality Area. 48% of the shops are in residential plots. 55% of retailers are Sole Proprietors. 86.5% of retailers procure raw materials from the open market. 22.5% of the retailers are grocery shop owners and 47.5% of the retailers run their business on borrowed funds. The outcome of the study suggests that the location of the stores should be convenient and easy to access, the goods should be properly packaged, and certain specialized items that are used or consumed on special occasions or festivals or local celebrations should be available in the shops and education and training of staff needs to be done to enhance service. At last, it is concluded that retailers should prepare marketing plans that include decisions on the target market, product assortment and procurement, services and stores atmosphere, price promotion and proper placement of products inside the retail shops.

Keywords: Retail market, Kirana Shops, Street Vendors, Offline shopping.

[Paper Code - 1.5]

A Bibliometric Analysis of Current and Future Developments in Artificial Intelligence in Marketing

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Abstract

The aim of this study is to perform a bibliometric analysis of research on artificial intelligence (AI) in marketing and comprehensively review the relevant publications. For this purpose, 1049 studies from the Scopus database were examined, specifically, those that included the terms "artificial intelligence market" or "AI market" in their keywords, titles or abstracts. The data analysis was conducted using the R programming language, R Studio and the Bibliometrix package. The analysed research spans from 2013 to 2024. The findings indicate that interest in artificial intelligence marketing studies increased in 2015 and accelerated significantly after 2018. The most commonly used terms in the literature are artificial intelligence, technology, future, information, management, performance and big data. The analysis also identifies the countries with the highest volume of research in the field of artificial intelligence marketing.

Keywords: Artificial Intelligence, Marketing, Bibliometric Analysis, Big Data
Theme

[Paper Code - 1.6]

Financial Risk and its Influence on Corporate Valuation: Insights from BSE 500 Firms

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Abstract

This study examines the influence of financial risk on the corporate valuations for companies listed on the BSE 500 index from 2017 to 2023. Financial risk is quantified through credit risk and market risk, and corporate valuation is assessed using Tobin's Q. The analysis reveals that credit risk significantly influences Tobin's Q, with a positive coefficient indicating that higher credit risk is associated with higher firm valuations. In contrast, market risk does not show a statistically significant effect on Tobin's Q ratio, suggesting variations in market fluctuations have minimal influence on enterprise valuation. Additionally, enterprise size and leverage positively influence Tobin's Q, with larger firms and those employing higher leverage demonstrating increased market valuations. Enterprise value, which accounts for the total worth of the firm adjusted for debt, also exhibits a positive impact on Tobin's Q. Robustness tests using the Price-to-Book (PBR) ratio support the main findings, showing that credit risk similarly affects PBR positively, while market risk remains statistically insignificant. The study highlights the importance of effective credit risk management and strategic financial planning, emphasizing the need for businesses to focus on growth and leverage to enhance firm value.

Keywords: Financial Risk, Firm Valuation, BSE, Panel Regression

[Paper Code - 1.7]

Unpacking the Supervisor support and career resilience nexus for enhancing career sustainability- A conceptual framework

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Abstract

This study aims to explore the critical nexus between supervisor support (SS) and career resilience (CR), proposing a conceptual framework that highlights their combined impact on career sustainability (CS), particularly among employees in the IT sector. The study seeks to understand how supervisory practices can foster resilience in employees, ultimately contributing to the sustainability of their careers in a rapidly changing industry. The conceptual framework is developed through a comprehensive review of existing literature on supervisor support, career resilience and career sustainability. The study integrates insights from organizational behaviour and career development theories to propose a model that explicates the relationships between these constructs, with a focus on the IT sector employees. The framework posits that supervisor support, encompassing emotional, instrumental, and developmental dimensions, plays a crucial role in enhancing career resilience. Career resilience, in turn, serves as a mediator that links supervisor support to career sustainability, enabling employees to navigate career transitions, cope with challenges, and maintain long-term career viability. Management practitioners can effectively focus on employees' career resilience by advancing career sustainability and supervisory support. The current study contributes to the body of literature by offering a novel conceptual framework that links supervisor support to career sustainability through the mediating role of career resilience. It is particularly valuable for practitioners and researchers interested in understanding and enhancing career sustainability in the fast-paced and often volatile IT sector.

Keywords: Supervisor Support, Career, Sustainability, Resilience, IT, Employees

[Paper Code - 1.8]

Sustainability and Green Operations Management: Trends, Challenges and Strategic Implications

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Abstract

Sustainable and green operations minimize environmental impact, enhance efficiency, and ensure the long-term viability of any organization. This paper explores the evolving landscape of sustainability and green operations management, focusing on current trends, challenges and strategic implications. With increasing global pressure to adopt environmentally responsible practices, businesses are integrating sustainability into their operations. This study examines the adoption of green supply chain management, eco-friendly manufacturing processes and resource-efficient logistics. It highlights key challenges such as cost constraints, regulatory compliance and the need for technological innovation. Furthermore, the paper discusses the strategic implications of these trends, including the potential for competitive advantage, customer loyalty and long-term financial gains. By analyzing case studies and industry data, this research aims to provide a comprehensive understanding of how sustainability is shaping the future of operations management and offers insights into the strategies that organizations can adopt to navigate the complexities of this transition effectively.

Keywords: Sustainability, Green, Operations, Management, Environment

[Paper Code - 1.9]

Employees Performance Evaluation Analytics: A Bibliometric Review

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Abstract

The study aims to identify and analyse the existing literature in human resource analytics and suggests future research in the same context. The study deals with evaluating prominent authors, journals, publications, geographical distribution, and keyword occurrences. Additionally, the study provides direction for the expansion of empirical and conceptual knowledge. A total of 191 documents published between 2008 and 2024 were exported from the Scopus database and systematically analysed using Bibliometrix R-Package and VOSviewer including performance analysis and science mapping of the literature. Based on the bibliometric analysis, content analysis, and network analysis techniques the study provides a comprehensive review of the existing literature. Journal of Organizational Effectiveness, Human Resource Management and Personnel Review were regarded as the most influential journals with maximum citations. The most prominent authors contributing to the study are McCartney S, FUN, and Singh S. The top countries in terms of publication are the USA, India and Australia. The top affiliations contributing to the field of study are RMIT University, Tilburg University, and Vrije Universiteit Brussel. The major themes that evolved from the analysis are predictive workforce analytics, happiness management, smart human resources, human capital and explainable artificial intelligence. This research may benefit both researchers and human resource practitioners by identifying the gaps and needs in HR analytics study. Additionally, it highlights trends in HR analytics literature, helping researchers in gaining deeper insights into the field.

Keywords**:** Bibliometric, Citation, Analysis, HR, Analytics, People, VOS Viewer, Workforce Analytics

[Paper Code - 1.10]

Farmer Producer Organizations and Innovation: Bridging Market Gaps for Marginal Farmers

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Abstract

This research paper explores the pivotal role of Farmer Producer Organizations (FPOs) in mitigating the challenges faced by small and marginal farmers in Angul, Odisha, focusing on marketing services. Despite the presence of FPOs, many struggle to establish sustainable business models and achieve significant revenue streams, revealing a critical research gap. The primary objectives of this study are to assess the current status, structure and operational mechanisms of FPOs in Angul, evaluate their performance in marketing services, identify skill gaps, and provide actionable recommendations for enhancement. This research uses a case study approach to Farmer Producer Organization based out of Angul, Odisha. Utilizing a mixed methods approach, data was gathered through surveys, interviews, and secondary data analysis. Key findings highlight the influence of governance structures, business mix, value chain development, and credit availability on the performance of FPOs. The practical implications of this study are significant, offering policymakers and stakeholders insights into optimizing the effectiveness of FPOs, thereby improving the livelihoods of small and marginal farmers. However, the research is limited to one district and one FPO, which may not fully represent the diverse landscape of FPOs across India. Understanding the dynamics and impact of FPOs is crucial for developing policies that better support small and marginal farmers, ultimately fostering a more inclusive and sustainable agricultural sector.

Keywords: Farmer, Organization, Marketing, Services, Agriculture, Livelihood, Policy.

[Paper Code - 1.11]

Mapping Green Entrepreneurship: A Comprehensive Bibliometric Analysis from 2002 to 2024

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Abstract

This study aims to conduct a thorough bibliometric analysis of green entrepreneurship over the past twenty-two years, offering valuable insights into major developments in the field. A sample of 557 studies from 2002 to 2024 was analysed using the VOSviewer software and R programming language. The analysis in the present study is categorized into two parts, that is, performance analysis and science mapping. The findings show that previous research on green entrepreneurship lacked synthesized results and identification of major themes. This study highlights recently developed themes including entrepreneurial ecosystems, sustainable entrepreneurial ecosystems, green entrepreneurship orientation, green innovation, and sustainable entrepreneurship that unlock potentially interesting directions for future research. Germany, USA were the most productive nations in terms of citations, followed by the United Kingdom and the Netherlands. The emerging author keywords in terms of frequency in the study are sustainable entrepreneurship, sustainability, entrepreneurship and green entrepreneurship. The prominent authors contributing to the study are Fighter K., Horisch J., and Schaltegger S. The Prominent journals with the highest publication are the Journal of Cleaner Production, Business Strategy and the Environment, and International Journal of Entrepreneurial Behaviour. This study will serve as a valuable resource for scholars across various disciplines to evaluate the progression of academic works on a specific theme over time, especially for those focused on green entrepreneurship. Through its comprehensive and rigorous analytical methods, this study proposes a unique definition of green entrepreneurship.

Keywords: Bibliometric Analysis, Green Entrepreneurship, Eco-Entrepreneurship, Science Mapping, Performance Analysis

[Paper Code - 1.12]

Manufacturing Industry Operational Engagements in Achieving Sustainable Supply Chains

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Abstract

The purpose of this paper is to identify some key factors for a manufacturing organization that could augment corporate objectives (customer satisfaction, sustainable green practices, and profitability) in supply chain management. The paper integrates experiential learnings and empirical research compilations of some of the relevant supply chain studies conducted by authors and consultants on factors/variables which find relevance in today's manufacturing industries with their impacts. The findings compiled here are on variables that could add up to addressing supply chain challenges of global and domestic manufacturing. The paper combines both practical and theoretical standpoints, focussing on key issues for an organization, with varying priorities with respect to their business environment and their changing business dynamics. This paper is built with the intent of integrating managerial concepts with an integrated approach towards manufacturing processes and supply chain enhancements.

Keywords: Supply Chain, Value Chain, Quality, Supplier, Collaboration, Human Resource, Digitization, Risk Management, Sustainability

[Paper Code - 1.13]

The Strategic Integration of Technology in Human Resource Management:Enhancing HR Practices

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Abstract

In today's rapidly evolving business environment, human resource management (HRM) faces numerous challenges, from handling extensive resume volumes to managing employee inquiries and optimizing training processes. These challenges underscore the growing need for technological solutions like artificial intelligence (AI) to enhance HR efficiency and effectiveness. This study aims to explore the role of AI in transforming HR practices, investigating its impact on recruitment, employee engagement, and overall organizational performance. The objective is to assess the adoption levels, awareness, and perceived benefits of AI among HR professionals and employees across various industries. Its thorough analysis of AI's incorporation into HRM, which provides insights into new trends and useful applications, makes this research distinctive. A proposed framework outlines how AI can streamline recruitment processes, improve employee onboarding experiences, and facilitate personalized development initiatives. According to the results of a questionnaire-based poll, artificial intelligence (AI) is widely used in human resource management (HRM). This is because AI can automate repetitive jobs, improve decision-making through data analytics, and increase employee engagement. The implications for HR strategy are covered in the findings of the research, with a focus on the necessity for ongoing AI education and strategic alignment with corporate objectives. HR departments can foster innovation, increase operational effectiveness, and eventually aid in the expansion of organizations in the digital era by utilizing AI efficiently.

Keywords: Artificial Intelligence, Human Resource Management, AI Adoption, Recruitment, Employee Engagement, Organizational Performance

[Paper Code - 1.14]

Sensitivity Analysis in Parametric Non-Convex Optimization

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Abstract

The concept of sensitivity analysis plays a significant role in various optimization models that arise in applied sciences such as financial mathematics, risk analysis, signal processing, neural networks and optimal control. To analyze the nature of the solutions, the parametrization of the decision variables is widely used. Mostly multi-objective problems are studied with convex, concave or non-convex constraints. Linear objectives with linear constraints belong to the convex category, where the existence of optimal solutions is comparatively smoother. However, in the case of non-convex models there is no guarantee of global optimal solutions. In this presentation, we consider generalized non-convex programming problems where the objective and the constraints are non-convex in nature. With smaller perturbations, we parametrize the decision variables and study the behaviour of the solutions, which are local optimal solutions.

Keywords**:** Convex Optimization, Sensitivity Analysis, Multi-objective Optimization, Non- convex functions, Parametric Optimization

[Paper Code - 1.15]

The Role of Cross-Cultural Training in Developing Cross-Cultural Competence: A Comparative Study of Thailand and India

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Abstract

As we progress to a cosmopolitan era where multinational companies are functioning with a diverse workforce from around the globe, the concept of cross-cultural work environment is becoming rampant. This has led to the widespread need for cross- cultural training initiatives being taken up by the Human Resource Management to develop adequate competencies of the employees for success of the organizational objectives. This paper attempts to analyse the relevance of the training on the employees employed by FMCG Companies operating in Thailand and India. This paper aims to take a qualitative approach by corroborating the existing literature with the help of interviews and questionnaires of senior staff of the companies in both geographies. The study highlights the imperative role of cross-cultural training by establishing a model of the competencies developed by employees for successful conduct of business in Thailand. It also establishes a model by incorporating the essential capabilities in the working patterns of the employees. This paper endeavours to bridge the gap between the expatriates and the local workforce of a country in accommodating to the company's style of working to assimilate the efforts of both to achieve the unified goals of the organization. The multinational companies (MNCs) can delve deep into the scope of cross-cultural competence in driving a strong and diverse workforce.

Keywords**:** Cross-cultural communication, Cross-cultural Training, Cross-cultural Competence, MNCs, Thailand

[Paper Code - 1.16]

Transforming Digital Payment through E-Wallets towards Viksit Bharat 2047: A Student Perspective

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Abstract

India's journey towards becoming a developed nation by the year 2047, a goal set to mark the centenary of independence, is marked by significant advancements in technology and infrastructure. E-wallets, as a cornerstone of digital payments, are expected to play a crucial role in this transformation. An E-wallet is a very well-known electronic transaction system among all categories of customers. At the same time, it is also essential to understand how students, who are future emerging leaders and consumers, perceive these changes for shaping policies and innovations in this sector. The objective of the study is to take the views of young minds and give suitable suggestions regarding innovation in e-wallets for the performance of the banking sector. This study employs a quantitative survey approach among the students in Higher Educational Institutions. The quantitative aspect involves a structured questionnaire distributed to a sample of students across various educational institutions. The survey revealed that a significant majority of students are familiar with E-wallets and use them regularly for various transactions, including bill payments, shopping, and peer-to-peer transfers. However, concerns regarding security and transaction reliability persist. They also face the challenges regarding the availability of the Internet for financial transactions. As India progresses towards its goal of becoming Viksit Bharat by 2047, E-wallets are poised to become a vital component of the financial ecosystem. Students, as future stakeholders and users, offer valuable insights into the potential developments and challenges. Addressing these perspectives can help to shape a more inclusive and secure digital payment landscape.

Keywords**:** E-Wallets, Viksit Bharat 2047, Customer, Financial Ecosystem, Stakeholders, Digital Payments.

[Paper Code - 1.17]

E-CRM as Emerging Management Tool for Customer Retention: An Investigative Study on Select Private Banks in Bhubaneswar

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Abstract

Of late, in the quest of business excellence, most of the business organisations are adopting Electronic Customer Relationship Management (E-CRM) to provide profitable marketing possibilities, boost customer satisfaction and improve relationships. The banking institutions are no exception to the adoption of such a technology-driven E-CRM. Now there is heavy dependency in the banking industry on E-CRM to ensure customer satisfaction, loyalty and retention. The main objective of the present research paper is to examine the customer perception on E-CRM in selected private banks. Apart from this, the other objective is to evaluate how far the adoption of E-CRM in private banks has helped them to retain customers. In this connection, a structured questionnaire is prepared to collect the demographic related information of the customer respondents. The key demographic variables are used to find out the customer perception towards E-CRM as well as how far the E-CRM of the private banks helped these banks in getting the customer satisfaction, loyalty and the subsequent retention of the customers of such banks. Here, six private sector banks located in Bhubaneswar city of Odisha were selected and data for the study were collected through a designed questionnaire from 564 customer respondents of these six private banks. Statistical tools namely student t-test, Welch's t-test, Kruskal-Wallis test, Mann-Whitney U- test, and Z-test were used for data analysis and

interpretation. Apart from this, moderation analysis on selected demographic variables was done to arrive at the results of customer retention. The results of the study reveal that customer perception on the basis of income factor has significant influence on E-CRM followed by gender factor. The results of the study further disclose that E-CRM has a strong and positive impact on customer retention of sample private banks selected for the study. Here also, the demographic variable namely, customer income has significant impact on customer retention of such banks.

Keywords: E-CRM, Private Banks, Customer, Retention, Satisfaction

[Paper Code - 1.18]

Transforming Sustainable Development Goals through Green Finance in the MSME Sector in India – An Empirical Study

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Abstract

Sustainability is the buzzword discussed across the world. Sustainable development across countries is an important aspect towards bringing revolutionary change to the economy. The United Nations Sustainable Development Goals are the focus of the globe today. In this context, the word inclusiveness has also being used together towards restructuring the country in the emerging economies. Environmental Sustainable Growth (ESG) is an important term widely used in relation to sustainable development. Green finance acts as an important focus mechanism in bringing the green revolution towards the green economy. Green finance provides investment towards development of the projects that will aim in achieving sustainability. Climate change and other factors are constantly the focus which gives an impact on the green finance in India. Micro Small Medium Enterprises (MSME) plays a significant role in shaping green finance. The contribution of banks and financial institutions plays a significant role in shaping green finance in the MSME sector.

The research paper will focus on the contribution of Green finance in providing the aim for Sustainable Development Goal. The research aims to understand the framework for investment in green finance in the MSME Sector. The research focuses on the current status of green finance in MSME Sector. The research also highlights the opportunities and challenges of MSME Sectors in Green Finance. The data collection for the research will be through secondary data sources. The findings and suggestions are being given through the data collection reports.

Keywords: SDG, Green Finance, MSME, Climate Change, Green Products

[Paper Code - 1.19]

High-Performance Work Culture: Issues and Challenges from Literature Review

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Abstract

A high-performance culture involves engaged, valued, and continuously learning employees who perform well. This instills a mindset of continuous improvement and dedication to the organization's mission, driving performance effectively. High-performance work systems (HPWS) improve innovation performance by enabling dynamic capabilities such as learning and integration, particularly in firms with a strong innovation culture. Employee engagement, innovation, and leadership are vital for fostering a high-performing company culture. According to research, a high-performance work system (HPWS) develops innovative work behaviour through knowledge sharing and inclusive leadership, emphasizing the need to acknowledge employees as valued assets. This study collected and analyzed peer-reviewed publications from respective journal databases from 2010 to 2023. The focus of this research paper is to review the already published literature and discuss a high-performance culture, why to have a high-performance culture, several significant issues and challenges that can hinder their effectiveness, and some experiences of high–performance culture-building activities in organizations. This paper reviews the different models that organizations follow to create a high-performance culture and the issues and challenges related to those models.

Keywords: High-Performance, Work Culture, Challenges, Leadership, Employee Engagement.

[Paper Code - 1.20]

Analysing the Role of Language in India's Development Journey Towards Viksit Bharat

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Abstract

Change is an inevitable process and a part of nature. We expect positive output for any change. As a developing country, India is striving for change to attain the status of a developed country. This aspiration has been conceptualised as 'Viksit Bharat' or 'Developed India'. It envisions a highly developed and prosperous nation where all citizens can access quality education, healthcare and economic opportunities.

Language also plays a crucial role in India's development. It is a fundamental element that unites people from diverse backgrounds and regions. India is a multilingual country with numerous languages spoken by different communities. Language has the potential to bridge diversity gaps, fostering unity and inclusion and promoting a sense of national identity. Moreover, language skills can improve employability, facilitate international trade, and attract foreign investment, thereby driving economic growth. Language education and literacy can empower marginalised communities, promoting social justice and equality. Language diplomacy and international communication can also enhance India's global presence, fostering cultural exchange and cooperation.

The paper thus attempts to discuss and analyse the vital role of a language in India's development towards Viksit Bharat.

Keywords: Language, Development, Education, Literacy, 'Viksit Bharat'

[Paper Code - 1.21]

Understanding the Impact of Adolescents on Family Purchasing in Odisha

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Abstract

Adolescents significantly influence household purchasing decisions, a dynamic yet under-explored aspect in Odisha, India. This study aims to investigate the impact of adolescents aged 13-18 on family purchasing behaviours, analysing how age and product categorisation affects their influence at various stages of the buying process. Addressing a notable research gap in eastern India, this study employs a descriptive design, collecting primary data from 360 adolescents through standardised questionnaires. The analysis involves MANOVA to discern patterns and variations in adolescent influence.

Findings indicate that adolescents exert the most considerable impact during the initial stages of the purchasing cycle, especially for popular goods. Their influence, however, fluctuates across different product categories and stages of the buying process. These insights are crucial for marketers aiming to develop targeted strategies that consider Odisha's distinct cultural and social dynamics. The study's limitations include its regional focus, suggesting the need for further research in diverse cultural settings to validate and expand upon these findings.

Keywords: Adolescents, Household Purchasing, Odisha, Buying Habits, Product Categories, MANOVA

[Paper Code - 1.22]

Medical Tourism in India: A Critical Evaluation

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Abstract

With the promise of high-quality healthcare at a fraction of the expense associated with wealthy nations, medical tourism has quickly become a significant sector in India. Modern medical facilities, highly qualified healthcare workers, and a wide choice of treatments, including sophisticated surgery, cutting-edge diagnostics, wellness programs, and alternative medicine, are what fuel this problem in India. Significant economic gains have resulted from the influx of medical tourists, including increased foreign exchange revenues, the creation of jobs, and expansion-related sectors like transportation and hotels.

Significant regulatory obstacles are faced by the sector, such as the requirement for uniform healthcare provider accreditation and upholding moral standards. Healthcare equity and the possible neglect of the local people are raised by the differences in the quality of care provided to domestic and foreign patients. Moreover, the growing emphasis on medical tourism could put additional strain on India's healthcare system, especially in public hospitals where strong local demand already strains the infrastructure.

This paper critically examines the numerous facets of medical tourism in India and how it affects its healthcare system and the overall economy. It looks at the moral ramifications of treating patients from abroad while unmet needs at home are explored and the possibility of long-term sustainability in this industry. The study also makes policy reform ideas that could help with the current issues. These include enforcing stronger laws, enhancing quality assurance systems, and encouraging fair access to healthcare.

Keywords: Medical, Tourism, Health, Care, Technology, Hospital

[Paper Code - 1.23]

An Alternative Way Ahead for Sustainable Development

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Abstract

Nowadays, the whole world is focusing on sustainable development goals that address seventeen SDGs for a sustainable future for the coming generations. The most recent report from the UN on the SDGs' progress presents a bleak picture. Over 50% of the targets have not made enough or weak progress, and 30% have reversed or stalled. In this paper, the researcher has explored an alternative model that is conducive to the development of a harmonious human society at a global level; a model that provides a way for a sustainable, universal human order leading to happiness, peace, and prosperity which are the current goals of SDGs. This model proposes four levels of human living from the level of self to family to society to nature/existence and lists various present-day conflicts at all these levels that 17 SDGs try to resolve. This model focuses on qualitative aspects of all the four levels of human living like self-development, prosperous family, fearless society, mutual enrichment in nature/existence and not merely focuses attention on economic growth. The SDGs for sustainable development are already inclusive parts of this model. It can be mapped to this model which shows that the explored model addresses all the solutions for sustainable development goals. This model focuses on the mutual relationship of harmony between all four levels of human living. This right understanding of harmony at all levels of human living can resolve all the conflicts all around us. This alternative model provides a way ahead for the resolution of SDGs and paves the way for Viksit Bharat.

Keywords**:** SDG, Sustainable Development, Visit Bharat, Right Understanding, Human Being

[Paper Code - 1.24]

Driving Success in times of Change: Navigating Organizational Challenges

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Abstract

The dynamic corporate climate of today is one where organizational change is an inevitable and continual phenomenon. Organizations need to adapt to survive and prosper, whether due to internal reorganization, market needs, or technological breakthroughs. This essay delves into the complex dynamics of organizational change, analyzing its effects at different organizational levels and offering practical advice on change management and implementation techniques.

This study explores the multidimensional aspects of organizational change and explores the cascade effects that affect several levels within an organization. A thorough analysis is conducted on the impact of change, ranging from specific personnel to broad organizational structures and cultures. Organizations can leverage growth opportunities and solve particular difficulties by customizing their strategies based on an awareness of the subtle ways in which change pervades various layers. The study also highlights the significance of agility and flexibility as fundamental skills for companies looking to effectively manage change and actively use it as a spurt for innovation and long-term competitiveness in the dynamic business environment. This study attempts to offer useful insights that can help leaders and practitioners effectively manage transformative processes and steer their organizations toward long-term success through a comprehensive examination of organizational change.

Keywords: Agility, Adaptability, Multifaceted Nature, Cascading Effects, Organizational Change, Sustained Competitiveness.

[Paper Code - 1.25]

A Systematic Literature Review on Determinants of Financial Performance in Integrated Reporting

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Abstract

This paper aims to study the determinants of financial performance in a company and their interaction within the integrated reporting practice. Six capitals are included in integrated reporting, as defined by the International Integrated Reporting Council (IIRC): Financial, Manufactured, Intellectual, Human, Social & Relationship, and Natural. This paper aims to identify the determinants of financial performance and examine their relationship with integrated reporting in both global and Indian contexts. This research methodology uses a structured literature review to analyze and synthesize secondary data systematically. The data was sourced from 50 published articles from 2010 to 2023, ensuring a comprehensive understanding of the subject matter over a significant timeframe. The sources for these articles include reputable databases such as Scopus and Google Scholar, which are known for their extensive and high-quality academic content. By focusing on secondary data, the study aims to build on existing research, identify patterns, and draw conclusions that contribute to the broader academic discourse. This approach allows for a robust examination of the topic, leveraging various perspectives and findings documented in the selected articles.
The practice of integrated reporting has been found to possess a substantial effect on the financial performance of companies, as evidenced by metrics such as "Return on Equity (ROE)," "Earning per Share (EPS)," and "Asset Turnover Ratio (ATO)." However, it has shown a mixed impact on firm performance measures, such as "Return on Assets (ROA)" and "Tobin's Q".

Integrated reporting has been primarily designed to benefit providers of financial capital in profit-making corporations. This study highlights the need for more voluntary adoption of integrated reporting, as it demonstrates significant positive impacts on economic performance. This study examines the various determinants of financial performance and how they interact with the practice of integrated reporting. The evidence provided can encourage companies to incorporate this practice to enhance their operational metrics, thereby benefiting stakeholders involved in financial capital.

Keywords**:** Integrated Reporting; IIRC; Six Capitals; ROE; EPS; ATO; ROA; Tobin's Q

[Paper Code - 1.26]

Mapping the Augmented Reality Terrain in E-Commerce: Insights from a Bibliometric Study

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Abstract

In order to carefully map the augmented reality (AR) environment within the changing context of e-commerce, this paper performs a bibliometric analysis. The main goal is to give a thorough review of how augmented reality (AR) affects customer engagement and purchasing decisions in the modern online retail setting. The bibliometric technique is utilized in this study, which spans 2007–2023, to analyze 382 papers from the Scopus database to comprehend the changing dynamics and trends. The study uses the VOS viewer programme for mapping analysis, making it easier to see how keywords and references are used together. A crucial part of the approach is the chosen database, Scopus, which guarantees a strong representation of academic publications inside the specified study scope. A wide range of topics, including "augmented reality," "AR and online shopping," and "consumer behaviour," are included in the analysis to give readers a detailed picture of the state of the field. Results show a notable rise in publications starting in 2021, indicating a rising body of research interest in augmented reality in the e-commerce space. Citation metrics and publication counts of the top 10 publishers show that they significantly add to the body of knowledge, with Emerald Group Publishing LTD at the top. Nine clusters, each representing a different thematic area from "Consumer Behaviour" to "Digital Marketing" and "Virtual Try-on"are found by a phrase co-occurrence analysis. This thorough analysis's conclusion emphasizes how AR has the ability to drastically alter online consumer experiences. By using bibliometric methodologies in a novel way, it is possible to identify new topics, trends, and significant contributors in the wide field of

augmented reality in e-commerce. The study's conclusions have important ramifications for future lines of inquiry, business professionals, and legislators. They also give a road map for negotiating the changing interface between augmented reality and online shopping.

Keywords: Augmented Reality, E-commerce, Online Shopping, Consumer Behaviour, Bibliometric Analysis, Technology Adoption, Digital Marketing

[Paper Code - 1.27]

Sustainability in Operations: Strategies for a Greener Future

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Abstract

Sustainability has emerged as a critical focus in operations management over the last couple of years, driven by growing environmental concerns and associated regulatory pressures. This study will critically analyze the implementation of sustainable strategies in operations and their resulting organizational performance. It covers various approaches in this regard, including waste reduction, energy efficiency, and sustainable supply chain management. By understanding these different approaches, this research aims to reconcile what the literature on trends and practices in sustainable operations says. This study looks at case studies and industry data to provide an overview of how organizations can integrate sustainability into operational strategy for their businesses' long-term success and environmental responsibility. The results emphasized the strategic value of sustainability and pointed to ways in which companies could improve their 'green' credentials.

Keywords: Sustainability, Operations Management, Green Supply Chain, Energy Efficiency, Corporate Social Responsibility (CSR)

[Paper Code - 1.28]

Sustainable Development Goals 2030 Indian States with Key Development Indicators

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Abstract

India is monitoring 13 of 17 SDGs because it has little data on SDGs 12 (Sustainable Consumption and production), 13 (Climate action), and 14 (Life below water). The country has yet to identify indicators for SDG 17 (Partnership for the Goals). The country has to make huge strides in poverty alleviation, employment generation, healthcare, housing, sanitation, and women empowerment. Based on the Latest Preparedness Index Report, India ranks 112 out of 166 countries in SDGs. The review is that nine states have more than 21.92% of the population in poverty, whereas it must bring down to 10.95% by 2030; 9 states are processing less than 10% of their waste. In contrast, the target is to increase 100% by 2030; 14 states have less than 43.8% of households using clean cooking fuel, whereas the target is to provide 100% clean cooking oil by 2030. This paper provides data on Indian states with key development indicators hits and misses of each state, and present situation and future goals. This paper reveals the facts of SDGs of different states in India for what they develop their resources concerning the sustainable development goals

Keywords**:** Sustainable Development Goals, Key Development Indicators, Poverty, Health and Education

[Paper Code - 1.29]

Driving Sustainable Business Growth through IT Innovation: A Blueprint for Success

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Abstract

This study examines the integration of Information Technology (IT) for sustainable business growth. It investigates how businesses can utilize IT to promote environmental sustainability, social responsibility and economic prosperity. Through a survey of 125 respondents across various industries, this research aims to understand current IT usage, challenges, and potential in sustainable business practices. By analyzing respondents' views, experiences, and goals concerning IT's role in sustainability, this study offers practical insights for businesses and policymakers. The findings highlight effective strategies, common challenges, and solutions for enhancing IT integration in sustainable business initiatives. Additionally, the study stresses the importance of aligning IT efforts with broader sustainability goals to maximize impact and ensure long-term success. Ultimately, this research contributes to understanding how IT can drive positive environmental, social, and economic outcomes for businesses and society.

Keywords: Sustainable Management, Information Technology (IT), Environmental Responsibility, Social Equity, Financial Viability, Integration

[Paper Code - 1.30]

Emotional Intelligence for 21st Century Leaders: Driving Organizational Innovation and Sustainable Growth in Viksit Bharat 2047

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Abstract

This study investigates the pivotal role of Emotional Intelligence (EI) in leadership, emphasizing its potential to advance India towards realizing the Viksit Bharat Vision 2047. In the 21st-century landscape, applying EI factors can serve as a cornerstone for sustainable growth, social development, performance, and innovation in business organisations. Leaders with high emotional intelligence excel in self-management, conflict resolution, decision-making, and team motivation; these are all pivotal skills for achieving the dream of Viksit Bharat. The study uses a literature-based methodology to explore how EI can foster organizational environments marked by innovation, inclusivity and sustainability-critical elements for Viksit Bharat. By synthesizing current research on emotional intelligence in leadership, this paper highlights its importance in navigating the socio-economic transformations envisioned for a developed India. The study's findings will benefit the 21st Century leaders, policymakers, educators and entrepreneurs who are directly or indirectly involved in the creation of Viksit Bharat.

Keywords**:** Emotional Intelligence, Leadership, Viksit Bharat, Organisational Performance, Innovation and Sustainability

[Paper Code - 1.31]

Customers' Insight on Physical Amenities and Processes in Banks: A Case Study of State Bank of India

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Abstract

A bank is a financial institution that plays a significant role in the economic development of a nation. The escalating competition in the banking sector is compelling the banks to provide physical infrastructure and quality service. Physical facilities and quality service play an important role in accomplishing customer satisfaction and creating brand loyalty. To bridge the gaps, banks need to know about the customer satisfaction with regard to infrastructure and service quality provided. This paper is an attempt to identify the customer's insight on physical amenities provided by UBI at its branches and customer relations with bank employees.

Keywords: Ambiance, Empathy, Servicescape, Physical Environment

[Paper Code - 1.32]

Beyond the Balance Sheet: Synergizing Financial Transparency and Information Disclosure with ESG Performance Metrics in Indian Corporations

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Abstract

This ongoing research examines the role of financial transparency and information disclosure in influencing the sustainable performance of firms, focusing on Environmental, Social and Governance (ESG) metrics. Utilizing a panel dataset of Nifty 200 companies and applying Fixed Effects and Random Effects models, the study explores the relationship between the Financial Transparency Index—which comprises Business Focus, Accounting Policy Review, and Accounting Policy Details—and the Information Disclosure Index, which includes Related Party Structure and Transactions and Information on Auditors. Although results are yet to be finalized, the research aims to make a substantial contribution to the literature by establishing a framework that connects corporate governance, financial transparency, and sustainability performance, particularly within the context of emerging markets like India. From a managerial perspective, the study is expected to provide critical insights into how improved transparency in financial reporting and governance practices can enhance trust, mitigate risks, and align corporate strategies with sustainability objectives. Given the increasing importance of ESG considerations in investment and regulatory decisions, the research will offer valuable guidance for firms aiming to differentiate themselves in competitive markets and meet evolving stakeholder expectations. This research seeks to contribute to both academic discourse and practical management, offering a strategic roadmap for companies navigating the complexities of a sustainability-driven global market.

Keywords**:** Financial Transparency, ESG Metrics, Information Disclosure, Strategic Disclosure, Investment Decisions.

[Paper Code - 1.33]

Exploring the Relationship between Long-Term Capital Market Performance and Returns of Acquiring Companies: Evidence from India

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Abstract

The study has empirically examined the wealth effects of mergers and acquisitions in the Indian capital market focusing on mergers and acquisitions. The paper has taken a sample of 383 domestic mergers and acquisitions, specifically more than fifty percent of shares acquired by the acquiring companies for the period 2004-2014. Furthermore, we have evaluated the determinants that influence the long-term market performance of the acquiring firms which also include the selected governance related variables. We have analyzed the wealth effects of mergers and acquisitions by applying the long-term event study methodology. The methodology describes the two models that have been used to analyze the long-term market performance namely for Buy-and-hold-abnormal-return (BHAR) and Calendar time: Fama-French-3-Factor methodology. We have also discussed the statistical tools and benchmarks used for evaluating long-term market performance. Thus, the findings of the study indicate there is no underperformance of the acquiring firm in the long run. The findings of our studies support the efficient capital market hypothesis. Our findings suggest that results showing negative long-term abnormal returns should be analyzed with attention. These results may vary with market conditions and characteristics. Our results specify the choice of methodology, the benchmark used, and the statistical tools used for generating long-term abnormal returns. The study has attempted to analyze relative wealth gains in long run. The study tries to analyse the long term market performance by using multiple methodology in Indian context.

Keywords: Mergers and Acquisitions, Event Study, Abnormal Return, Capital Market, BHAR

[Paper Code - 1.34]

Smart Terrace Garden: An attempt to bring in exotic fruits and vegetables its kitchen perennially

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Abstract

This research paper explores the possibility of producing exotic vegetables and fruits in a smart terrace garden setup. It aims to use intelligent controlling devices to manage the soil, water and air to create a protected environment for selected exotic corps. Special attention is given to bring out corps with good quality and higher productivity per cubic feet space. In this paper, the feasibility and sustainability of such a setup is also investigated. This research attempts to demonstrate the potential of terrace gardens with lower supervision and limited space.

The results indicate promising outcome of terrace gardening as an eco-friendly, space saving, feasible and low maintenance setup to get exotic fruits and vegetables perennially. The setup can be tableau of smart agriculture practice to desired outputs of vegetables and fruits.

Keywords: Terrace Garden, Vegetables, Low Maintenance

[Paper Code - 1.35]

Women and Domestic Violence during Covid 19 Pandemic in Odisha: Insights, Implications and Strategies

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Abstract

The article is based on a study conducted during the COVID 19 lockdown in four low-income settlements (slums) in the state of Odisha, in eastern India. The objective of the study was to get a nuanced understanding of domestic violence against women during the pandemic lockdown, using both quantitative and qualitative data. A questionnaire was used to conduct in-depth interviews with the survivor-victims. Key informants in the study locations facilitated in data collection and discussions with stakeholders. Findings clearly indicated that there was an increase of 82% violence among the sample of 100 households where family members were spending most of the time inside homes. Loss of income earning by both women and men combined with excessive demands by husbands for good food, alcohol and sex were the main factors leading to domestic violence. Children were also emotionally affected by conflicts at home, especially the girl child. Women expressed their fear that boys will emulate their fathers when they grow up. Most agencies working on COVID 19 related challenges were only concerned with containing the virus and facilitating access to hospital support, testing, tracking and vaccinations. Despite reporting of gender-based violence by the United Nations, national and international media, and women's groups, there was no serious attention paid to mitigate the same. The study recommends specific doable strategies to address domestic violence during such times in terms of setting up oversight groups; youth clubs (adolescent boys and girls); building men's alliances against domestic violence; gender sensitisation programmes against violence at school level for boys; sensitisation of law enforcing agencies

and; strengthening existing women collectives (SHGs) to take up the cause in their locations. The agency role of women leaders in mitigating violence has to be promoted not only, through strong legislations but also, by creating enabling environments in low-income settlements. Such strategies will not only lead to empowerment of women, but also facilitate in policy making in the long term. The proposed strategies will be relevant in contexts other than COVID 19 pandemic situations in the future.

Key Words: Gender Equality, Domestic Violence, Pandemic, Women Empowerment

[Paper Code - 1.36]

A Study to Evaluate the Performance of Urban Cooperative Banks

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Abstract

The evolution and role of Urban Cooperative Banks (UCBs) in the Indian banking system indeed reflect a fascinating journey intertwined with socio-economic objectives. UCBs are the traditional financial institutions which are aimed to cater to the financial needs of underserved or unserved segments of society. These under the joint supervision of the Reserve Bank of India and the Registrar of Cooperative Societies at both state and central levels, had undergone significant transformations guided by recommendations from various committees, aimed at streamlining and improving their operations. Despite these transformations, there are several challenges being faced by the UCBs especially the increasing NPAs, relatively lower returns on the assets, lower return on equity etc. which emphasize the need to have continuous efforts by these institutions to improve the quality of services provided to their customers. In the present article, the emphasis is on the performance evaluation of all the UCBs for a period of five years starting from 2019 to 2023. The evaluation is on the parameters like deposits, advances, return on assets, return on equity, net interest margin, gross and net NPAs, and provisioning coverage ratio. UCBs are present in various states of the country, and they are segregated into Northern Region, North Eastern Region, Eastern Region, Central Region, Western Region and Southern Region. An attempt is made to ascertain the evaluation of the performance of the UCBs in terms of the regions in which they are located. It is observed that the Western and Southern Regions are far ahead of all the regions in terms of all the parameters considered. It is also observed that there exists significant difference among the performance of the UCBs among the regions.

Keywords: Urban Cooperative Banks, Reserve Bank of India, Performance Analysis, Financial Inclusion, Financial Sector.

[Paper Code - 1.37]

Transformation of Educational Institutions through Technology

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Abstract

The paper addresses the profound impact of technology on education, highlighting how it has transformed learning from a passive experience to an interactive and collaborative one. The shift from traditional methods to more dynamic ones like audio-video presentations and simulations is indeed significant, as it allows for a deeper understanding of concepts and fosters engagement among learners. Furthermore, the emphasis on peer learning and knowledge sharing across different locations underscores the importance of connectivity in today's education landscape. Technology has made it possible for learners to connect with each other regardless of geographical barriers, facilitating richer learning experiences. However, along with its advantages, the paper also discusses the challenges and drawbacks of integrating technology into education. Issues such as access disparities, digital literacy gaps, and the potential for technology to be a distraction are likely considered. Overall, the paper seems to advocate for a balanced approach to leveraging technology in education, one that maximizes its benefits while addressing its limitations. It offers insights into how the education system can adapt to these changes, ensuring that learners are equipped with the digital skills and awareness needed for success in today's rapidly evolving world.

Keywords: Information and Communication Technology, Online Education, Modern Technology, Social Networking.

[Paper Code - 1.38]

Examining Customer Adoption of Self Service Banking Technology (SSBT) in Selected Public and Private Sector Banks

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Abstract

This research aims to investigate the acceptance of self-service banking technologies (SSBT) in India, specifically focusing on public and private sector banks. The study explores the factors influencing the adoption of SSBT and identifies potential constraints that hinder their usage in the Indian banking sector. To achieve the research objectives, the study selected State Bank of India (SBI) and HDFC Bank as representatives from the public and private banking sectors, respectively. Primary data was collected through a simple sampling process, involving surveys and interviews. The collected data was then analyzed using a structural equation model (SEM) to examine the impact of various factors on SSBT adoption. Additionally, an exploratory factor analysis (EFA) was employed to define constraints on SSBT usage. The analysis of the gathered data revealed significant findings regarding the acceptance of SSBT in the Indian banking sector. The study found that perceived utility and perceived ease of use exerted a substantial influence on the adoption of SSBT. Customers who perceived these technologies to be useful and easy to operate were more likely to adopt and utilize them for banking purposes. The research identified specific constraints that act as barriers to the use of SSBT in India. Two prominent factors emerged from the exploratory factor analysis: "Not always available due to network issues" and "Lack of menu options in the regional language." These factors highlight the challenges faced by customers when accessing and utilizing SSBT in the Indian banking context.This study contributes to the understanding of SSBT adoption in the banking sector of India. The findings emphasize the importance of perceived utility and ease of use in driving the acceptance of self-service banking technologies. Moreover, the identified constraints provide insights for banks and policymakers to address the challenges hindering the widespread adoption of

SSBT. By overcoming network issues and providing menu options in regional languages, banks can enhance the usability and accessibility of SSBT, ultimately promoting their adoption and improving the banking experience for customers in India.

Keywords: Adoption of Technology, Banking, HDFC Bank, Public Sector, SBI and Usage of Technology

[Paper Code - 1.39]

The Impact of English Proficiency on Technology Adoption in Indian Businesses

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Abstract:

This study investigates the relationship between English language proficiency and technology adoption rates among Indian businesses. In a globalized economy where English dominates international commerce and technology, proficiency levels may significantly impact technological integration across various sectors.

Using a mixed-methods approach, the research combines quantitative surveys of Indian companies with qualitative interviews of business leaders and technology experts. It examines how employee English proficiency affects a company's ability to understand, implement and optimize new technologies, while also exploring challenges and strategies related to language barriers in technology adoption.

Preliminary findings indicate a positive correlation between higher English proficiency and more effective technology adoption. Companies with strong English skills demonstrate greater ease in navigating international tech markets and implementing complex solutions. Conversely, businesses with lower proficiency often experience delays and missed innovation opportunities.

This research contributes to language economics literature and provides insights for policymakers, educators, and business leaders. The findings highlight the importance of English language education in India's technology-driven economic growth and offer recommendations for enhancing technological competitiveness globally.

Keywords: English Proficiency, Technology Adoption, Indian Businesses, Language Economics, Globalization

[Paper Code - 1.40]

Integrating Soft Skills into Performance Appraisal Systems: Challenges and Opportunities

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Abstract

This study investigates the integration of soft skills into performance appraisal systems using a mixed-methods approach. It identifies obstacles such as the subjective nature of skills, difficulty standardizing standards and potential bias. It also highlights resistance from staff who value technological expertise over people's abilities. However, it suggests opportunities for better team dynamics, thorough assessments and staff development. The study highlights the need for objective standards, frequent training for assessors, and 360-degree feedback channels. It bridges the gap between theoretical frameworks and real-world applications, offering practical business insights and suggestions.

Keywords: Soft Skills, Difficulty Standardizing Standards, Assessments, Staff Development.

Track-2

Sustainable Agriculture

[Paper Code - 2.1]

Agricultural Tourism Entrepreneurship for Sustainable Rural Development - A Study in Ganjam District of Odisha

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Abstract

Agricultural tourism entrepreneurship is a business activity and a venture combined with tourism and agriculture. It helps to provide opportunities for visitors to experience as well as engage with agricultural activities. The main aim of this study is to identify the impact of agricultural tourism entrepreneurship in the rural development of Odisha. Such tourism explores different agricultural activities such as judicious use of chemicals, energy-efficient design of farming, awareness about farming environment, and different local agri enterprises. It helps to preserve local culture and to maintain sustainability within the rural areas of Odisha. To get detail field information on the research topic, real-time primary data was collected based on the questionnaire from about 57 respondents of Ganjam district of Odisha. In this study "SPSS software" was used to analyze the collected data statistically. It was noticed that, agricultural tourism has a positive impact on the preservation of cultural heritage within the rural areas of Ganjam district of Odisha. This study also helped to understand the rural culture and new organic farming practices adopted by farmers to attract visitors. It helped not only for economic growth but also to maintain sustainability within the environment.

Keywords: Agriculture, Tourism, Visitors, Sustainability, Cultural heritage, Local community, Economy

[Paper Code - 2.2]

Influence of site-specific nutrient management and plant population on growth, performance and nutrient uptake of maize under brown forest soils of Odisha

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Abstract

Cereals play an important role in global food security and nutrition supply for the majority of the population. Among the major cereals, maize is one of the most versatile and emerging cereal crops having wider adaptability under varied agro-climatic conditions. Maize is widely cultivated under diverse cropping systems and plays a vital role in meeting world food, feed and fodder demand. Existing fertilizer recommendations provided by state governments and agricultural institutes for a larger area without considering the site-specific soil and weather conditions are followed by most of the progressive farmers, these practices may lead to less productivity and decorates the soil health. In this scenario, Nutrient Expert maize can be an efficient decision support system for field-specific recommendations for efficient nutrient management in maize. Plant density is also one of the most important cultural traits determining grain yield as well as other important growth attributes of maize. Considering these, a field study was conducted at the Post Graduate Research Farm of Centurion University of Technology and Management, Paralakhemundi, Odisha, India (18.8° N latitude, 84.8° E longitude) during the *Rabi* season of 2022-23. The experiment was conducted by adopting split plot design and it comprised of three main plot treatments with different levels of plant population (P_1: 66666 plants ha^{-1}; P_2: 83333 plants ha^{-1}; P_3: 111111 plants ha^{-1}) and four sub plot treatments with various nutrient management treatments (T_1: 100 % RDF; T_2: Nutrient Expert-based recommendation (NER) for a target yield of 6 t ha^{-1}; T_3: NER for a target yield of 8 t ha^{-1}; T_4: NER for a target yield of 10 t ha^{-1}). The physio-chemical properties of the experimental site revealed that the soil was sandy clay loam in texture with

slightly acidic pH and low in available nitrogen and organic carbon and medium in phosphorous and potassium. Standard package of practices was followed for maize cultivation. The results of the data revealed that there was a significant difference among the growth parameters, yield attributing characters, yield and nutrient uptake of maize with respect to plant population and nutrient management practices. From the study, it may be concluded that the application of nutrients through NE-based nutrient management for a target yield of 10 t ha^{-1} under the plant population of 111111 plants ha^{-1} (with a spacing of 60 cm × 15 cm) should be chosen as the most suitable agronomic practice for improving growth and productivity in maize under brown forest soils of Odisha.

Keywords: Maize, Nutrient Expert, Plant Population, Yield, Yield Attributes

[Paper Code - 2.3]

Natural Farming: A Pathway to Sustainable Living

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Abstract

In the face of global environmental challenges, natural farming has emerged as a sustainable agricultural approach emphasizing on ecological balance in alignment with broader goals of promoting resilient and regenerative agricultural practices. In contrast to conventional farming, which often relies on use of synthetic chemicals and intensive agricultural practices; natural farming seeks to minimize human intervention and promotes the natural processes within an ecosystem by emphasizing on ecology, recycling and optimizing of on-farm resources. It is a diversified farming system that integrates crops, trees and livestock, allowing the optimum use of functional biodiversity. As a core practice, it promotes the use of different composts, cover cropping, and reduced tillage, resulting in the improvement of soil health, fertility and structure. These methods help to create a resilient environment where plants can thrive without the need for artificial fertilizers or pesticides. One of the key principles of natural farming is to use locally adapted plants and animals, which are better suited to the specific conditions of a region. However, it encourages biodiversity by supporting a variety of plant and animal species, which can help to control pests and diseases naturally. By fostering a balanced ecosystem, natural farming also helps in the conservation of water, reducing erosion and mitigating climate change impacts. Overall, natural farming presents a viable alternative to industrial agriculture, offering benefits for the environment, human health and food security

Keywords: Natural farming, Sustainable agriculture, Ecology, Biodiversity and Recycling

[Paper Code - 2.4]

Knowledge and Attitude of the Beneficiaries towards Activities of BAIF Development Research Foundation Among Farm Community in Seoni District of Madhya Pradesh

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Abstract

The BAIF Development Research Foundation is an Indian non-governmental organisation that pioneers agricultural development. It is headquartered in Urali Kanchan, near Pune. It was established in 1967 by Manibhai Desai as the Bharatiya Agro Industries Foundation. Self-help groups (SHGs) were first proposed by BAIF as a way to provide insurance services to rural areas. BAIF believes that the focus of the programme should be on the rural family rather than on a village, because the village as a whole has a heterogeneous character in respect of socio-economic status. If this important fact is overlooked, a few well-do families of the villages invariably grab the benefit of development. The present study aims to analyse the knowledge and attitude of the beneficiaries towards activities of the BAIF development research foundation among the farm community in the Seoni district of Madhya Pradesh. This research is done during the year 2021-2023. Seoni district in Madhya Pradesh is selected for the study. Dhanaura block is selected for the study since it has the maximum number of beneficiaries benefited through BAIF NGO. Six villages in total were purposively chosen for the study. A random sample of 120 respondents was obtained. Pre-structured interview schedules were used to gather the data and relevant statistical analysis was carried out to determine the significant findings. The findings of the study revealed that majority of beneficiaries (47.50 percent) had medium level of knowledge on BAIF NGO and around 32.50% of the BAIF beneficiaries were having high level knowledge, while only 20.00% of the beneficiaries were having low level of knowledge on BAIF NGO. The attitude of the beneficiaries was also

studied in this research where it was noted that about 40% of the beneficiaries had medium level of knowledge and only 33.33% of beneficiaries had high level knowledge whereas 26.67% beneficiaries had least or low level of knowledge on BAIF NGO. As a result, the development agency becomes instrumental in widening the gap between the rich and the poor. With this thinking, BAIF entered initially in the area of dairy, cattle production, afforestation, tribal rehabilitation, promotion of fruit orchards and has introduced watershed planning, run-off water harvest, sericulture, apiculture, bio-energy and community health programmes for the upliftment of the rural poor in general means and specially for the women and children.

Keywords: BAIF, Beneficiaries, NGO, Knowledge, Attitude, Farm Community

[Paper Code - 2.5]

Effect of Pre - and Post-Emergence Herbicides on Growth, Yield and Weed Dynamics of Summer Cowpea (*Vigna unguiculata* L.)

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Abstract

A field experiment was carried out on the effect of pre-and post-emergence herbicides on the growth, yield and weed dynamics of cowpea (*Vigna unguiculata* L.) during the summer season of 2023. The lack of proper weed management during critical periods of growth leads to major yield loss. Herbicide application is the most economical way to reduce the active growth of weeds efficiently countering the rising labour cost. This study aims to investigate the best combination of pre and post-emergence herbicides. In this context, a study was conducted in Randomized Block Design with 10 treatments comprising combinations of two pre-emergence and two post-emergence herbicides with weed-free plot (manual weeding as per the requirement to keep the plots weed-free) and weedy check (control). The results revealed that among the herbicide treated plots, pendimethalin@ 750 g ha-1 (PE) + Quizalofop-p-ethyl@ 80 g ha-1 (PoE) at 20 days after sowing (DAS) resulted the lowest weed density, biomass and weed index along with the highest crop growth and yield prameters, and weed control efficiency. This was also found to be statistically at par with the performance of weed-free and pendimethalin@ 750 g ha-1 (PE) + fenoxaprop-p-ethyl@ 100 g ha-1 (PoE) at 20 DAS fetching highest net return and B:C ratio with minimum cost of cultivation in cow pea.

Keyword**:** Grain Yield, Pre and Post Emergence, Weed Density, Weed Biomass, Weed Control Efficiency, Weed Index

[Paper Code - 2.6]

Influence of Social Media on Tourism Consumer Behaviour: A Systematic Review of Odisha Tourism Digital Campaigns

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Abstract

The present systematic review tries to assess the impact of social media on the tourism consumer, with a larger concern about the digital campaigns for Odisha Tourism. It attempts to evaluate how social media strategies affect tourist perceptions, preferences and behaviours in an emerging destination setup.

This research follows a mixed-method approach. It will evaluate digital campaigns published over social media from 2018 to 2023. This paper combines quantitative engagement metric analysis through reach and conversion rates with an analysis based on qualitative content data of campaign material and user-generated content.

From this perspective, strategic social media campaigns can be influential in boosting precursor consumer awareness and interest in the destination. There was a positive relationship between social media engagement metrics and intentions to arrive as tourists. This study noticed an increase in the intention to visit among those with successful exposure to the well-curated campaigns. The mainstream ones include handling negative feedback, brand message consistency through all the platforms, and adaptability toward fast-changing trends.

This study provides important implications for destination management organizations regarding using social media to promote tourism effectively. The following findings highlight targeted, platform-specific strategies and the fostering of authentic, user-generated content. Practitioners need to now develop

interactive experiences within these social media channels to influence the behavior of consumers. Future research should also look into the long-term effects of social media campaigns on tourism patterns and carry out comparative analysis across several destinations to come up with best practices in digital tourism marketing.

Keywords: Social Media, Tourism, Consumer Behaviour, Digital Marketing, Destination Promotion

[Paper Code - 2.7]

The Impact of Social Media Advertisements on Traveler's Behaviour in the Indian context

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Abstract:

Social media has taken advertisement in travel and tourism to entirely new heights. People and companies advertise destinations and share experiences through videos, images, and blogs. The present study attempts to examine the impact of social media advertising on travellers' behaviour, choice, and perspective. It finds out how such strategies, such as influencer marketing and user-generated content, affect attitudes toward travellers and thus affect purchasing behaviour. It also gauges the effectiveness of social media advertising on forming travel fantasies and preferences, given that real-time sharing influences travel experiences.

This study adopts a qualitative research methodology that systematically reviews and assesses literature that links social media, advertising strategy, and tourists' behaviour. It is the case of setting up case studies, papers, and industry reports for the establishment of a model that predicts the behaviour of the tourists due to social media advertising.

Based on the analysis of findings from different disciplines such as social media marketing, advertising, and tourism studies, this research will strive to establish and explicate the unspoken connection between social media advertising and travellers. More specifically, the present study's findings provide valuable insights for travel brands, marketers and other relevant stakeholders to design and implement superior, yet ethical, advertising practices to ultimately improve the traveling experience.

This study uniquely explores the impact of social media on travellers' decision-making behaviour. Its findings are crucial for marketers, the tourism industry, and the government to understand and influence traveller behaviour through social media.

Keywords: Social media, advertising, tourists, travellers, behaviour, decision-making.

[Paper Code - 2.8]

Opportunities and Challenges of Resistance to Bacterial Wilt (*Ralstonia solanacearum*) of Tomato in Southern Odisha

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Abstract

Tomato (*Solanum lycopersicum* L.) belongs to the Nightshade/Solanaceae family with a chromosome number of 2n=2x=24, originating in Mexico, Peru-Ecuador-Bolivia region. The major tomato-producing states are West Bengal, Maharashtra, Bihar, Karnataka, Uttar Pradesh, Odisha, Andhra Pradesh, Madhya Pradesh and Assam. Tomatoes can be grown on a wide range of soils, from sandy to heavy clay. However, well-drained, sandy or red loam soils rich in organic matter with a pH range of 6.0-7.0 are considered as ideal. *Ralstonia solanacearum* is one of the most severe diseases of tomato crops. Among the several pathological problems affecting tomato crop, the bacterial wilt disease caused by *Ralstonia solanacearum* is a devastating threat in warm climates worldwide. Relatively high soil moisture and soil temperature favour disease development. Characteristic symptoms of bacterial wilt are the rapid and complete wilting of normal grown-up plants and lower leaves drop before

wilting. Pathogen is mostly confined to vascular region and in some cases, invade the cortex and pith and cause yellow to brown discolouration of tissues. For the control of *Ralstonia solanacearum,* crop rotation with cowpea-maize-cabbage and the use of bactericides as seed treatment are very common. Natural and artificial screening of germplasm or lines to bacterial wilt is the initial step towards bacterial wilt resistance breeding. The most effective breeding improvement to control bacterial wilt is to develop resistant varieties and to identify genes which are linked to bacterial wilt resistance in tomato.

Keywords: Tomato, Bacterial Wilt, Resistance, Susceptibility and Genes

[Paper Code - 2.9]

Chalana: An Underutilized Vegetable Crop in Southern Parts of Odisha

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Abstract

Cultivated watermelon [*Citrullus lanatus* (Thunb.) Matsum and Nakai (2n= 22)] which belongs to the family Cucurbitaceae, is reported to have originated in Africa and a secondary source of diversification of watermelon occurs in India. Chalana is one type of underutilized cucurbitaceous vegetable crop under the *Citrullus* genus. It is an indigenous and traditional crop grown throughout the Gajapati and Ganjam districts of Odisha. Also, it is cultivated in Birbhum district and adjacent districts of West Bengal during spring and summer months mostly under rainfed conditions with low input and care, and locally it is known as *Khero* in West Bengal. The fruit of Chalana is harvested in the immature stage before seed development and used for cooking like other vegetable crops and is also used for raita making. In Odisha, due to unscientific cultivation and farmers' dependency on the local market for seeds that are poor in germination and quality, the productivity of this crop is very low. The neglected and underutilized species play a crucial role in food security, diet diversification, and income generation. There is a need to initiate systematic research on these crops for their proper utilization.

Keywords: cucurbitaceae, *Citrullus*, chalana, underutilized, food security

[Paper Code - 2.10]

Integrating Agricultural Practices with Modern Techniques for Sustainable Farming in Paralakhemundi, Odisha

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Abstract

This study discusses traditional healthcare practices along with modern techniques that would help us promote sustainable farming in Paralakhemundi, Odisha. This region has a long agricultural history generation, providing strong existing practices that can be combined and improved upon current sustainable methods. The study also explores modern conservation technologies such as organic farming, permaculture and agroforestry which can increase production while saving natural resources. The study demonstrates that climate-smart agriculture (CSA) can have a marked influence on adapting to and mitigating the effects of global warming. These case studies are anchored in the fields of Odisha and demonstrate among others strategies for maintaining soil health and efficiently managing water delivery to crops through innovation such as crop rotation, cover cropping cultivation methods, taking up rainwater harvesting and drip irrigation. Community participation and empowerment are crucial themes, illustrating how local farmer cooperatives and NGOs can drive the adoption of sustainable practices. The discussion of economic aspects talks about the need to make sustainable farming a viable option, particularly market access for organic

produce. This research also assesses government agriculture policies and support systems aiding the transition to sustainability so that improved access to subsidies or grants can be emphasized. This study also emphasizes integrating the TR with modern scientific knowledge. It presents a holistic approach to sustainability in agriculture to Paralakhemundi, which is important from the point of view of environmental health, economic viability and human wellness.

Keywords: Sustainable Farming, Climate-Smart Agriculture, Government Agriculture Policies, Organic Farming, Modern Conservation Technologies.

[Paper Code - 2.11]

Opportunities and Challenges of Precision Agriculture

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Abstract

The newest trends in the agricultural sector include precision farming and data innovation, which combine all farming systems, including soil moisture analysis. It transforms the agriculture sector to make it more economical, sustainable and productive. Agricultural robots are bringing high-tech assistance to agriculture. The current advancements in sensors, greenhouses and protected agricultural buildings are made possible by the precision agriculture idea. With precision agriculture, farmers receive a helping hand and the hard work is done for them, freeing them more time for farm management and environmental conservation. Standardising technology across platforms, connection issues, data management in agriculture, a lack of scalability, and overcoming vertical farming obstacles are some of the challenges facing precision agriculture. In order to fulfil the growing need for food, the agricultural industry will reap new benefits from the use of machine learning through IoT and data analytics. This will boost both the amount and quality of crop field output.

Keywords**:** Precision Farming, Agricultural Robots, Environmental, Sensors, Data Analytics

[Paper Code - 2.12]

Optimizing Carbon Nanotubes for Agricultural Applications: Simulation of Optical Properties for Enhanced Photosynthesis

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Abstract

Carbon nanotubes (CNTs), with their unique optical properties, present a promising solution for enhancing utilization in agricultural applications. This study employs BIOVIA Materials Studio (MS) to model and simulate the optical properties of single-walled (SWCNTs) and multi-walled carbon nanotubes (MWCNTs), focusing on their interaction with photosynthetically active radiation (PAR) in the 400-700 nm range. Using Density Functional Theory (DFT) and Time-Dependent DFT (TD-DFT), we investigate the electronic structure and optical absorption spectra of CNTs. Our simulations reveal that CNTs can be tailored to exhibit strong absorption in the blue (430-450 nm) and red (640-680 nm) regions, which correspond to the chlorophyll absorption peaks critical for photosynthesis. Furthermore, the potential of CNTs to absorb near-infrared light (700-1000 nm) is explored for thermal management in agricultural films. This study demonstrates the feasibility of using BIOVIA-MS to design CNT-based materials optimized for agricultural use, providing a pathway for innovative and sustainable farming.

Keywords: Carbon Nanotubes, DFT, TD-DFT, BIOVIA-MS, Photosynthesis

[Paper Code - 2.13]

Impact of Fertilizer and Pesticides Application on Agricultural Productivity in Bargarh District: A Case Study

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Abstract

The present article focused on the application of fertilizer and pesticide in rice cultivation across five villages of Bargarh district, Odisha, during Kharif 2023-2024.The study comprehensively evaluated soil parameters and fertilizer application practices up to yield determination and underscores the importance of tailored fertilizer application practices aligned with local soil conditions and crop requirements. It further emphasizes the potential benefits of integrating organic farming techniques to bolster long-term agricultural sustainability in the region. The findings from the case study help to provide valuable insights into optimizing fertilizer use and advocating for sustainable agricultural practices specific to rice cultivation in the Bargarh district. Its findings also aim to empower informed decision-making among farmers and policymakers, promoting agricultural resilience and environmental stewardship.

Keywords: Fertilizer, Organic Farming, Pesticides, Rice Cultivation, Soil Parameters.

[Paper Code - 2.14]

Sustainable Agribusiness Model with Economic and Environmental Perspective: A Review

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Abstract

The role of the agribusiness model in ensuring agricultural sustainability is one of the frontiers of research in the agriculture and food processing sectors. Sustainable agribusiness models create an integrated approach and interface between facilitator and actor to realize better economic values with an ethical decision towards environmental stewardship. Agricultural sustainability at present is like a hot pancake, and the sustainable agribusiness model is a neutral tastemaker among every stakeholder who wants to explore extensively into the study of sustainability. The paper delves into a review of agricultural sustainability and sustainable agribusiness models from economic and environmental perspectives. It identifies the grey areas in the existing policies and institutions in ensuring sustainability by reviewing the existing body of knowledge. Besides, it also critically reviews the possibilities of achieving the agriculture sectoral goal with 'Pareto optimality' perspective in the framework of 'Viksit Bharat@2047'. Finally, the paper comes out with a set of areas for future research.

Keywords: Sustainable Agribusiness Model, Agricultural Sustainability, Viksit Bharat, Farmer Institution, Pareto Optimality, Future Research.

[Paper Code - 2.15]

The Impact of High-Yielding Varieties on Agronomic Crop Production in Odisha

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Abstract

This study evaluates the impact of HYVs on crop production by analysing trends, comparing their performance with traditional varieties. By utilizing secondary data from Odisha Agricultural Statistics spanning from 2000 to 2018, the study employs trend analysis to observe changes in crop production over time and comparative analysis to assess the performance of HYVs relative to non-HYVs. The findings reveal a significant positive impact of HYVs on crop production, with notable contributions from factors such as area under HYVs, fertilizer usage, and irrigation facilities. Whereas, climatic conditions have a negative impact. The comparative analysis confirms that HYVs consistently outperform non-HYVs, demonstrating their effectiveness in boosting agricultural productivity. This study offers valuable insights for policymakers, emphasizing the benefits of HYVs and providing recommendations for optimizing their use. The study concludes with suggestions for future research and policy improvements to maximize the benefits of high-yielding varieties in crop production.

Keywords: High-Yielding Varieties, Crop Production, Trend, Agriculture, Agronomic Crop, Odisha

[Paper Code - 2.16]

CSA Practices for Climate Resilient Agriculture: A Case Study of Odisha

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Abstract

Climate resilient agriculture is essential for a country like India that heavily relies on agriculture. India's diverse agro climatic zones and monsoon dependent agriculture makes it vulnerable to climate change. With a population of over 1.2 billion (2011 census), India is one the largest food producers and consumers. Agriculture plays a crucial role in India, accounting for 18.3% of the country's Gross Value Added (GVA) and providing livelihoods to 70% of its rural households (FAO India at a glance 2016). In the context of Odisha, the State can be divided into 10 agro climatic zones having a tropical climate, characterized by high temperature, high humidity, medium to high rainfall and short mild winters. Even though the quantum of rain fall in Odisha is quite high, its distribution during the monsoon period is highly uneven and erratic. As a result, flood and drought visit regularly with unpredictable intensity. Nearly 83 percentage of Odisha's population live in the rural areas and are depend mostly on agriculture as their livelihood (Odisha Economic Survey-2016-17). While the share of Agriculture sector in the State GSDP has come down to a level of around 18 percent, still the sector accounts for 62 percent of the total workforce as per 2011 Census. Given the crucial role of agriculture in the state as well for India, Climate Smart Agriculture is vital to ensure its sustainability of agriculture and livelihood in the light of climate change. In this context, this study aims to understand the perceptions of farmers regarding CSA practices in Odisha with special reference to Gop Block, in Puri. In addition, this study identifies the socio-economic factors

affecting the adoption of CSA practices among farmers in the study area. The study also assesses the impact of CSA practices on the farmer's livelihood through a comprehensive literature review and empirical data analysis. Around 200 farmers were randomly selected for the study. To test the data, for normality Kolmogorov Smirnov Test and Q-Q Plots were employed. Additionally, Descriptive Statistics, Chi Square Test, Regression Analysis were used to analyse the data. Ensuring the sustainability of agriculture is vital for India's food security and economic stability. Implementing climate-resilient agricultural practices can help mitigate the impacts of climate change, secure livelihoods and improve the overall food security of the nation.

Keywords: Climate Change, Sustainable Agriculture, Mitigation Strategies.

[Paper Code - 2.17]

Agronomic Approaches for Mitigation of Methane Emission from Paddy Fields

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Abstract

Anthropogenic methane emissions are a significant driver of global warming, with flooded soils playing a pivotal role in methane production due to anaerobic conditions that foster methanogenic microorganisms. Rice fields contribute substantially to agricultural methane emissions, as they provide conditions that both enhance and limit methane production. While rice plants host methane-producing microorganisms, they also facilitate methane oxidation through oxygen transport via root aerenchyma. Effective mitigation strategies include cultural practices, cultivar selection, and nutrient and soil management aimed at altering soil and microbial properties to reduce methane production. Water management techniques, such as alternate wetting and drying (AWD) and mid-season drainage, have demonstrated success in reducing methane emissions by promoting aerobic soil conditions. Integrating these strategies into rice farming practices offers significant potential for methane reduction while ensuring sustainable rice production. Addressing the complex interplay of biological, chemical, and environmental factors underscores the importance of coordinated efforts to

mitigate methane emissions from rice cultivation. These approaches not only reduce greenhouse gas emissions but also enhance soil health and crop yields, contributing to the overall sustainability of rice farming. By adopting innovative agricultural practices and leveraging advancements in water management, nutrient optimization, and microbial community manipulation, the agricultural sector can play a crucial role in global climate change mitigation efforts. This comprehensive strategy highlights the critical role of sustainable farming practices in reducing greenhouse gas emissions and promoting environmental sustainability.

Keywords: Greenhouse Gas, Methane Emission, Rice, Aerenchyma, Mitigation

[Paper Code - 2.18]

Energy Budgeting and Profitability of Groundnut and Finger Millet as Influenced by Integrated Nutrient Management and Residual Soil Fertility

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Abstract

Leguminous oilseed crop groundnut (*Kharif*) treated with organic and inorganic sources of nutrients has a pronounced residual effect on succeeding finger millet (*Rabi*) which has been observed in this experiment. The study was conducted during 2018-19 and 2019-20 at Centurion University of Technology and Management, Odisha, to have information about energy budgeting and profitability under integrated nutrient management practices. The treatments included two types of seed inoculation with *Rhizobium* and five nutrient management practices as 2 factors laid out in factorial randomized block design. Recommended fertilizer dose was 20:40:40 kg N: P2O5:K2O per ha. The effect of seed inoculation on energy input, net energy output, energy use efficiency and energy intensity in economic terms in groundnut showed non-significant in both years, while these parameters were significantly affected in first year in finger millet. All the above parameters were significantly influenced by levels of nutrient management for both groundnut and finger millet in both the years. In groundnut, energy intensity in economic terms was recorded highest from 100% recommended dose of nitrogen through fertilizer (3.04 MJ Rs.-1) and solid *Rhizobium* (SR) +75 % RDN (fertilizer) + 25 % through FYM (2.97 MJ Rs.-1) in first and second year, respectively. However, the maximum value of energy intensity in economic terms in finger millet was recorded from 100 % RDN through FYM (2.18 and 2.29 MJ Rs.-1, in 1st and 2nd year, respectively). In groundnut, SR+100% RDN (fertilizer) & SR +75 % RDN (IF) + 25 % (FYM) recorded maximum net return in 1st year & 2nd year, respectively. However, in finger millet, SR along with 100 % RDN (FYM) reported maximum net return in both the years.

Keywords: Energy Budgeting, Finger Millet, Groundnut, Nutrient Management, Profitability, Seed Inoculation

[Paper Code - 2.19]

Black Rice: A Heaven View for Health Protection of Mankind

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Abstract

Black rice is a range of rice varieties of the Oryza sativa L. species some of which are glutinous rice. This rice is originated in China where it has been cultivated for past 4000 years. Indonesian black rice and Thai Jasmine black rice are two varieties. It is also known as purple rice, heaven rice, forbidden rice (Chinese), king's rice, imperial rice and prized rice. Black rice is a rare and ancient variety of rice that has been growing in India for centuries. It is primarily grown in India's north-east region (known as Chak-Hao) and southern region (known as Kavuni in Tamil). The highest quantities are produced in China and India, with subsequent quantities coming from Thailand, Bangladesh, Vietnam and Indonesia. Black rice presents a great importance in the food industry due to the high content of polyphenols which can be isolated as fractions to use them as functional colorants or as food ingredients. It has been reported that one-fourth cup uncooked black rice contains approximately 160 kcal energy, 1.5 g of fat, 34 g of carbohydrate, 2 g of fibre, 7.5 g of protein, no saturated fat and cholesterol. Pre-gelatinizing black rice improves its cooking and eating quality. Drying is a key step in making pregelatinized black rice. Pregelatinized black rice's drying properties and internal moisture change law effect drying efficiency and product quality

Majority of the black rice races are purple colour due to the presence of anthocyanin, particularly in grain. Anthocyanin components in black rice are about 26.3 per cent. It contains 18 essential amino acids, mainly lysine and tryptophan. Black rice is a whole grain, super nutritious type of rice that has higher levels of protein, fibres, vitamins B1 and B2, minerals such as iron, zinc, phosphorus, calcium and selenium. This is similar to quinoa as a beneficial superfood and pack of nutrients. The rice bran layer contains a significant amount of pharmacological chemicals, including oryzanol, anthocyanins, phenolic compounds, and flavonoid compounds. These compounds have a transcendental

force. These combinations have been demonstrated in a number of studies to improve lipid profiles, be anti-inflammatory and anticancer and reduce oxidative stress, all of which may be helpful in reducing the chances of cardiovascular disease and diabetes. Black rice is recommended as a dietary supplement to the people suffering from diabetes, cancer, lipid problems and gastrointestinal difficulties as traditional preventive medicine. Anthocyanins are a type of flavonoid pigment and a major source of antioxidants that protect against free radicals that cause cancer, ageing and disease. It has antioxidant, anti-inflammatory, free radical-scavenging, and blood pressure-lowering properties. Farmers can be benefited from better market value and increased farm income due to its multi-nutritional quality and it will encourage farmers for its cultivation widely. Black rice consumption can mitigate the need for cereal with high nutritional status. It can sell in the local market which fetches higher prices (Rs 150-200/kg) due to higher grain quality and more market value.

Keywords: Black Rice, Anthocyanin, Flavonoid, Antioxidant

[Paper Code - 2.20]

Artificial Intelligence: A Novel Technology in Modern Agriculture

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Abstract

The crop production target in India by 2050 has been fixed as 400 million tonnes to feed the steadily increasing population of the country. On the other hand, scarcity of fresh water and the share of irrigation in it are decreasing; soil quality is deteriorating; conversion of agricultural lands to industry and domestic sectors coupled with the climate change scenario made the challenge tougher. Under irrigation, the ecosystem production target has almost reached the plateau but there is ample scope for tuning. Under a rain-fed ecosystem, the production improvement opportunity is wider. Agricultural scientists are adopting a precision farming system to overcome such hurdles. However, ample scope of yield enhancement is there if one can use artificial intelligence (AI) in the field of agriculture.

Artificial intelligence (AI) refers to computer systems capable of performing complex pattern analysis, which is humanly almost impossible. AI is an umbrella term that encompasses a wide variety of technologies, including machine learning, deep learning and natural language processing. Most people use the term AI today, referring to a suite of machine learning-powered technologies that enable machines to perform tasks that were previously extremely difficult.

In the domain of agriculture, AI can be used in the following sectors as: (i) On a real time basis, monitoring health status of the crop and soil in terms of biotic (pest and diseases) and abiotic (water and nutrient) stress; (ii) Early diagnosis on occurrence of any specific diseases so that farmers can take the preventive measures well in advance; (iii) Intelligent spraying by using drones etc. so that optimum amount of chemicals can be sprayed uniformly in the field. The spraying of chemicals is considered an important method to control pest insects, fungi, and bacterial diseases of plants; (iv) Using artificial intelligence techniques and tools, it is possible to predict the best time to fertilize fields and sow seeds to achieve

maximum yield; (v) Robots and intelligent machines are useful for farming and harvesting, leading to huge savings by reducing need for agricultural labourers; (vi) Based on soil type, irrigation resource and climatic condition, AI technology helps the farmers to select appropriate crop type and variety to be grown in an area to get maximum monetary return; (vii) Crop yield can be predicted more accurately by using AI.

Even though AI has many advantages, there are several challenges in adopting them in the agricultural sector. They are: (i) Reliability of system and technology; (ii) Security and acceptance of information; (iii) Data privacy and storage and its use (iv) Social acceptance and recognition; (v) Cost-effectiveness; (vi) Ease of use and training. Finally, it can be concluded that AI helps the farmers to safeguard their crops in an appropriate manner to minimize losses, so that it can strengthen food security and economic resilience.

Keywords: Artificial Intelligence, Machine learning, Deep Learning, Food Security

[Paper Code - 2.21]

Sensor Based Nitrogen Management towards Highest Crop Yield and Optimum Nitrogen Use Efficiency

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Abstract

Nitrogen is the most important primary nutrient regulating the metabolic and physiological processes in crops and it plays a crucial role in growth and yield. Improper balance of nitrogen supply in relation to its demand by any crop causes poor efficiency of this nutrient. Supply of lower-level nitrogen reduces yield. In contrast, higher doses of nitrogen causes groundwater and atmospheric pollution. Considering this, researchers tried for real-time nitrogen management practices by using the reflectance and absorption properties of the canopy as well as the intensity of greenness of any crop canopy. Leaf colour chart (LCC) is a popular practice used by researchers for nitrogen management. Thereafter, electronic gadgets like GreenSeeker, Rapid Scan Sensor, SPAD meter etc. extensively used to assess the time specific nitrogen demand of a standing crop.

Among them, LCC is the simplest, most reliable and inexpensive tool for precision management. In GreenSeeker the sensor unit has self-contained illumination in both the red (656 nm with ~25 nm) and NIR (774 nm with ~25 nm) bands. These two reflected electromagnetic waves are used by the instrument to produce normal difference vegetative index (NDVI) values by the instrument itself. Magnitude of NDVI ranges between -1 to +1, and its value is directly related to canopy health. Rapid scan sensor provides NDVI and normalized difference red edge (NDRE) as two default vegetation indices (VI) in addition to the R, RE and NIR wave band reflectance. Recently researchers advocated that NDRE is a better index than NDVI in relation to plant nitrogen content. SPAD meter reading based on the absorption property of electro-magnetic waves by the crop leaf. The SPAD values are closely related to leaf chlorophyll content.

Estimation of time-specific leaf nitrogen content thus helps in the supply of nitrogen as per the requirement of the crop. It reduces the loss of nitrogen, its effective use in terms of yield and the use efficiency of nitrogen by the crop. This will also improve the soil quality indices and reduce environmental pollution.

Keywords: Nitrogen Decision Tool, ·Crop Sensing, Site-Specific Nitrogen Management, Digital Agriculture.

[Paper Code - 2.22]

Employee Loyalty: A Case Study of Informal Workers Employed in Consumer Electronics Trade in Bhubaneswar

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Abstract

A psychological contract is a must when joining in any organization and further it ensures employee retention. In most cases, employees have a financial obligation to be in a particular profession and some join to feed their passion as well. Hence, it can be easily said that a good pay is the prior parameter to create a loyal employee and after it comes job satisfaction, which is beyond the monetary measures. The paper aims at examining whether the parameters to measure loyalty are different in electronic gadget trade. Further, the researchers have analyzed to which extent the financial benefits affect employee loyalty at such employments. 221 samples have been collected from some selected vending outlets in Bhubaneswar region. Both financial and fringe benefits derived from the job are taken as independent variables and employee loyalty as dependent variable. Descriptive statistics and multiple regression models have been used to analyse the data thoroughly. The results show that, although economic dependence plays a pivotal role in employee retention, there are other factors that also contribute to employee loyalty

Keywords**:** Psychological, Dependency, Loyalty, Retention, Functionality

[Paper Code - 2.23]

Weed Management Practices through Conservation Agriculture (CA)

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Abstract

Three important pillars of Conservation agriculture (CA) are (i) minimal soil disturbance (ii) permanent soil cover via agricultural residue or cover crops and (iii) diversified crop rotations, collectively these factors enhance productivity. Conventional tillage has been known to favor soil erosion, increase cost of cultivation which reduced the crop yield and net profit respectively. Therefore, over the past few years, there has been a growing trend towards conservation agriculture (CA) in many countries to enhance agricultural sustainability without compromising land productivity. Weed control in conservation agriculture is more challenging than in conventional agriculture because there is no weed seed burial by tillage operations and crop residue incorporation which results in reduced efficacy of herbicide.

Effective weed control can be achieved through a variety of strategies, including crop rotation, retention of crop residue, allelopathic effects, increasing crop density, applying band placement of fertilizer, using the stale seedbed technique etc. Herbicides, an essential component of weed control in Conservation Agriculture (CA) and their application in combination with other strategies can maximize outcomes. Since no one technique can provide the required level of control, it is imperative to integrate various weed management approaches in order to improve weed control efficacy in Conser.

The promotion of CA may be greatly aided by institutional support and long-term government policies that provide necessary services and incentives to farming communities. Participatory on-farm research and demonstration projects could hasten the adoption of CA.

Keywords: Conservation Agriculture (CA), Weed Management, Cover Crop

[Paper Code - 2.24]

Economic and Environmental Benefits of Agroecological Practices in India: A Review

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Abstract

Agroecology integrates ecological principles into agricultural systems, promoting sustainability and resilience. This review explores the economic and environmental benefits of agroecological practices, drawing on recent research from academic journals and case studies from agricultural communities. The findings suggest that agroecology can improve soil health, increase biodiversity, and reduce the need for synthetic inputs. Additionally, the adoption of agroecological practices has been shown to enhance food security and mitigate the impacts of climate change. Key benefits include enhanced biodiversity, improved soil health, reduced dependence on chemical inputs, and increased resilience to climate change. Economically, agroecology can lead to cost savings, improved yields, and enhanced livelihoods for farmers. Agroecology in India shows significant promise in improving biodiversity through the reintroduction of native plant species, enhancing soil health with organic farming practices, implementing water conservation techniques, and boosting farmer livelihoods through diversified income sources. Despite these benefits, challenges remain, such as policy support, market access and knowledge dissemination. Addressing these challenges will be crucial in scaling up agroecology practices across India and ensuring their long-term sustainability and impact on both the environment and farmers' livelihoods. Additionally, partnerships between the government, non-governmental organisations, research institutions, and farmers will be essential in promoting the adoption of agroecological principles and practices nationwide.

Keywords: Agroecology, Food Security, Biodiversity, Sustainability

[Paper Code - 2.25]

A study of Traditional Resource Management by Santal Tribe of Mayurbhanj District: The Sacred Grove

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Abstract:

The paper discusses the significance of sacred groves in traditional resource management and sustainable environmental stewardship. In Odisha, India the 62 tribal communities have small but protected areas which are sacred groves that are an integral part of their culture. It is estimated that roughly 11,000 sacred groves exist in Odisha with different names depending on the community that protects them, such as "Darni, Demul, Hundi, Tuleni, Patkhanda, Gudi and Gangama". Sacred groves, preserved due to religious or cultural importance, face modern challenges such as urbanization, population pressure and changes in religious beliefs. By integrating sacred grove conservation into broader environmental management strategies, policymakers and environmentalists can support community-led initiatives for sustainable resource management and environmental conservation. The paper revisits the scared groves of Santal tribal community of Mayurbhanj district to emphasizes the importance of sacred groves and proposes key intervention areas that would promote sustainable resource management.

Keywords**:** Tribe, Scared Groves, Resource Management, Religious Belief, Biodiversity

[Paper Code - 2.26]

Technology-Enabled Learning in Agriculture

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Abstract

Technology Enabled Learning has become more popular in recent times and many organizations and universities use it as a key instrument in various teaching and training. Currently, technology plays numerous roles in classrooms across the nation and varies dramatically depending on the funding priorities of the states, districts and individual educators understanding how to leverage it in learning in meaningful ways. The concept of e-learning in agriculture and allied subjects is necessary to initiate the next level for ensuring better quality and enabling improved access. The National Institute of Agricultural Extension Management (MANAGE) implemented the application of technology in a learning system for enhancing the competencies of state department officials in agriculture and allied sectors, private players in agricultural extension and others who are involved in the technology transfer process through the courses like PGDAEM and MOOCs on different domains. Among MOOCs courses, Business Management achieved the highest enrolment rate at 20.9%, while Mathematics recorded the lowest at

2.9%. In 2019-2020, the PGDAEM program recorded it's highest-ever enrolment, totalling 1,053 students. The concept of e-learning in agriculture and allied subjects, it is necessary to initiate the next level to ensure better quality and enable improved access. The Technology-enabled/enhanced content in agriculture education can result in high-quality digital content with the least manpower and expertise requirements in digital mode.

Keywords**:** Technology Enabled Learning, e-Learning, Agriculture, MOOCs, PGDAEM.

[Paper Code - 2.27]

Innovative Practice of Agri-system Fallow Management in Burla Hydropower Village Households in Odisha:

An Economic Trend Analysis on Rice and Short Duration Pulses

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Abstract

India's Rice fallow management yields about twelve million hectares in rainy season engulfing abiotic factors (soil sighs and moisture) and biotic intrigues (pests and fertilisers). Odisha is an emerging state economy in hydropower potential supporting energy security. Simultaneously, the agrarian belt in these dependent village households annual productivity is also adopting innovative community participation particularly Agri-system Fallow Management to strengthen food security. The state has about seven million hectares of cultivable land supporting ten climatic zones that includes rice production of about 60% of total sown area in Kharif season. The scope of the study is conducting a household survey in five villages under the Water Panchayat of one of the hydropower projects (HPP) in Odisha namely, Burla HPP under Sambalpur district to estimate the economic trend of rice fallow management including agri-technologies supporting short-term pulses. The research work aims at forecasting the economic productivity (output/hectare) and adaptability to climate resilient agriculture on gross production in the selected field site by classifying environmental, social and financial risk faced by the farmers.

Keywords**:** Agri-system Fallow Management; Hydropower Utility; Economic Trend; Climate Smart Innovation; Odisha

[Paper Code - 2.28]

Sustainable Livelihood Solution through Adoption of Community Level Protected Cultivation Technology for Konda Reddi Tribes in Andhra Pradesh

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Abstract

The proposed study was undertaken among the Konda Reddi tribes in the East Godavari District of Andhra Pradesh. The tribal group is considered as one of the most primitive tribes living in the banks of Godavari in Andhra Pradesh and has been tagged as Particularly Vulnerable tribal groups. The major occupational source for the groups consists of collecting forest produces, cultivation and work as agriculture labour which lead them live on subsistence throughout the year. In addition other challenges such as lack of communication, inadequacy of modern transport and educational facilities limit their scope of formal sector employment and force mostly dependent upon the local natural resources which is fast depleting and not able to sustain food requirements of the tribe. The results are poverty and exploitation, economic and technological backwardness, malnourishment, lack of basic amenities, and overall rank miserably low in all sorts of health indicators. The study used focused group discussions with the inhabitants to identify major challenges with the traditional occupational structure and suggested a community managed and tech enabled protected cultivation solution for sustainable livelihood.

Keywords: Tribal Communities, Protected Cultivation, Sustainable Livelihoods

[Paper Code - 2.29]

Sustainable Agricultural Practices: Integrating Management Strategies for Enhanced Productivity and Environmental Conservation

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Abstract

Agriculture plays a pivotal role in global food security, but it also poses significant challenges, such as environmental degradation, resource depletion and climate change. This paper explores integrating sustainable agricultural practices with modern management strategies to address these challenges. By analyzing case studies from diverse agricultural systems, this research highlights how effective management practices, such as precision farming, crop rotation and resource-efficient technologies, can enhance productivity while minimizing environmental impact. The paper also delves into the role of government policies, stakeholder engagement, and technological innovations in promoting sustainable agriculture. The findings aim to provide a comprehensive framework for policymakers, agricultural managers, and farmers to adopt sustainable practices that balance economic growth with environmental stewardship.

Keywords: Sustainable Agriculture, Agricultural Management, Environmental Conservation

[Paper Code - 2.30]

Precision Farming in A Sustainable Manner by Using Remote Sensing Technology

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Abstract

In time and proper information about the response of crops against various management practices and climatic status on production and productivity is considered of great utility to the growers to ensure food safety and security. During 2021-22 total crop production in India and Odisha were 315.72 and 9.95 million tonnes respectively. The total crop productivity level in Odisha is 1.00 ton per ha, which is less than 0.42 ton per ha over the national level. By 2050 to feed 1692 million Indian population the food demand of the country will be 481 million tonnes. Therefore, there is a need to execute the on station research findings of crop management at irrigation command or watershed levels. Here remote sensing (RS) technology can play a leading role.

Agricultural RS is a very useful technology that allows to observe crops on a large scale in a synoptic, remote, and non-destructive manner. Sensors mounted on satellite / drone / greenseeker can sense reflected electromagnetic radiations from plants. Depending on objectives, electro-magnetic waves reflected / emitted from crop canopy are in the range of: (i) Thermal infrared band; (ii) Red, green, and blue (RGB) bands; (iii) Near infrared (NIR) band and (iv) Red edge band (RE) are detected by the sensors. The radiation data further processed to generate useful information on morphological, biochemical, and physiological status of the crops. The information is collected on temporal, spatial and radiometric scale. Thus, RS provides an effective relation between the radiance of plants with traits like, leaf area index (LAI), chlorophyll content, soil moisture and organic carbon content, etc. Ground truth data like phenological stage, soil and crop type, weather variables, nutrient availability etc. need to be known to generate accurate

information from RS product. Information on different vegetative index, green cover fraction, leaf biochemical content, leaf orientation, height, soil and vegetation temperature along with soil moisture are generated. This information is further processed and used to interpret crop health, disease infraction, irrigation period, nutrient deficiency and yield estimations.

Use of RS, thus, helps in identification of phenotypically better varieties, optimization of crop management, evapotranspiration, crop yield forecasting, ecosystem services (related to soil or water resources) provision, plant biodiversity screening, crop and land monitoring, and precision farming. The amplitude of the information retrieved from RS is considerable to support sustainable agriculture production system, which is capable of feeding the growing Indian population.

Keywords: Precision Agriculture, Remote Sensing, Sensor, Satellite, Drone

[Paper Code - 2.31]

Economics of Maize Cultivation on FPO and NON-FPO Farms in Salem District of Tamil Nadu

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Abstract

Maize is a major crop cultivated in Tamil Nadu due to the higher poultry production of Salem district. Recently the maize cultivating farmer's income is significantly lower than the national average owing to many reasons like seed quality, labour cost, and lack of machinery, marketing costs and marketing margin. The present study was conducted Kalvarayan, Farmer Producer Company (FPO) in Attur district of Tamil Nadu with the sample size of 240 respondents. It is a comparative study conducted between FPO registered farmers and FPO Non-registered farmers in the study area. The results are observed that the FPO registered farmers cost of maize production is reduced due to the FPO interference in reducing the input cost than Non FPO registered farmers. The FPO Farmers produce relatively higher yield when compared to Non-FPO Farmers. The Net income of FPO Farmers is 11.56 per cent higher than the Non - FPO Farmers. The benefit cost ratio was higher for FPO registered farmers 1.82 as compared to FPO Non-registered Farmers 1.57.

Keywords: Farmer Producer Organization, Cost of Production, Gross Income, Net Income, Marketing.

[Paper Code - 2.32]

Pathways to Sustainable Agriculture: Strategies for a Developed India

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Abstract

Traditional high-intensity farming practices in India have led to significant soil degradation, water scarcity and biodiversity loss. To address these challenges and secure food, environmental health and economic stability in a developed India, a shift to sustainable agriculture is essential. Key strategies for this transition include adopting advanced technologies like machine learning and the Internet of Things to optimize resource use and enhance crop management through precise input targeting. Biotechnology innovations, such as drought-resistant and pest-resistant crops, reduce chemical dependency, while soil health can be improved through organic farming, cover cropping and reduced tillage. Water management techniques, such as rainwater harvesting and drip irrigation, are crucial for mitigating water scarcity, and integrated water resource management further enhances usage efficiency. Biodiversity conservation practices, including agroforestry and polyculture, support ecosystem services and increase resilience. Effective policy frameworks, including subsidies and research support, are vital for promoting sustainable practices. Additionally, addressing economic and social factors, like fair trade and market access, and empowering farmers with knowledge are the key for sustaining these practices. The study reviews case studies and best practices to illustrate how these strategies can be applied in India and offers actionable recommendations for policymakers and farmers. It concludes that a comprehensive approach, integrating technology, environmental management, policy support, and economic considerations, is necessary to achieve sustainable agriculture, ensure food security, protect natural resources, and enhance rural community well-being.

Keywords: Sustainable Agriculture, Technology Integration, Soil Health, Water Management, Biodiversity Conservation.

[Paper Code - 2.33]

Evaluation of Different Packaging Materials of Perishable Fruits

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Abstract

Evaluation of optimal packaging materials for preserving and extending the shelf life of perishable fruits like guava is essential for minimizing spoilage and maximizing marketability. This study assessed three packaging materials like zip lock bags, silver foil, and vacuum packages across three storage temperatures: room temperature, refrigerator, and freezer. Over a specified period, key parameters including pH, total soluble solids (TSS), pectin, antioxidant levels, weight loss, and sensory attributes (appearance, texture, taste, and smell) were monitored daily. Results indicated a progressive deterioration in guava quality over time, evidenced by increased pH and TSS levels, and decreased pectin and antioxidant content. Among the materials tested, silver foil proved to be the most effective, maintaining guava's overall quality, freshness, and sensory attributes, particularly, when stored in refrigerated conditions. Freezer storage also extended shelf life, though it affected guava's texture due to chilling injuries. Zip lock bags demonstrated moderate effectiveness, while vacuum packages were found unsuitable due to their negative impact on texture and quality, as guava requires air for respiration. These findings highlight the importance of selecting appropriate packaging materials tailored to the specific needs of the fruit. The study provides valuable insights for optimizing packaging and storage practices, aiding in the development of improved solutions that benefit both consumers and food manufacturers by ensuring product quality and safety.

Keywords: Perishable Fruits, Guavas, Packaging material, Preservation

[Paper Code - 2.34]

Biofabrication of Nano-Based Composite Material for Alleviation of Cr (VI) Toxicity in Rice Plants in Industrial and Mining Regions

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Abstract

Human population growth is directly proportional to agricultural production. Several developments in agricultural practices have brought about a significant increase in agricultural output, thus sustaining human life. Heavy metals are mostly used in industrial processes and are mostly toxic to the environment, including the floral community. Hexavalent chromium [Cr (VI)] is one of the toxic forms of chromium (Cr) that imparts toxicological effects on the environment, including the biotic and abiotic components. India is the 4th largest chromite-producing nation, producing 4.2 million metric tonnes of resources annually. The Sukinda chromite mines in the Jajpur district of Odisha account for 95% of chromite production in India and have simultaneously earned the dubious distinction of being the 4th most polluted place in the world, as reported by the Blacksmith Institute in its 2007 report. High Cr(VI) concentrations have been found in the agricultural fields of the Sukinda region, thus hampering agricultural productivity, including rice. The current research aimed to alleviate Cr(VI)

toxicity in rice plants through natural polysaccharide-encapsulated biocomposite as a soil amendment. The biocomposite not only adsorbed Cr (VI) onto the rhizospheric soil, thus making it unavailable for plant uptake but it also helped develop plant vigor in the rice plant. Analysis of soil chemical parameters supported the same. Plant morphological and biochemical characteristics analyzed for 45 days rendered similar supportive results, thus, highlighting the use of biocomposite as a possible adjuvant to conventional fertilizer systems.

Keywords: Agricultural Productivity, Bio-Composite, Hexavalent Chromium, Soil Chemistry, Plant Stress.

[Paper Code - 2.35]

Valorisation of Dairy Waste (Whey) by Enriching the Phenolic Content

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Abstract

Whey, a by-product of paneer preparation, is a rich source of protein, minerals, water-soluble vitamins and lactose. In the present study, whey was utilized to prepare an herbal drink to valorise its antioxidant activity. Different concentrations of aqueous herbal extract of ginger (1%, 2%, 3% and 4%) and lemongrass (1%, 2%, 3% and 4%) were used to optimise the herbal drink. Different percentages of sugar (8%, 10% and 12%) were also used to prepare a sweet herbal whey drink. The optimized concentration of herbal extract and sugar used was 3% and 10 % respectively in the whey. The lemon grass-flavoured herbal whey drink was adjudged best compared to the flavour whey drink according to the overall acceptability score. Further, the pH, acidity, total solids, moisture, fat, lactose and ash percentage of the lemongrass flavoured whey drink and control whey was analysed and found non- significant difference ($p>0.05$). The total phenolic content of the lemon grass flavoured whey drink and control was measured using UV-Vis double beam spectrophotometer at 765 nm using Gallic acid as equivalent. Significantly higher content of phenolic compound was observed in lemongrass flavoured herbal whey drink (4.76±0.01 µg GAE/g) than control (2.37±0.02 µg GAE/g). The prepared herbal whey drink was found acceptable up to 7 days at refrigerated storage condition (7±2˚C).

Keywords: Whey, Valorisation, enrichment, Phenolic Content, Sustainability

[Paper Code - 2.36]

Gender-Based Comparative Analysis of Agricultural Involvement Among Bonda Men and Women: A Review

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Abstract

Highlighting the distinct roles, responsibilities and contributions within the Bonda tribe in Odisha, a gender-based comparative analysis of agricultural involvement among Bonda men and women has been interpreted here. Drawing on studies by the Odisha Tribal Empowerment and Livelihoods Programme (OTELP, 2020) and the National Bank for Agriculture and Rural Development (NABARD, 2019), the analysis delineates the division of labour, with men primarily engaged in ploughing and tool construction, and women in planting, weeding, and harvesting. It emphasizes women's continuous and multifaceted workload, extending beyond agriculture to household chores and child-rearing, contrasting with the seasonal agricultural involvement of men. The study reveals gender disparities in decision-making, resource access, and economic contributions, noting men's higher formal decision-making power and better access to agricultural training and credit. Cultural norms further restrict women's economic opportunities and mobility. The impact of modernization and development programs is discussed, with a noted increase in women's participation in agricultural training. The analysis concludes with recommendations for policy and development interventions to promote gender equity, ensuring equal access to resources and decision-making opportunities, and addressing cultural barriers. This comprehensive examination provides valuable insights for policymakers and development practitioners aiming to foster gender equity in rural development.

Keywords: Bonda tribe, Tribal Empowerment, Livelihood, Training Programmes

[Paper Code - 2.37]

Comparative Performance of Foliar Spray of Urea and Nano-Urea on Growth and Yield of Rice (*Oryza Sativa* L.)

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Rice plants require nitrogen in significant amounts throughout their growth cycle. Imbalanced nitrogenous fertilization of crops not only leads to reduced crop yields but also degrades soil quality. The foliar application of nitrogen plays a decisive role in plants' growth and development. A field experiment was conducted in *Kharif*, 2023 at the Post Graduate Research Farm, Centurion University of Technology and Management, Odisha. The experiment was laid out in a randomized block design with 8 different nitrogen applications at different times with varying proportions in 3 replications. The results of the experiment revealed that the significantly highest plant height (138.5 cm), number of tillers (264 m^{-2}), dry matter accumulation (1358 g m^{-2}), number of panicles (249 m^{-2}), number of spikelets $panicle^{-1}$ (159), grain yield (5997 kg ha^{-1}), straw yield (7643 kg ha^{-1}) were obtained in the application of 75 % RDN through urea (50 % at basal + 25 % at tillering) + 3 foliar spray of nano urea (FSNU) @ 4ml L^{-1} at maximum tillering, jointing and panicle initiation (PI) which was at par with 75 % RDN through urea (50 % at basal + 25 % at tillering) + 3 foliar spray of urea (FSU) @ 2 % at maximum tillering, jointing and PI. The significantly lowest values were recorded in control. The study concluded that application of 75 % RDN through urea (50 % at basal + 25 % at tillering) + three FSNU @ 4ml L^{-1} at maximum tillering, jointing and PI can be adopted for obtaining better growth, yield attributes and yield of *Kharif* rice.

Keywords: Foliar Spray, Grain yield, Nano urea, Rice, Urea.

[Paper Code - 2.38]

Empowering Women in Agriculture: A Five-Year Global Insight through Bibliometric Analysis

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Abstract

This study presents a bibliometric analysis of 730 articles published over the last five years (2019-2023) on women empowerment in agriculture, collected from the Web of Science database. It explores trends, key themes, and knowledge gaps related to the involvement of women in agriculture and their impact on achieving gender equality, economic development, and food security. The analysis highlights the contributions of women in agricultural practices, innovation, and leadership, examining how these roles have evolved recently and focusing on their influence on sustainability and rural development. Key insights from the bibliometric analysis include leading countries, institutions, and authors in this field and collaboration networks. The findings also identify frequently cited articles and common keywords such as gender equality, rural development, sustainable agriculture, and policy intervention. Furthermore, the analysis underscores the contributions of women's empowerment in agriculture toward achieving several of the United Nations Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 5 (Gender Equality), SDG 8 (Decent

Work and Economic Growth), and SDG 13 (Climate Action). This work is a valuable resource for understanding the current landscape of women empowerment in agriculture and its linkages to global sustainability objectives.

Keywords: agriculture, bibliometric analysis, gender equality, rural development, Sustainable Development Goals (SDGs), Web of Science, women empowerment

[Paper Code - 2.39]

Current Scenario on the Use of RNA Based Pesticides

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Abstract

The present review is an attempt to provide information on the current scenario of the use of RNA based pesticides. Pests and pathogens have always posed a serious threat to agronomically, horticulturally and medicinally important plants. This in turn has potently contributed to a loss in their productivity and also has resulted in the death of many species due to serious pest infestations. The traditional practice of using conventional chemical pesticides to combat pest infestations has not only brought serious implications for the environment but also has posed a challenge to biodiversity. This has also led to the emergence of pests with acquired resistance to chemicals. The current approaches are directed mainly towards the use of RNA based pesticides in which double stranded RNA molecules are specifically employed to suppress the expression of a target gene in a nucleotide sequence specific manner. RNAi based pesticides have served to be the most promising alternatives to synthetic pesticides and function by inhibiting the expression of a gene that is essential for the survival of the target crop pest. The duplex RNAs

block translation thereby inhibiting the production of proteins. These “RNA-induced gene silencing pesticides” have been extensively used to control the proliferation of pathogens including many fungi, viruses, viroids in plants. These pesticides are considered ecologically safe, applied topically to crops with a moderate control of degradability, allowing for flexible and fast responses to emerging pest diseases as well as pests that have acquired resistance to conventional pesticides. Many RNA based pesticides are now being marketed and employed to afford protection against an array of pests in the plant kingdom. These class of pesticides offer considerable promise and will certainly serve as weapons to combat the target pests.

Keywords: Rnai- Based Pesticides, Agronomically, Gene Silencing, Proliferation, Resistance

[Paper Code - 2.40]

Impact of Rural Agricultural Work Experience Program (RAWEP) on Attitude, Knowledge and Skills of Agriculture Students

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Abstract

In India, agricultural students can gain practical experience in farming and rural life through the Rural Agricultural Work Experience (RAWE) program. Students identify issues and use extension methods to share agricultural technologies with farm families as part of the program. Additionally, it assists students in preparing agricultural graduates for participation in various programs related to rural development. Here students become competent and confident in their ability to solve agricultural problems. RAWEP helps students to get ready for difficulties and problems they may face in farmers' fields. Reorienting graduates in agriculture and related fields to ensure employability and cultivate entrepreneurs for the burgeoning knowledge-intensive agriculture is the program's main objective. The result of study shows, before the RAWEP, 40 per cent of the students with sensitization had least favourable attitude towards RAWEP, after undergoing RAWEP attitude level of students with sensitization had changed from least favourable (40 %) to favourable attitude (57.33 %), and students

without sensitization, more than half (52 %) of the students had favourable attitude towards RAWEP. In case of knowledge, before RAWEP, 53.33 per cent of students with sensitization had medium knowledge level and after undergoing RAWEP, 50.67 per cent of students with sensitization had medium-high level of knowledge. Further, it concluded that, before RAWEP, overall skills of students were at low level (42.67%) and after RAWEP they were having medium level of skills (49.33%), Similarly, for students without sensitization 46.67 per cent were having medium level of skills.

Key words: Agriculture Students, Attitude, Knowledge, Skills, Sensitization

[Paper Code - 2.41]

Impact Assessment of Farmer Producer Organizations (FPOs) under Mukhya Mantri Makka Mission in Odisha

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Abstract

The Mukhya Mantri Makka Mission (MMMM) in Odisha is a strategic initiative aimed at enhancing the productivity and profitability of maize cultivation, a key crop in the state's agrarian economy. Central to this mission are Farmer Producer Organizations (FPOs), which serve as collective platforms for small and marginal farmers, enabling them to access markets, credit and inputs more effectively. This study conducts an impact assessment of FPOs operating under the MMMM, focusing on their contributions to improving agricultural practices, market linkages, and overall farmer welfare.

The assessment employs a mixed-methods approach, combining quantitative surveys of FPO members with qualitative interviews of key stakeholders, including FPO leaders, government officials, and agricultural experts. Key indicators analyzed include changes in maize yield, income levels, access to agricultural inputs, and market access before and after the formation of FPOs. The study also examines the role of FPOs in promoting sustainable agricultural practices and their impact on reducing the vulnerability of farmers to market fluctuations.

Preliminary findings indicate that FPOs have significantly improved the bargaining power of farmers, leading to better price realization and reduced dependency on middlemen. Furthermore, FPOs have facilitated access to quality

seeds, fertilizers, and technical know-how, contributing to higher productivity. However, challenges such as inadequate infrastructure, limited financial literacy, and bureaucratic hurdles persist, potentially limiting the full realization of the MMMM's objectives.

The study concludes by providing policy recommendations to strengthen the operational effectiveness of FPOs, including capacity-building initiatives, enhanced access to credit, and the development of robust market linkages. The findings underscore the critical role of FPOs in transforming the agricultural landscape in Odisha and highlight the need for sustained governmental and institutional support to ensure their long-term success.

Keywords: Sustainable Agriculture, FPO, MMMM

[Paper Code - 2.42]

The Role of English Language Education in Promoting Sustainable Agricultural Practices

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Abstract

As a global lingua franca, English is essential for disseminating knowledge, facilitating international collaborations, and accessing the latest research in sustainable agriculture. The paper explores how tailored English language programs can empower agricultural professionals, managers, and farmers to engage with global advancements in sustainable practices. Enhancing English proficiency enables these individuals to understand and implement international best practices, participate in global forums, and collaborate with international partners more effectively. The presentation will highlight the development and implementation of specialised English courses designed for the agricultural sector, focusing on technical vocabulary and effective communication strategies. We will also present case studies showcasing successful instances where English language education has directly contributed to adopting sustainable agricultural methods in various regions of India. This presentation underscores the indispensable role of English language education in fostering sustainable agricultural practices and contributing to the holistic development of India's agricultural sector and the realisation of a developed India.

Keywords: English, Language, Education, Sustainable, Agriculture, Professionals, International Collaboration, Technical Vocabulary, Communication Strategies

[Paper Code - 2.43]

Effects of Different Drying Methods on the Carotenoid Composition of Dried Marigold Petals

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Abstract

A study was undertaken to evaluate the effect of different drying methods on carotenoid contents in marigold (*Tagetes erecta* L.) at quality control laboratory of Bidhan Chandra Krishi Viswavidyalaya, Nadia during the year 2017-18. The experiment was laid out by following Factorial Randomized Complete Block Design, consists of two factors in which first factor was varieties (Pusa Narangi Gainda, Seracole, Inca Orange, Sunset Orange and Cracker Jack) and second factor was four treatments combination different drying methods (shade drying, micro wave drying, hot air oven and vacuum drying), were investigated for producing dried marigold petals suitable for carotenoid extraction. Among the different drying methods tested, vacuum drying at 50°C (treatment V_1D_3) produced the best results, retaining the highest amount of carotenoids in marigold petals (182.05 g/100g). Vacuum drying was more effective than other methods such as shade drying, microwave drying, and hot air oven drying in preserving carotenoid content in marigold petals. This study provides valuable insight into optimizing drying methods for maximizing carotenoid retention, which is important for commercial extraction and use in various industries such as food coloring, pharmaceuticals, and cosmetics.

Keywords: Marigold, Carotenoid, Drying Methods, Time and Varieties

[Paper Code - 2.44]

Effect of Mulching on Physio-Chemical Properties of Soil

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Abstract

In the era of climate change, the implementation of mulch as a soil cover is effective in increasing soil quality as well as improving crop yield. The field experiment was conducted at Research Farm, School of Agriculture Lovely Professional University, Punjab, to evaluate the impact of organic and inorganic mulches on soil temperature, moisture, nutrient content and yield of Okra (Abelmoschus esculentus L.). The impact of BPM (Black Plastic Mulch) and SPM (Silver Plastic Mulch) were compared with RSM (Rice Straw Mulch) and soil without mulch. The highest soil temperature was recorded under the control plot (without mulch) due to the direct impact of solar radiation on the soil surface, but among different mulches, BPM was observed to be more effective for increasing soil temperature. Soil moisture was found highest in SPM. Electrical conductivity and pH of soil were recorded highest in SPM and RSM. An increased availability of N and K was observed under RSM, while that of P was maximum under BPM in post-harvest soil. The highest yield was obtained under SPM.

Keywords: Plastic Mulch, Rice Straw mulch, Soil Temperature, Soil Moisture, Okra

Track-3

Disruptive Technologies & Innovation

[Paper Code - 3.1]

Nutritional Security of Women in Aspirational Districts of Odisha: A New Challenge for India

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Abstract

As per a study conducted by SBI research team, India has been able to reduce the overall poverty rate from 25.7% in 2011-12 to below 5% in 2022-23. Currently, eight UTs and 28 States are distributing rice and wheat at subsidized rates of Rs. 2 and Rs. 3 per kg respectively, among 19.75 crore Ration Card (RC) holders, covering a mammoth 79.38 crore beneficiaries. Many researchers consider that National Food Security Act-2013 of the Government of India, is one of the major contributors to poverty reduction in India. India needs to move further and work on the nutrition security of vulnerable and marginalized households in aspirational districts of India. The governments can design suitable policies for nutrition-sensitive agriculture and reinforce dietary diversity among women and children through the introduction of nutri-cereals (millets) as a staple food along with bio-fortified cereals (rice and wheat) as part of the PDS, access to health care services through tele medicine, compulsory childbirth in hospitals, cashless insurance introduction, improve sanitation and drinking water access, fellowship and recognition for higher education to girls. All these initiatives are expected to contribute towards the nutrition security of women and children in aspirational districts. Periodic monitoring of the issue of malnutrition among women and children of vulnerable and marginalized households can be carried out through a simple tool Minimum Dietary Diversity of Women (MDDw) as prescribed by Food and Agriculture Organization (FAO).

Many research papers are available on food security aspects, but very few are on nutrition security. A mixed method approach (research) has been adopted for this research. A structured questionnaire was used to collect the data in the sampled location and convenience sample was used to select the villages for data collection. Additionally, qualitative discussions with different stakeholders were conducted for deeper insights into community's perceptions on malnutrition and food diversity with special reference to women. The quantitative date data were analyzed and interpreted and the qualitative data were used for substantiate the quantitative base of the data. The team has conducted the mixed method research in a few of the aspirational districts of Odisha to identify the extent of nutrition security as a major challenge of women in remote Odisha and India. The data from the National Family Health Survey (NFHS) 2019-21 on the nutritional status of women have also been used.

Keywords: National Food Security Act, PDS, Food Security, Minimum Dietary Diversity

[Paper Code - 3.2]

Palliative Care Access and Awareness in India: An Urgent Call for Reform

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Abstract

Palliative care (PC) is the most important health care need, yet not seriously practiced in India. Despite its importance for improving quality of life (QoL) of patients who are suffering for serious, chronic and terminal illness, awareness and access of PC services remain limited to a few pockets for quite a long time. As per several studies, only a small fraction of India's population is aware about palliative care. According to an international development sector advisory firm Pallium India, less than 2% of India's 1.2 billion people have access to palliative care. Additionally, according to ISB Max institute of health care management, India ranked 67th out of 80 countries in quality of death (QoD) index, reflecting the nation's struggles in providing accessible and high-quality palliative care. The multidisciplinary approach, involving physicians, nurses, counsellors and technical specialists, often faces obstacles due to lack of awareness among healthcare providers, leading to misinformed decisions and unnecessary ICU

admission. Public awareness is also critically low; many people are unfamiliar with the term and aspects of PC, and those who often associate it with end-of-life care, assuming it implies no hope for recovery or improvement. The government of India has previously brought National programme for palliative care (NPCC) in 2012 and again recognized the need to enhance and improve PC services provided to people by the inclusion of PC in the National Health Policy 2017.Yet implementation has been slow and significant challenges remain same.

The authors conducted research by directly interacting with medical professionals including doctors, nurses, physiotherapists, counsellors, and communities supporting PC patients and with the voluntary organization involved in PC in Goa and Odisha. Additionally, they reviewed the policy documents of government and conducted literature review to find out comprehensive understanding of the current scenario of PC.

Keywords- Palliative Care, Quality of life, Quality of Death, National Programme for Palliative Care

[Paper Code - 3.3]

In Silico Analysis of Anticancer Drug Molecules as Potential Modulators of the Nonsense-mediated mRNA Decay Pathway

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Abstract

Nonsense-mediated mRNA decay (NMD) serves as the most significant mRNA surveillance mechanism present in eukaryotes which maintain transcript quality by targeting and degrading mRNA that contains premature stop codons and preventing the production or accumulation of harmful truncated proteins. Many studies have shown that the NMD pathway helps in the tumorigenesis process of certain tumor types. This pathway involves multiple protein factors. The protein Suppressor with morphogenetic effect on genitalia 1 (SMG1), plays a crucial role in the NMD pathway, making it an important target for developing inhibitors that can potentially modulate this pathway for therapeutic purposes. The aim of this research is to identify the anticancer drugs which have the potential to inhibit or modulate the function of SMG1 protein. In this study we have used a molecular docking approach to identify anti-cancer compounds which have strong binding affinity towards SMG1. The results of a molecular docking study show that few anticancer drug molecules have strong binding affinity towards the SMG1 protein. We have selected the top five compounds that exhibit strong binding affinity

compared to all other ligands. After analyzing docking results, we found that the compound Avapritinib, with a binding energy score of -10.21 kcal/mol, demonstrates the strongest binding affinity towards the SMG1 protein among all the ligands. These results indicate that these five anticancer drug molecules can be considered as potential inhibitors of SMG1 protein. The potential of these compounds needs to be evaluated further by employing both *in vitro* and *in vivo* methods.

Keywords**:** Nonsense-Mediated Mrna Decay, Mrna Surveillance, Premature Termination Codons, SMG1, Tumorigenesis

[Paper Code - 3.4]

Disruptive Urbanism and Discrete Choice of Online Platform for Short-term Rental Accommodation in Sharing Economy

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Abstract

The shift in innovation towards online booking for short-term rental platforms is disrupting urbanization in the sharing economy. This study explores how consumers' motives and concerns affect their satisfaction when choosing short-term rental accommodations through online platforms.

This study adopts a quantitative approach, utilizing descriptive analysis and inferential statistics to measure consumer satisfaction levels while opting for online booking. The study investigates the consumers' socio-economic profiles, including economic benefits, social experiences, locational advantages as the consumers' motives and lack of trust, and expected benefits as their concerns over the online booking of short-term rental accommodation.

The study's results reveal a substantial influence of consumers' motivations and concerns on their satisfaction with short-term rental accommodation. Consumer satisfaction levels tend to be moderate when utilizing online platforms for short-term rental-sharing services.

This outcome ignites policy regulators to consider the effect of disruptive urbanism resulting from innovation in digitalization in the short-term rental-

sharing sector. This calls for revamping the existing policies within the context of the sharing economy.

This study introduces a novel phenomenon in the Indian context. It sheds insight into the evolving urban landscape, highlighting the disruption of technology in consumers' growing inclination to book online accommodation on short-term rental platforms.

Keywords: Online platform, Short-term Rental, Economic Benefits, Social Engagement, Locational Advantage, Lack of Trust, Sharing Economy, Expected Efforts, and Urban Policy Regulation.

[Paper Code - 3.5]

A Study on Replacement Rate of Internal Combustion Technology Vehicles (ICT) by Electric Vehicles (EVs) in India

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Abstract

This research paper examines the transition from Internal Combustion Technology (ICT) vehicles to Electric Vehicles (EVs) in India, emphasizing the low replacement rate of only 5%, which is merely one-tenth of the global average. The analysis delves into factors like government policies, technological advancements, infrastructure development, and customer perception influencing this slow transition. It also highlights regional variations, with urban centres exhibiting a higher replacement rate of up to 20%, compared to less than 1% in rural areas. The study concludes with recommendations for accelerating EV adoption to align with global standards and promote sustainable transportation in India.

Keywords: Electric Vehicles (EVs), Internal Combustion Technology (ICT), Replacement Rate, Customer Perception, Sustainable Transportation, Regional Disparities, Charging Infrastructure

[Paper Code - 3.6]

Drone Applications in Indian Agriculture and Allied Sectors: Review of Status, Opportunities and Challenges

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Abstract

Drones known as unmanned aerial vehicles (UAVs) have become ubiquitous in many parts of the world for varied applications in agriculture and allied sectors. Some of these are precision agriculture, irrigation monitoring, aerial seeding and crop dusting, aerial mustering, artificial pollination, livestock monitoring, drought management, mapping and surveying of land, crop health assessment, post-harvest monitoring and environmental conservation and monitoring (Agarwal, 2024 & Beriya, 2022). The proposed paper on drone applications in India's agriculture and allied sector will have four major sections as below. The first section of this descriptive desk based research will bring out the nuances of India's drone policy, regulations and how they have enabled growth of the drone industry in India. The second section focusing on the literature review will bring out how drones have been used in many other parts of the world in general and particularly in agriculture and allied sectors. The different types of drones used globally for various agricultural applications will be elaborated. The general challenges in using drones in the agriculture sector will also be part of this section. Third section will focus on drone applications in Indian agriculture and allied sectors context. India's nascent drone industry's genesis, current status and its experience with wider applications specifically on India's agriculture and allied sectors will form part of the paper. India's land holding pattern based on the agricultural census would be analyzed to identify the likely challenges in use of drones in different states of India across various social categories. The fourth section will focus on the review of the drone *didi* schemes, its working, benefits and challenges. This section will also include suggestions for furthering the drone applications in India's agriculture and allied sectors.

Keywords: Drone Policy, Drone *Didi*, Drone in Agriculture and Landholding Pattern

[Paper Code - 3.7]

Sustainability and Quality Education in English Language Teaching: A Journey from Evolution to Innovation in a Global Perspective with Reference to Odisha

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Abstract

India has observed an immense transformation in its education system, evolving from traditional Gurukuls to modern schools, a journey from evolution to innovation and also so does the English language. Language teaching in the 21st century underwent various changes and advancement and is still changing at an ever-increasing rate. English, once associated with British colonial rule, now transcends borders. English, considered as the global language of business, science, and communication stands at the crossroads of tradition and innovation. Being the language of 2024 almost in every household and beyond as well as spoken by 2 billion speakers worldwide, its global dominance reflects economic power and cultural influence. This paper speaks volumes of the recent trends in English language in a global scenario. It also sheds light on the student-centred learning practices as well as recent trends in ELT, emphasizing the importance of sustainability and quality education, while exploring the evolving role of technology, methodologies, and professional training and its impact on learners, educators, and society as a whole.

Keywords: Sustainability, Quality Education English Language, Recent Trends, Practices, Approaches, Methods

[Paper Code - 3.8]

Disruptive Leadership: Inspiring Change and Innovation in Businesses

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Abstract

In the fast-paced business world, the leaders who can survive are the disruptive ones. The word might sound negative to you but the attributes are all positive. Businesses around the world are all part of the innovative and transformative era. Business leaders' sense of urgency is illustrated as business imperatives, such as Digital Savvy, Digital First, Innovate or Die, and Disrupt or be Disrupted. These business imperatives refer to digitalization as an opportunity to adapt, innovate or transform an organization. Because the global competitive landscape is intensifying, customers change behaviour, and mega trends of digitalization and sustainability transform how to do business and sometimes lead to disruptive innovations. Companies across different sizes and countries find themselves in an ever-changing context due to internal and external causes. The critical challenge for all of them is innovation as a mindset and process to desired outcomes, such as business model innovation, competitive advantage, and enhanced performance from digitalization and technology. Many businesses react to such ripple effects and try to optimize their business case in a very reactive manner to sustain the business, while others constantly foresee and proactively adapt their business case to exploit such shifting dimensions. Whereas innovation is an instrument to proactively keep pace with time and adapt to such changing market conditions, optimization creates momentary efficiencies that won't be sufficient for sustainable advantage in the marketplace.

This paper aims to take a qualitative approach by utilising the existing literature which includes majorly the case studies of leaders in leading companies across the globe. Digitalization, transformation, and disruptive business model innovation

are thus part of the future and to manage these changes we need disruptive leaders. It demands leaders with new ideas, thinking, behaviour, forms of collaboration, technologies, and innovative entrepreneurial experiments and transformations to handle the new and old business models. This paper will help to identify the type of leaders required for a specific business type and how to apply it in real-time businesses. The companies can very well understand the role and impact of disruptive leaders in making a business successful in every changing dynamic.

Keywords**:** Disruptive, Leadership, Innovation, Business, Digitalization

[Paper Code - 3.9]

Animating Change: AI-Driven Scripts and Projects for Development Communication

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Abstract

This paper explores the transformative impact of Artificial Intelligence in storytelling and its significance in the realm of development communication. Aligned with India's Viksit Bharat 2047 vision, the initiative aims to democratize access and enhance communication strategies using AI. The focus is on animating change through four national initiatives: Viksit Bharat, Unnat Bharat, Digital India, and Swachha Bharat. The methodology involved a case study with ten agri-business students from a multi-sector private university in Odisha, organized into groups using a project-based approach. Digital pedagogy was employed, emphasizing micro-writing techniques to create engaging AI-driven scripts. The study underscores AI's role in advancing development communication, showcasing innovation within the agri-business management curriculum. It explores the implementation of AI-driven scripts and projects as educational tools to promote awareness and action towards achieving the Sustainable Development Goals (SDGs). The integration of AI aims to animate change by engaging students in interactive, hands-on development activities that foster critical thinking, creativity, and problem-solving skills. The paper discusses theoretical foundations, design principles, and pedagogical strategies underlying this approach, supported by case studies and qualitative findings illustrating its effectiveness in enhancing student learning outcomes. Practical considerations for integrating AI-driven scripts into educational settings are addressed, including curriculum alignment, teacher training, and assessment frameworks. Ultimately, this paper highlights the transformative potential of AI-driven educational initiatives in advancing sustainable development education. It empowers students to become proactive agents of positive change in their communities and beyond.

Keywords: AI Scripts, Projects, Sustainable Development, Communication

[Paper Code - 3.10]

Neuro-marketing of Gem Stones and Crystal Spheres for Holistic Wellness Practices: A Case Study on Aatmann in Indian Start-up Revolution

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Abstract

The economic sentiment of Indian consumers has strategically shifted towards astrological belief stimulated neuro-marketing purchases especially gem stones and crystals. The research study outlines a case study approach for an Indian startup 'Aatmann' founded by a successful business woman Molly Kapoor whose action is her belief stating 'Women should take charge of their own Money'.' Earlier this year, Bharat Ratnam – Mega Common Facilitation Centre was inaugurated as the socio-economic project for the upgradation of the Gems and Jewellery Industry as an initiative by The Ministry of Commerce & Industry, Govt. of India for GJEPC harnessing the Jewellery manufacturers with futuristic Jewel-Tech services. The case study explores disruptive technologies and innovations pioneered by 'Aatmann' pertaining to Gem stones and Crystal spheres. The study is based on Analytical Hierarchy Process to provide a framework on multi-criteria decision making in this start-up business which runs on merger of ancient wisdom of seven Chakras (Root or Muladhara, Sacral or Svadhisthana, Solar Plexus or Manipura, Heart or Anahata, Throat or Vishuddha, Third Eye or Ajna and Crown or Sahasrara) enabling holistic wellness practices. The research work explores psychological mapping of consumers with neuro-marketing promotions and it's over all conversion rate in customer acquisition.

Keywords**:** Neuro-marketing, Holistic Wellness, Chakras, Aatmann, Disruptive Management, Start-up India

[Paper Code - 3.11]

Romanticizing English Language Training: The Impact of Immersive Technologies

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Abstract

English language training through immersive technologies can significantly contribute to employment opportunities in Viksit Bharat 2047, the vision for a developed India. As India aims for economic growth and societal development, innovative approaches in teacher education, integrating advanced technologies and progressive pedagogies, play a crucial role in preparing educators for the future workforce. The integration of immersive technologies in English language training has shown positive impacts on learning outcomes. These technologies offer unique opportunities to create engaging and interactive learning environments and enhance language acquisition through simulation and gamification. Immersive learning technologies such as virtual reality (VR), augmented reality (AR), mixed reality (MR) and 360-degree videos are revolutionizing English language training. However, there is a noticeable gap in the existing research concerning the integration of immersive technologies in training and pedagogical approaches. To address this, the study aims to explore the impact of digital immersive technology on English language training, focusing on communication, critical thinking, self-directed learning and sustainability (SDG4). A quasi-experimental study involving thirty final year students and twenty language teachers from a multi-sector state private university was employed for immersion-based English language training in an AR/VR

Laboratory to simulate authentic language interactions, provide a safe space for practice, mitigate speaking anxiety and enhance language proficiency. This study contributes evidence supporting the romanticisation of English language training through immersive technologies, highlighting their efficacy in improving training outcomes, student engagement and reduced anxiety levels among participants.

Keywords- Technologies, AR & VR, Viksit Bharat, English, Employment Training

[Paper Code - 3.12]

Cloud Service Provider Using MCDM / ML Techniques: A Study of Optimization Issues for Organization

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Abstract

Now a days, most organizations have started taking benefits from various Cloud Services for their day-to-day activities. This saves a lot of money as initial investment in setup and continuous maintenance. Finding the appropriate cloud service provider (CSP) for an organization is also a challenging activity as there are more than 10 CSP market leaders to choose from. Few examples of such CSP are Microsoft Azure, Google cloud, Amazon Web Services AWS etc. MCDM, (Multi Criteria Decision Making) problem, arises when there is a need to appropriately evaluate the services offered by a variety of CSPs. This is because there are several independent factors such as (Quality of Services, User feedback, accessibility etc.) that must be evaluated for each CSP. In MCDM challenges, several potential solutions are evaluated considering different criteria to determine the best possible solutions for ranking. As a conclusion, this paper provides a matrix of different Cloud service provider Vs different properties through MCDM approach. This will help the user/customer to choose the right provider as per the requirement.The work also intended to use Machine learning algorithms and optimizer tools to make the experiment and classifications for further improvement.

Keywords**:** ML, MCDM, CSP, Optimization

[Paper Code - 3.13]

Catalysing Change – Disruptive Technology in English Education for a Viksit Bharat

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Abstract

The ambitious vision of Viksit Bharat 2047, gives an opportunity to more innovative to work towards use of disruptive technology for bridging the digital divide in rural India students especially with respect to the learning of the English language. The integration of disruptive technologies and innovation has shown significant potential towards the improvement of the learning outcomes. Education 4.0 has matched with Industry 4.0 to enhance the learning skills of the students leaving a positive impact on the English language acquisition. Traditional classes are slowly getting revamped to positive learning environments through e-learning tools and Information and Communication Technologies, making the classroom lessons more interactive and engaging. Pedagogy has embraced the digital platforms through collaboration to create sustainable and encouraging goals to prepare the students to meet the demands of the globalised world and contribute to the development goals of India. Strategic use of available technology can significantly enhance English language instruction aligning with culturally relevant pedagogical approaches. The paper elucidates case studies to show the impact of tech-enabled initiatives on language acquisition, student motivation and overall performance. The study aims to contribute to the discourse on educational innovation through various technological platforms to empower rural students with linguistic skills essential for thriving in a globalized world.

Keywords**:** Innovation, Disruptive Technology, English Language Learning, Viksit Bharat

[Paper Code - 3.14]

Prediction of River Water Quality with Nesterov Kalman Filter and Lasso-Enhanced ConvoNet

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Abstract

Predicting river water quality using satellite images provides a non-invasive way to keep an eye on the health of water with difficulties. Still, it also creates a need for strong algorithms to extract relevant information from a complicated environment. To address these challenges, an innovative algorithm named "Nesterov Extended Kalman Filter and Structural Lasso Regularization with Sporadic ConvoNet" is introduced. Understanding the interplay between flow rate and water quality dynamics is crucial. Hence, the proposed algorithm integrates Mini Batch Nesterov Extended Kalman Filter within the Sporadic ConvoNet (SCN) framework, Mini-batch training aids adaptation to flow rate fluctuations, while Nesterov Accelerated Gradient swiftly adjusts parameters for faster convergence, and Extended Kalman Particle Filter incorporates uncertainty, enhancing predictions despite fluctuations in flow rates and environmental variables. Moreover, river flow rate influences microbial processes, and identifying critical thresholds in flow rate changes is crucial for accurate water quality prediction. The proposed algorithm leverages Multilevel Sparse Structural Lasso Regularization within the SCN, where Sparse Group Lasso Regularization identifies threshold effects, in the relationship between flow rate, ORP, and water quality. Multilevel Structural Equation Modeling captures hierarchical dependencies across spatial and temporal scales, facilitating dynamic relationship modeling between flow rate, ORP, and water quality over time. The performance

of the proposed model in predicting the river water quality using satellite data is validated in terms of various parameters such as accuracy, recall, precision, and F1-score along with the error parameters such as MAE, RMSE, RMSPE, MAPE, U1, and U2.

Keywords**:** River Water Quality, Flow Rate, Water Quality Dynamics, Nesterov Accelerated Gradient, Extended Kalman Particle Filter, Sparse Group Lasso Regularization, Multilevel Structural Equation Modeling

[Paper Code - 3.15]

Transforming 'Viksit Bharat' through Business Model Innovation in Small and Medium Size Enterprises: Strategies for Sustainable Success

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Abstract

The philosophical thought of development has undergone a profound transformation globally. The Indian government's vision, "Vikshit Bharat 2047", is to transform the country into a developed entity. Vikshit Bharat is crucial in fostering entrepreneurial development and an innovation ecosystem in the country. In recent times, business model innovation has attracted the attention of academic research and business practices. Innovation in the business models involves developing and implementing novel strategies, processes and structures within the organisations to create, deliver and capture innovative value. Small and medium-sized enterprises (SMEs) are playing a pivotal role in the nation's economic growth. At present, these SMEs are facing challenges and pressure to grow. The paper aims to explore the existing business models and establish a unified and integrated framework for sustainable SMEs growth through a comprehensive literature review, case studies and analysis of business models. This paper examines the strategies, impacts and outcomes of business model innovation in small- and medium-sized enterprises. This article highlights gaps in addressing the challenges of business model innovation for the sustainability of small and medium-size businesses and suggests recommendations for further research.

Keywords: Innovation, Business Model, Transformation, Sustainability, Viksit Bharat.

[Paper Code - 3.16]

Artificial Intelligence (AI) for Digital Extension Services

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Abstract

The importance of nutritional security is increasing due to the exponential growth of the World's population. In order to disseminate technology and bridge the knowledge gap between agricultural research and practical farming applications, agricultural extension service is more essential. A wide range of extension services, from training to advising and practical demonstrations, are provided by this multifaceted profession that covers everything from crop production to managing soil health. In developing and emerging nations, traditional agricultural extension services assist as a crucial source of guidance for farmers. However, the number of such services is limited in comparison to the vast population of smallholder farmers. During the crop season, there is considerable pressure to reach out to farmers, which gets complicated by the isolation of farms in rural areas. For example, in some states, the ratio of Indian extension workers offering consultancy services for farmers is quite elevated to 1:2000, making it impractical to provide timely, competent assistance to people in rural locations. To minimize the gap between agricultural research and its application in agriculture, artificial intelligence (AI) acts like a game-changing technology. AI provides extension services and data-driven help to farmers as a solution. It provides education and ensures farmers stay up to date on the best farm practices. AI influence in agriculture is exemplified by initiatives such as the M-Velanmai effort in Tamil

Nadu, Plantix app, and an early warning system for pest management *etc*. Global food security will improve, when farmers are empowered, and productivity is increased by this advancement. Artificial intelligence (AI) is a vital tool for future farming because of its clear potential to change the field.

Keywords**:** Agriculture, Artificial Intelligence, Extension Service, Technology Dissemination

[Paper Code - 3.17]

Tech Meets Tradition: Pioneering Smart Villages for Viksit Bharat 2047

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Abstract

The vision of Vikshit Bharat 2047 emphasizes the transformation of rural India through the concept of "Smart Villages," where technology and tradition coexist to drive sustainable development. This paper focuses on adopted villages in the Gosani block namely Barlanda, Jhampiguda, Totagumuda, Routpur and Parsurampur examining how advanced communication technologies like the Internet of Things (IoT), artificial intelligence (AI), and mobile connectivity can integrate with traditional practices. The study explores the impact of these technologies on enhancing agricultural productivity, optimizing resource management, and improving access to healthcare and education. Traditional knowledge is preserved and enhanced through digital platforms, promoting innovation while maintaining cultural integrity. E-governance platforms and digital literacy initiatives empower villagers, providing transparent access to government services and encouraging community participation in governance. By bridging the digital divide, those Smart Villages demonstrate how equitable access to technology can foster resilient, self-sufficient communities. The findings suggest that integrating technology with tradition not only addresses economic and social challenges but also aligns with national and global sustainability goals. This paper offers valuable insights into the practical implementation of the Smart Villages concept, contributing to the holistic development envisioned for Viksit Bharat 2047.

Keywords: Sustainable, Connectivity, Community, Digital, Holistic

[Paper Code - 3.18]

Healing the Healers: Addressing the Psychosocial Impacts of COVID-19 on Healthcare Professionals in Odisha

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Abstract

The COVID-19 pandemic has had a devastating impact on healthcare workers worldwide, leading to significant mental health challenges. In Odisha, India, frontline healthcare professionals faced immense pressure, including increased workload, prolonged exposure to COVID-19 patients, and limited resources. A study was to evaluate the effectiveness of yoga interventions in reducing burnout among healthcare professionals working in COVID wards in Odisha, India. A pre-post design was used to assess burnout levels in healthcare professionals before and after a 21-day yoga intervention. Data were collected using a questionnaire and analyzed using descriptive statistics and non-parametric tests. The findings revealed a significant decrease in total burnout scores among healthcare professionals after the yoga intervention. This study contributes to the growing body of literature on the benefits of yoga for healthcare workers. The results suggest that yoga can be a valuable tool for mitigating burnout and improving resilience in this high-stress profession. The findings of this study highlight the importance of incorporating mindfulness and stress-reduction techniques into healthcare professional training and support programs. Further research is needed to explore the long-term effects of yoga interventions on burnout and overall well-being in this population.

Keywords: Healthcare, Covid-19, Stress, Yoga, Professional

Track-4

Livestock and Aquaculture

[Paper Code - 4.1]

Application of Interventional Technologies to Transform Piggery into a Profitable Venture

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Abstract

A baseline piggery unit was newly started in the month of April, 2024 subsequent to the procurement of Large White Yorkshire-crosses, totalling ten females and two males from a state government subsidized piggery unit owned by a private pig farmer at Banki, Cuttack District, Odisha state. All the swine were maintained in a separate stay on the campus of SOVAS, Centurion University of Technology and Management at Paralakhemundi.

The interventional technologies like cutting of teeth within three days of age, parenteral administration of iron dextran by intra-muscular route, along with dexamethasone, timely deworming as well as timely vaccination against the commonly encountered viral disease were systematically carried out on timely basis.

Similarly, interventions were made in the feeding management, in order to cut-down the cost of feeding based management practices. Concurrently, innovation was made towards proper clinical restraint of the pig by designing and application of an easily manoeuvrable and simplified restraint related gadget. The profit percentage in rearing the number of pigs was estimated to be 383.33 per cent (three hundred and eighty three per cent only), coupled with an expectation for an increased profit, during the final sales of the pigs at this piggery unit, in addition to the maintenance of a sustainable form of swine production.

Keywords: Intervention, Innovation, Rearing, Management Practices.

Track-5

Enabling Inclusive Development

[Paper Code - 5.1]

Social and Infrastructural Development of Tribal Population in Koraput District of Odisha: A Case Study

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Abstract

This paper presents a comprehensive case study examining the social and infrastructural development of tribal populations in the Koraput district of Odisha, India. The study on a development intervention orchestrated through a collaborative framework involving government agencies, civil society organizations, and tribal communities themselves. The primary focus is on elucidating the multifaceted challenges faced by tribal communities in this region, including pervasive poverty, systemic marginalization, and limited access to essential services. However, the research also underscores the immense potential for fostering sustainable development and empowering tribal communities through concerted efforts. Central to this investigation is the recognition of the critical role played by mass media in shaping the lives of tribal communities. By harnessing the power of mass media, specifically through the establishment of community radio stations, CSC and mobile towers, previously unreached and tribal backward areas have witnessed transformational changes. These media platforms have not only facilitated communication within and beyond tribal communities but have also acted as conduits for disseminating critical information about development initiatives, government policies, and available resources. This paper also highlights the challenges faced by tribal communities, including poverty, marginalization, and lack of access to basic services. It also points towards the potential for promoting sustainable development and empowering tribal communities through collaborative efforts.

Furthermore, the paper emphasizes the importance of cultural sensitivity in the process of development. It underscores the necessity of tailoring interventions to

align with the unique cultural norms, traditions, and beliefs of the tribal populations. Moreover, it highlights the imperative of promoting women's empowerment within these communities, recognizing the pivotal role that women play in the social and economic fabric of tribal life. While the journey towards social and infrastructural development for tribal communities in Koraput district has been marked by significant challenges, this study illuminates the progress made through the collaborative efforts of both governmental and non-governmental organizations. Though there remains a substantial distance to traverse, these initiatives have engendered positive changes and hold the promise of ushering in lasting, sustainable development within these communities. However, various government and non-governmental organizations have undertaken initiatives to address these issues and promote the development of these communities. While there is still a long way to go, these initiatives have brought about positive changes and have the potential to bring about long-term development in these communities.

Keywords**:** Sustainable Development, Marginalization, Women Empowerment, Mass Media, Tribal Communities, Cultural Identity, Government Interventions.

[Paper Code - 5.2]

Impact of Digital Finance on Financial Inclusion and Stability

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Abstract

This study fills a gap in the literature by investigating digital finance, a topic that has received little attention. Certain unanswered questions prevent digital finance from reaching its full potential in bettering people's lives, businesses, and governments, even if digital finance and financial inclusion benefit the economy, governments, consumers, and suppliers of financial services. Financial services are the lifeblood of an economy. In light of ongoing discussions and national initiatives aimed at expanding access to financial services in developing and emerging economies, the research paper's examination of digital finance's challenges is pertinent. This study emphasises digital finance's impact on monetary inclusion and system stability. This research provides valuable insights for academics and researchers on the effects of digital financial services on financial inclusion. It adds to the existing body of knowledge on the development of digital finance and its influence on financial inclusion.

Keywords: Digital finance, Financial Inclusion, Financial Services, Government, People

[Paper Code - 5.3]

Enabling Inclusive Development for Sustainability

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Abstract

It is an incredible truth that India is emerging as one to the finest developing country focusing on inclusiveness of all the prominent sectors. This trend has helped people to avail basic education, health services and this has also enhanced economic development by creating employment opportunities and equity-based development. Also, this has given due respect to stakeholders, businessmen, owner and innovators a sense of being valued, being respected and a sense of belongingness. By means of this paper, we are going to understand the kind of transformation that has taken place and how it has impacted all spheres of our life, environment and development of individuals as well as of our nation. We will understand the real meaning of inclusiveness and equal opportunities for all, which resulted in exponential growth and development in education, health, financial and economic sectors. This paper will also highlight various schemes being introduced by Government of India in last ten years to focus on inclusive growth, and, ultimately, inclusiveness is the need of the hour as this leads to sustainability and equal distribution of resources among people. Thus, inclusivity involves four important parameters- creating opportunities, exploiting available opportunities, accessing the opportunities and providing security against loss.

Keywords**:** Inclusiveness, Emerging Equity-based Development, Exponential Growth, Sustainability, Security

[Paper Code - 5.4]

Inclusive Development of Small and Marginal Women Farmers in Tamil Nadu: Successful Case of *Veerapandy Kalanjia Jeevidam* Producer Company Limited

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Abstract

Despite the limited and skewed landholding by the women, efforts have been made by the Government of India and many State Governments to promote women-exclusive farmer producer companies (FPCs) in different parts of India. It is hoped that such efforts will result in the inclusive development of small and marginal women farmers of India. In the long run, the ripple effect of the women FPCs might improve India's very low score of 0.367 for the sub-index of women's economic participation and opportunity related to Gender Gap Index (GGI). The present paper focuses on a successful women FPC in Salem district of Tamil Nadu, the Veerapandy Kalanjia Jeevidam Producer Company Limited (VKJPCL), that won the national award for the best FPC from the National Bank of Agriculture and Rural Development (NABARD) in 2021-22. Its efforts in empowering 2555 small and marginal women farmers with very limited landholding are the highlight of the study. The field based study that surveyed 218 members and interviewed five Boards of Directors and the Chief Executive Officer was undertaken in November 2023.

Keywords: Inclusive Development, Marginal and Small Farmers, Women FPCs, Women Empowerment

[Paper Code - 5.5]

Spiritualism, an Apparatus for Sustainable Growth: Reflection through Ancient Indian Literature

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Abstract

In pursuing a sustainable future, a powerful yet often overlooked force resides within each individual: spirituality. Associates, entrepreneurs, and business leaders have the potential to harness the transformative power of spirituality to fuel sustainable development. This journey invites exploration of the profound connection between spirituality and creating a better world, all while embracing and respecting diverse beliefs and perspectives. Spirituality, beyond religious ties, fosters inner peace and balance, naturally extending to sustainable practices that protect our planet. Engaging in dialogue across diverse beliefs is essential to finding common ground and innovative solutions for sustainable growth.

This article attempts to establish and re-decode spiritualism as a major apparatus for sustainable growth through the lenses of ancient Indian literature and text. Ancient Indian texts integrate spiritualism and sustainable growth by emphasizing Dharma, the ethical duty to live in harmony with cosmic laws, ensuring that economic and social activities benefit all, including future generations. Ahimsa, or non-violence, extends to environmental ethics, promoting sustainable practices that protect life and nature. The concept of Rta, or cosmic order, underscores the need for ecological balance. Simplicity, contentment, and selfless sacrifice encourage minimal consumption and environmental stewardship. Understanding the interconnectedness of life fosters an eco-centric worldview, while balancing material wealth with spiritual liberation supports sustainable growth.

Keywords- Spiritualism, Sustainable Growth, Ancient Indian Literature

[Paper Code - 5.6]

Gender Equality in the Agricultural Sector: A Bibliometric Analysis

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Abstract

Women empowerment in the agriculture sector has been identified as one of the key tools to ensure the achievement of the sustainable development goals and an effective means to long-term economic growth and success. Agricultural and food systems employ more than one-third of the world's working women. These systems encompass the production of both food and non-food agricultural products. Women in agriculture encounter various barriers that their male counterparts do not, such as limited access to training, machinery, new technology, and the necessary knowledge to implement enhanced agricultural practices. Because of the disparity in access, women farmers face an increasing knowledge gap. And, addressing gender inequality is essential to achieving sustainability in agriculture. This article provides a bibliometric analysis of publications that address sustainable development goal (SDG) 5, which is focused on achieving gender equality in agriculture and empowering all women and girls. In developing this research, Scopus databases were used to

search for relevant articles, and a final sample of 362 publications was extracted for this purpose. There is a growing significance placed on studying women's empowerment in this specific sector within the framework of the Sustainable Development Goals. Based on the co-occurrence of keywords, important terms such as development studies, feminization, empowerment, and gender were relevant to this topic. In conclusion, this study offers insight into the current state of scientific research on women's empowerment topics after adopting the SDGs, provides recommendations for future development, and supports policymakers in formulating relevant policies for women's empowerment.

Keywords**:** Agricultural Extension, Development, Feminization in Agriculture, Gender Equality

[Paper Code - 5.7]

Sustainable Recycling: The Solution for E-waste Management and Sustainable Manufacturing in India

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Abstract

Electronic garbage, or e-waste, consists of abandoned computers, TVs, microwave ovens, and other gadgets. As e-waste management becomes a priority, countries must establish innovative collection and disposal approaches. Developing nations such as India are at significant risk of illegal imports, a rising domestic creation of e-waste, and other factors, and little or no e-waste management policies or laws. 90% of India's e-waste is disposed of by informal recyclers who utilize unsophisticated procedures, causing air, water, and ground contamination. Increasing consumption increases waste. Now, India and other countries produce a tremendous amount of waste. Nearly 80 percent of the total electronic waste produced in the U.S is shipped to China, Pakistan, and India primarily under the name of charitable purposes, according to the EPA. Only 3 percent of the total electronic waste is recycled in India. Workers recycle loads of e-waste with their own hands, without masks, for 12-14 hours a day. It generates both environmental and health problems. Despite regulations, informal recycling continues. This article discusses national and worldwide e-waste scenarios, risks, and recycling.

Keywords**:** Environment, Electronic Waste, Sustainable Recycling, Sustainable Manufacturing

[Paper Code - 5.8]

Reimagining English Education: Embedding Sustainability across Disciplines

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Abstract

The integration of sustainability into the English curriculum in higher education across disciplines is an essential agenda universally committed to the challenges of sustainability. Similarly, preparing students with sustainable communication for the evolving demands of the corporate world is a need of the hour. This study reviews the existing literature on sustainability in higher education, in the context of industry-specific communication and English language teaching, exploring the various methods and outcomes of such integration. The paper centres on successful case studies around the globe and a multi-sector University in India on the implementation of sustainability concepts in the teaching of sustainable communication within English courses in higher education, exploring pedagogical strategies, challenges, and the importance of multidisciplinary learning in promoting sustainable development. Different pedagogical strategies, collaborative projects, thoughtful writing, and critical analysis, which encourage critical thinking and problem-solving skills through the lens of sustainability, aligning the role of technology in facilitating interactive and engaging learning experience is discussed. The findings of such integration in English courses include active student involvement and a powerful agreement with industry expectations for sustainability-conscious professionals. This curriculum enrichment not only trains students as future professionals but also bestows to the bigger goal of promoting a more sustainable and ethical work culture. Integration

of sustainability into the English curriculum for business communication through multidisciplinary learning in higher education is a crucial step toward preparing future leaders with the skills and values necessary to explore the complex challenges of the modern business world. This aligns with the Viksit Bharat Vision 2047, which seeks to transform India into a developed nation by 2047, emphasising the importance of sustainable development and employability in achieving this vision.

Keywords: Sustainability, English, Curriculum, Higher Education, Business Communication, Industry, Multi-Disciplinary, Employability

Track-6

Student Research Papers

[Paper Code - 6.1]

Unlocking Business Opportunities for Moringa Leaf Products

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Abstract

Growing knowledge of moringa leaf products' nutritional value and medicinal properties has driven tremendous expansion in the national and worldwide industry over the past few years. Known locally as the "Miracle tree," Moringa is a highly prized resource because of its varied nutrient profile and tolerance to diverse environments. With an eye toward creating sustainable businesses, this study looks at entrepreneurial prospects in moringa leaf products. It examines the production techniques required to keep Moringa products' natural quality, nutritional worth, and medicinal properties. Furthermore, this study investigates consumer market potential, preferences influencing demand, marketing approaches for market entrance, and product differentiation. Finally, this study emphasizes the entrepreneurial opportunities, market demand, nutritional value, and environment-friendly agriculture practices connected with Moringa. Through emphasizing these elements, businesses can help to promote health and wellness and stimulate economic development in a competitive market environment.

Keywords: Moringa Leaf Products, Sustainable Business, Nutrition, Sustainable Agriculture

[Paper Code - 6.2]

Analysis of Imports and Exports in India: Pre and Post-Covid

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Abstract

This paper examines the impact of COVID pandemic on India's imports and exports. By conducting a comparative analysis of pre and post COVID data, the research aims to identify changes in trend patterns and provides a comprehensive view of trade dynamics over these years (2016-2023). The analysis, using a paired t-test, identifies changes in imports and exports between the two periods. The research explores if there are statistically significant differences in trade volumes and identifies potential influencing factors such as policy changes, global economic fluctuations. The research revealed significant disruptions in imports and exports during the pandemic with notable declines followed by gradual recovery. The understanding of the impact of pandemic on India's imports and exports is crucial for policymakers and businesses. The findings highlight the broader discourse on trade resilience and adaptability, while also underscoring the need for policy interventions to enhance trade competitiveness.

Keywords**:** India, Imports, Exports, COVID, Economic Resilience, Trade Policy

[Paper Code - 6.3]

Evaluating Performance Measurement Systems: A Comprehensive Bibliometric Analysis of 24 Years

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Abstract

The performance management system is an important part of HRM practices. It has given a lot of contribution to organisational effectiveness. This paper represents the findings from a bibliometric study on performance measurement systems using the Scopus database. The phrase performance management systems were used in the title, abstract, and keywords to identify relevant articles. Given the significance of performance measurement systems in the field of business, management, and accounting we employed Scopus analytics to visualize the distribution of articles per year, top journals, prominent authors, and affiliations. Our in-depth bibliometric analysis covers the time span ranging from 2000 to 2024, comprising 393 documents with an annual growth rate of 12.25%. We found that 1,848 authors contributed to this field of study, with 176 being single authors. International co-authorship indicating joint collaborative research is significant at 21.49%. The most prominent authors contributing to the field of

study are HRISTOUI with 11 articles, DECRAMERA with 9 articles, and GUTHRIEJ with 7 articles. The leading affiliations contributing to the research are the University of Rome Tor Vergata, Macquarie University, and Ghent University. The most cited countries in the development of performance management systems are the United Kingdom, the USA, and Australia. The top journals contributing to this field are the International Journal of Productivity and Performance Management, Measuring Business Excellence and the International Journal of Public Sector Management.

Keywords: Bibliometric Analysis, Performance Measurement Systems, Business, Management and Accounting, Management Control Systems, Human Resource Management

[Paper Code - 6.4]

Agricultural Sustainability: Long-term Farming Resilience; Eco-friendly Cultivation

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Abstract

The present study explored the importance of Sustainability in present-day Agriculture, highlighting long-term farming resilience and eco-friendly cultivation. Agricultural sustainability is pivotal in addressing global challenges by promoting practices that balance economic viability, environmental stewardship, and social responsibility. This approach involves strategies that ensure long-term productivity while preserving natural resources and enhancing community well-being. A key focus of sustainable agriculture is reducing nutrient loss on farms, achieved through more efficient and environmentally friendly fertilizer application methods. The study is prepared by taking content from sources like ResearchGate, ScienceDirect.com, Appropedia, Research and Reviews, Royal Society, etc. The finding of the study presents the holistic approach of sustainable agriculture that integrates economic, environmental, and social factors and is crucial for 21st-century farmers. The study will benefit farmers, agricultural workers, policymakers, researchers and academics, consumers, environmentalists and NGOs, and agricultural businesses to create a sustainable agriculture environment.

Keywords: Sustainable Agriculture, Farmers, Fertilizers, Nutrients, Planet Ecosystem and Natural Resources

[Paper Code - 6.5]

Breaking Barriers: Women in the Military Field, Leading Employment and Empowerment for Viksit Bharat

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Abstract

The contribution of women in India is crucial to the nation's progress toward a Viksit Bharat (developed India). This paper explores two key areas where women empowerment is making a significant impact: the military and entrepreneurship. The inclusion of women in the Indian Armed Forces represents a pivotal shift in a traditionally male-dominated field, enhancing national security, operational capabilities, and employment opportunities. This paper examines how women in the military are breaking barriers, shaping policies, and creating role models for future generations. Their involvement not only promotes gender equality but also aligns with broader national goals of economic development, social justice, and empowerment.

Parallel to this, empowered women entrepreneurs are playing a vital role in driving socio-economic growth. They contribute to job creation, local economic stimulation, and GDP enhancement, despite facing challenges such as gender bias, limited funding, and societal expectations. By breaking gender stereotypes and improving access to education, healthcare, and supportive environments, India can unlock its full potential for socio-economic development.

This paper highlights how women's participation in both the military and entrepreneurship is fostering a more inclusive, prosperous society. By examining these dual narratives, it underscores the importance of gender diversity in achieving comprehensive national development and strengthening India's vision of a Viksit Bharat.

Keywords: Women Empowerment, Military Inclusion, Entrepreneurship, Gender Equality, Socio-Economic Development, National development

[Paper Code - 6.6]

Economic Impact of Millets Cultivation on Farmers of Gajapati District

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Abstract

This study assesses the economic viability and sustainability of millet cultivation in Gajapati District, India, focusing on challenges such as pest infestations, water constraints, and weather variability. Through interviews with 29 farmers, the research evaluates current cultivation practices, production constraints, processing methods, and marketing strategies. Financial data highlights the varied income potential per acre, revealing that many farmers experience increased profitability due to reduced input costs and climate adaptability. Additionally, there is growing optimism regarding future income aligned with global market trends. The findings emphasize millet farming's essential role in enhancing food security, promoting sustainable agriculture, and supporting the economic well-being of farmers. To maximize its potential, increased investment in research, improved production efficiencies, and enhanced market linkages are recommended. Overall, fostering millet cultivation represents a promising avenue for sustainable agricultural development in the region.

Keywords: Keywords: Millets, Farmers, Sustainable Agriculture.

[Paper Code - 6.7]

Beyond Convenience: Concerns in IoT Adoption

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Abstract

The fast assimilation of the Internet of Things (IoT) has brought about an era of unparalleled efficiency by smoothly incorporating smart gadgets into our everyday routine. The convenience IoT offers is significant but it is essential to remain vigilant and proactive in addressing the accompanying challenges. This paper explores IoT's intricate landscape by addressing the ethical dilemmas and privacy risks that result from it being used everywhere which evaluates continuous data collection, violating user privacy and moral responsibility. Developing universal standards and protocols can help address these issues, fostering a more cohesive and user-friendly IoT environment. Through a series of illustrative examples, this paper highlights real-world scenarios where these concerns manifest, providing a comprehensive understanding of the stakes involved. Major topics discussed are information safety first, informed consent second and balancing innovation individuality within IoT ecology third. This balanced approach will help us create a connected world that is smarter, trustworthy, and secure for everyone. There is a lot of responsibility involved in the path to obtain mainstream adoption of IoT. We embrace this technological revolution, but it is also important to remain vigilant about the accompanying risks and concerns. By embracing both the opportunities and challenges, we can pave the way for an innovative, connected future that is beneficial and secure for all.

Keywords: Internet of Things (Iot), Smart Gadgets, Convenience, Challenges, User Privacy, Moral Responsibility.

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[**Note**: *We could compile this authors' index from our 'duly registered contributor list' till 15.9.24. We regret the omissions, if any. Such inadvertent omissions can please be brought to our notice, and we shall try to add all genuine cases in our e-editions of this BoA.*]

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