UNIVERSITY OF AGRICULTURAL SCIENCES

College of Agriculture, Gandhi Krishi Vigyan Kendra,

Bengaluru -560065, Karnataka

DEPARTMENT OF AGRICULTURAL EXTENSION

SEMINAR REPORT

ON

SOCIAL INNOVATION IN AGRICULTURAL EXTENSION: PRINCIPLES AND APPROACHES

Submitted to:
Dr. Y. N. Shivalingaiah (Professor and Head**)**
Dr. H. K. Pankaja (Asst. Professor)
Department of Agricultural Extension
UAS, GKVK, Bengaluru– 560 065

Submitted by:
Deinichwa Dkhar
PAMB 0026, III Ph. D. (Agri.)
Department of Agricultural Extension
UAS, GKVK, Bengaluru– 560 065

CONTENTS

LIST OF FIGURES

LIST OF TABLES

SOCIAL INNOVATION IN AGRICULTURAL EXTENSION: PRINCIPLES AND APPROACHES

INTRODUCTION

In today's hyperconnected world, one country's societal problems can become ours. Nations are facing slow economic growth, financial instability, political turmoil, hunger, poverty, and disease. These are all social issues that must be addressed, one way or the other, and such big problems generate big business opportunities. In fact, more than 80% of economic growth comes from innovation and application of new knowledge. A truly prosperous society in our days consists of both economic prosperity and social prosperity. Traditionally, we assessed if a country was prosperous by looking at its GDP. Today, it is becoming more common to also consider peace and happiness, individual freedoms and liberties and financial wellbeing. When we look at prosperity from this angle, we see that prosperous societies have an innovative approach to current social issues because our complex problems need new solutions. Social innovation brings a new mindset that leaves behind the narrow way of thinking about social enterprises and for-profit businesses as two mutually exclusive areas. Social innovation is mistakenly seen by some as charity. It should be acknowledged that social innovation is adding an extra dimension to innovation, sustaining economic and social growth. Embracing social innovation is not just about doing good for the society but also about doing good business. In light of these considerations, the seminar has been designed with the following objectives:

- To explain the concept and principles of social innovation
- To highlight the policy frameworks and institutional arrangements that facilitate social innovation in India
- To know the key approaches and strategies used in social innovation initiatives
- To review the research studies related to social innovation

CONCEPT OF SOCIAL INNOVATION

The concept of social innovation is born from the ongoing debate and critique on traditional innovation theory with its focus on material and technological inventions, scientific knowledge, and the economic rationale of innovation. Social innovation combines the words "social" and "innovation." "Social" pertains to society and interactions within communities, while "innovation" denotes the creation of new ideas, processes, products, or services that bring significant improvements or value. Essentially, social innovation involves finding novel and useful solutions to social needs or problems that surpass existing approaches and primarily benefit

society rather than individuals. In agricultural extension, social innovation applies novel and creative approaches to tackle challenges in providing farmers and rural communities with agriculture-related information, technologies, and services**.**

EVOLUTION OF SOCIAL INNOVATION

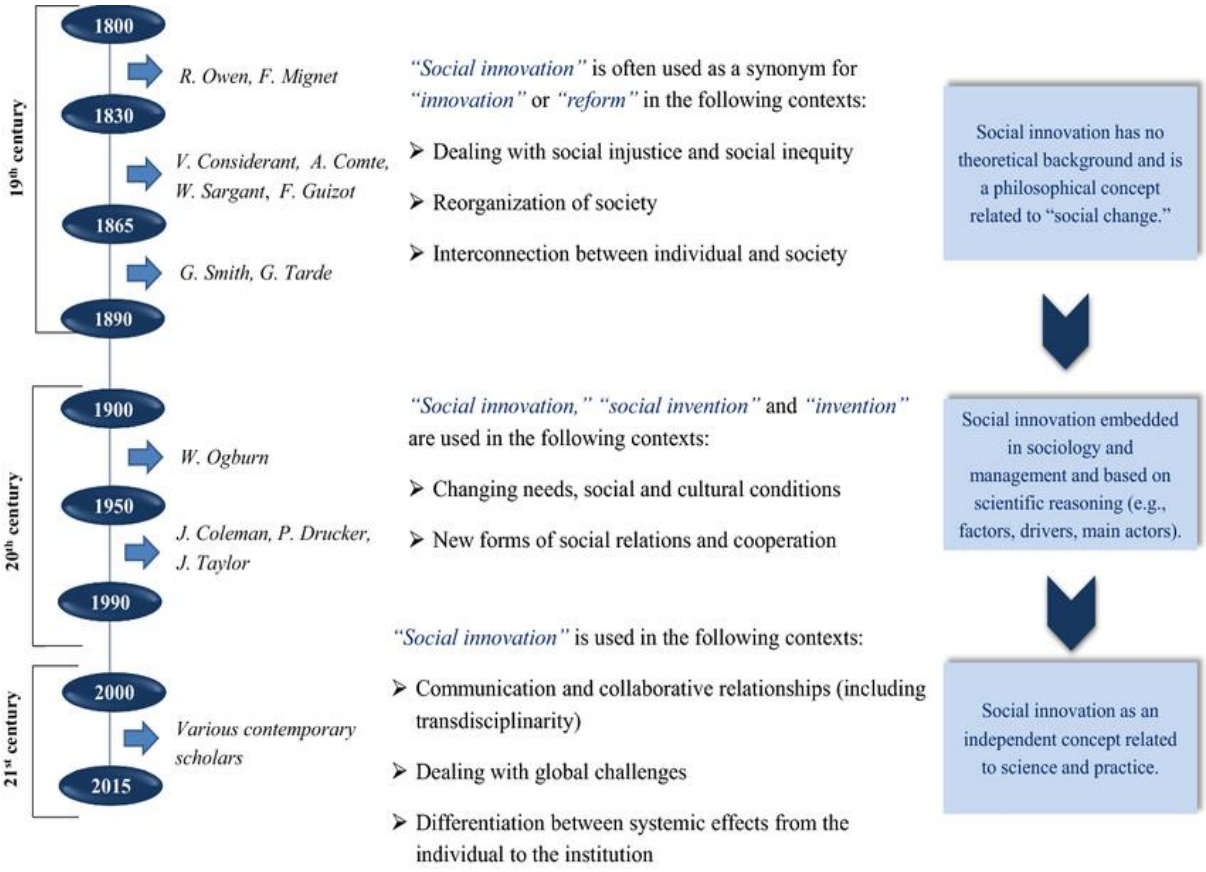

Fig. 1. Evolution of social innovation

DEFINITIONS OF SOCIAL INNOVATION

Goldenberg (2004) defines social innovation as the development and application of new or improved activities, initiatives, services, processes, or products designed to address social and economic challenges faced by individuals and communities.

Bock (2012) describes social innovation as recognizing the need for sustainable production methods, emphasizing the importance of collaboration and social learning, and acknowledging the magnitude of change required to revive rural society.

Social innovation in agricultural extension refers to the application of novel and creative approaches to address the challenges faced by farmers and rural communities in accessing information, technologies, and services related to agriculture. These innovative practices aim

to enhance the effectiveness and inclusiveness of agricultural extension services, promote sustainable farming practices, improve livelihoods, and foster rural development.

STEPS TO SOCIAL INNOVATION

1. **Identify the Problem**: Challenge: Limited access to agricultural information and resources for small-scale farmers in remote areas.
2. **Empathize**: Engage with farmers, extension workers, and local communities to understand their needs, challenges, and aspirations.
3. **Define**: Clearly define the problem based on the insights gathered from the empathetic engagement. Problem Statement: Lack of access to timely and relevant agricultural information hinders the productivity and income of small-scale farmers in remote areas.
4. **Ideate**: Brainstorm potential solutions and generate innovative ideas to address the identified problem. Idea: Develop a mobile-based platform that provides localized weather forecasts, crop management advice, market information, and access to agricultural inputs.
5. **Prototype**: Create a prototype or minimum viable product (MVP) of the mobile-based platform to test its functionalities and usability.
6. **Test and Assess:** Pilot the platform with a group of farmers in a remote area, collect their feedback, and assess the platform's effectiveness in addressing their information needs.
7. **Consider Sustainability:** Evaluate the long-term sustainability of the solution by considering factors such as scalability, affordability, and stakeholder engagement

PRINCIPLES/ PILLARS OF SOCIAL INNOVATION

Social innovation is guided by three fundamental principles: value, impact, and growth. Additionally, other significant principles encompass participatory approaches, co-creation and collaboration, contextualization, innovation, and learning, as well as sustainability and resilience.

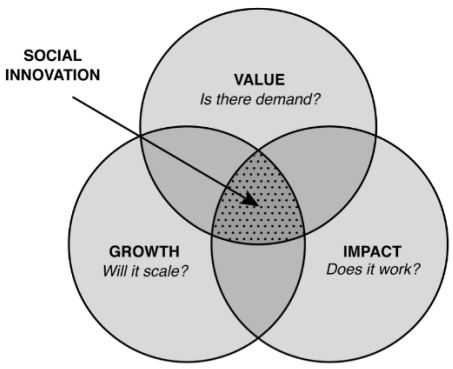

Fig. 2. Pillars of social innovation

The pillars of social innovation can be summarized as follows:

- **Value**: Social innovation should provide substantial value that addresses real needs and is desired by the target audience.
- **Impact**: Simply offering value is not enough; social innovation should have the potential to create lasting, positive change and improve living conditions at a broader scale.
- **Growth**: Social innovation should consider growth and scalability to reach and impact a larger number of people in need. Implementing the appropriate growth strategies is crucial for success.

Other key principles of social innovation in agricultural extension:

- **Participatory Approach**: Engage farmers and other stakeholders as active participants in the design, implementation, and evaluation of agricultural extension programs. Foster inclusive decision-making processes that consider local knowledge, needs, and aspirations FAO (2013).
- **Co-creation and Collaboration**: Foster collaboration and co-creation among farmers, extension agents, researchers, and other relevant actors. Encourage partnerships that leverage diverse expertise, resources, and perspectives to generate innovative solutions and address local challenges (Vanlauwe *et al.,* 2018)
- **Contextualization:** Recognize the diversity of contexts, including ecological, cultural, and socio-economic factors, and tailor extension approaches and interventions accordingly. Adapt and customize agricultural extension services to suit local needs, resources, and constraints (Swanson *et al*., 2010)
- **Innovation and Learning**: Encourage a culture of innovation, experimentation, and continuous learning in agricultural extension. Embrace adaptive management approaches that foster learning from successes and failures, promoting continuous improvement and innovation (Hall *et al*., 2007)
- **Sustainability and Resilience**: Foster agricultural extension approaches that promote sustainable and resilient farming practices. Emphasize the conservation of natural resources, environmental stewardship, and the long-term viability of agricultural systems (Rivera, 2001)

These principles provide guidance for the application of social innovation in agricultural extension, emphasizing the importance of inclusive and participatory approaches, collaboration, adaptability, and sustainability.

PROBLEMS ADDRESSED BY SOCIAL INNOVATIONS

1. **Limited access to agricultural information:** "Digital Green" is a social innovation that uses low-cost, community-based videos to disseminate agricultural information to smallholder farmers in India, improving their access to knowledge.
2. **Inadequate access to credit and financial services:** "Kheyti" is a social enterprise in India that offers smallholder farmers affordable greenhouses and facilitates access to credit and market linkages, empowering them to improve their productivity and incomes.
3. **Insufficient adoption of climate-smart agricultural practices:** The "Greenway Grameen Infra" initiative in India provides small farmers with affordable and energy-efficient agricultural tools and equipment, promoting the adoption of climate-smart practices.
4. **Lack of market linkages for smallholder farmers:** "FarmersFZ" is a social enterprise that connects small farmers directly to consumers through an online platform, eliminating intermediaries and ensuring fair prices for farmers in India.
5. **Gender disparities in agricultural extension**: The "Swayam Shakti" initiative in India empowers rural women through training in sustainable farming practices, entrepreneurship, and access to resources, promoting gender equality in agriculture.
6. **Inadequate post-harvest infrastructure and technology:** "DesiCrew Solutions" in India provides rural youth with training and employment opportunities in agri-processing and post-harvest management, improving the availability of post-harvest infrastructure.
7. **Low adoption of organic farming practices**: The "Organic Farming Association of India (OFAI)" is a network that promotes organic farming methods, knowledge-sharing, and capacity building among farmers, encouraging the adoption of organic practices.
8. **Limited access to quality seeds and planting materials**: "Digital Green's Seed Systems for Vegetable Crops" initiative in India uses community-based seed production and distribution systems to ensure smallholder farmers have access to quality seeds and planting materials.
9. **Fragmented and inefficient agricultural value chains:** "Intellecap's Sankalp Farmer Producer Company (SFPC)" facilitates the formation of farmer producer companies in India, strengthening farmer collectives and integrating them into value chains for improved market access.
10. **Inadequate skill development and training for farmers:** "Krishi Vigyan Kendras (KVKs)" are agricultural science centers established across India that provide training, demonstrations, and capacity building programs to farmers, enhancing their skills and knowledge.

These examples highlight various social innovations in agricultural extension in India that address specific challenges and contribute to the overall development of the agricultural sector.

PROCESS OF SOCIAL INNOVATION

The social innovation process consists of three temporal periods: initiation, development, and scaling. It starts with ideation, where a social problem or need is recognized as an opportunity, and a solution is proposed. The idea is then developed, tested, refined, and its feasibility is explored. In the scaling phase, the idea is expanded either within an organization or through collaborative ventures. The outcomes of the process are new services, products, organizations, or processes that provide solutions to the identified social problem or need. The social value created by the innovation is challenging to measure, but one approach is to evaluate its alignment with the social mission of the social entrepreneurial venture by gathering the perspectives of the target beneficiaries.

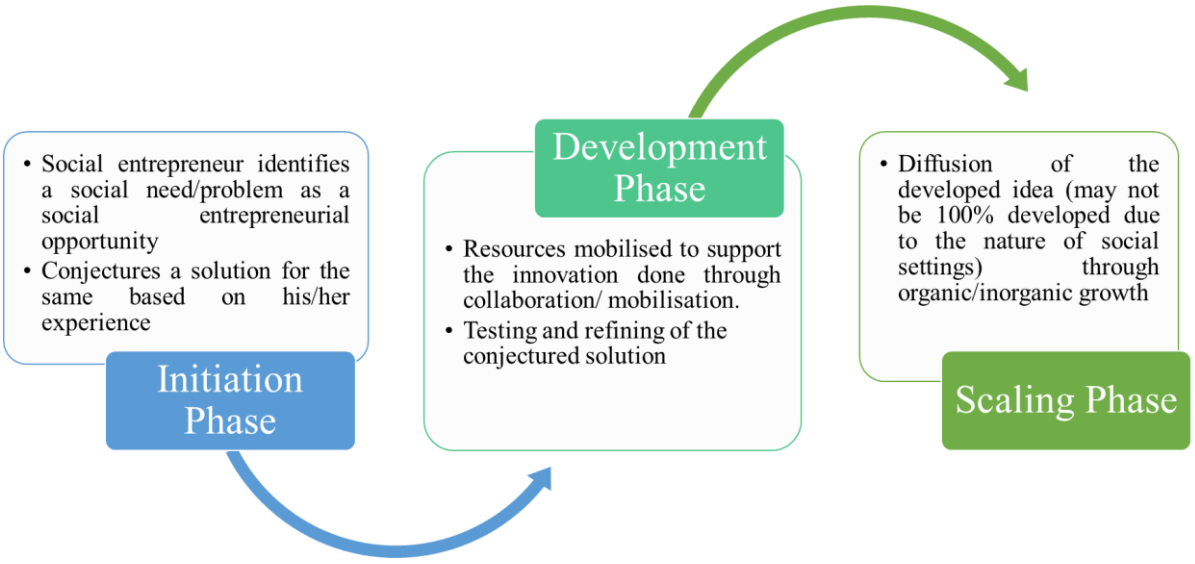

Fig. 3. The social innovation process (adapted from Van de Ven *et al*., 2008)

Case Illustrations: An Information and Communication Technology (ICT) based social innovation

Case background: MySME News (business information for microentrepreneurs)

The MySME News project was launched in Kolkata in 2008, offering customized business information services to microentrepreneurs in slum areas. It provided a free Bengali newsletter and piloted a mobile-based information service. The project's uniqueness lies in its collaboration with diverse organizations, pursuit of sustainability through multiple revenue

streams, and focus on addressing microentrepreneurs' specific information needs. Leveraging ICT, particularly mobile phone services, the project reaches a large customer base and offers user-friendly services. Customer interaction and advertising opportunities contribute to potential revenue income and project sustainability. The article concludes by highlighting limitations and suggesting future research directions for further analysis.

Tracing the social innovation process of MySME News

The MySME News project went through three temporal periods in its social innovation process:

MySME News services project was initiated in 2006 by John West of Internews Europe. Initially planned as a collaboration with Planet Finance, it later partnered with Plural India. The project shifted from mobile phone technology to a printed newsletter and received funding from the European Commission. The development period involved establishing an office in Kolkata, recruiting a team, and distributing the newsletter to microentrepreneurs. During the scaling period, the project focused on revenue generation through advertisements, expanded readership, and introduced mobile-based information services. The project aimed for sustainability and potential replication in other regions. The MySME News newsletter reaches around 500,000 microentrepreneurs in Kolkata, with a circulation of 100,000 copies. It provides tailored business information on market news, microcredit services, and microenterprise management. Customer surveys show positive impact and a growing subscription base.

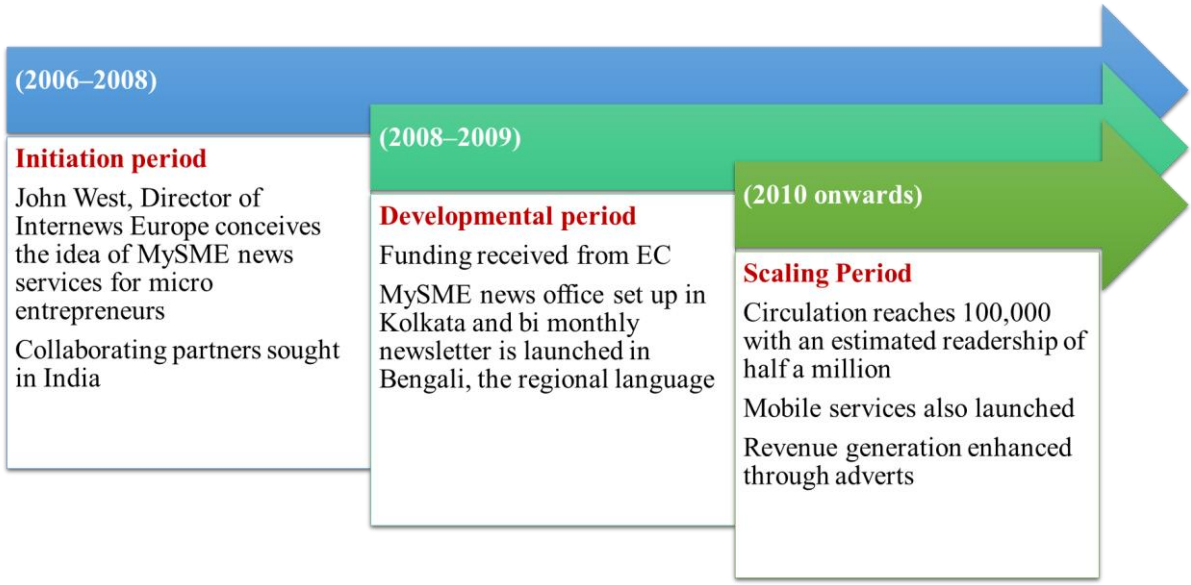

Fig. 4. The innovation process of MySME News

THE SOCIAL INNOVATION TRIAD

Social innovation is not limited to a specific sector but occurs in public, non-profit, and private sectors, often at the boundaries between them. These sectors can be represented as a triad, with hybrid institutions and organizations existing in between. Examples include social enterprises that combine business models with social objectives and public-private partnerships that aim to provide innovative welfare models. Civil society organizations may act as surrogate states, filling gaps in public sector provision. The drivers of social innovation vary across sectors, such as business seeking new roles in society, the state pursuing efficiency and effectiveness, and civil society undergoing organizational change and producing new outputs (Nicholls and Murdock, 2012).

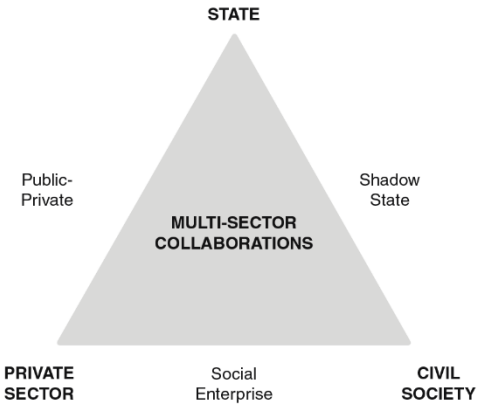

Fig.5. The social innovation triad

TYPES OF SOCIAL INNOVATION

There are numerous types of social innovation in the world. From socio-political to socio-cultural, different types of social innovation impact different sets of people. Here are a few types of social innovation.

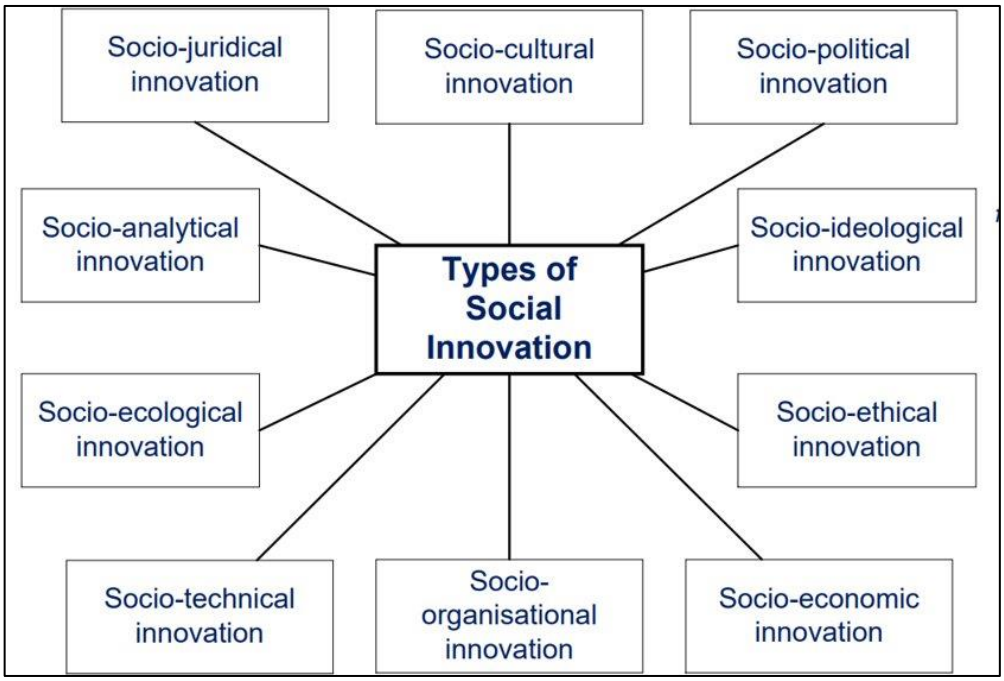

Fig. 6. Types of social innovation

1. **Socio-technical innovation**: It refers to a process of change in the structure of the socio-technical system and the relationship among the members of the system. Examples: e-choupal and Akshaya Patra

- **e-Choupal:** Developed by the Indian conglomerate ITC Limited, is an innovative digital platform that connects rural farmers with agricultural information, markets, and services using internet kiosks. It enables farmers to access real-time market prices, weather forecasts, and agricultural best practices, empowering them to make informed decisions and improve their productivity.
- **Akshaya Patra:** Akshaya Patra is a non-profit organization in India that uses technology and innovation to address the issue of hunger and promote education. They have implemented a centralized kitchen system with automated machines to prepare nutritious meals for school children at a large scale. The organization utilizes technology for efficient meal production, supply chain management, and real-time monitoring to ensure that children receive healthy meals regularly.

2. **Socio-cultural dimension of innovation**: The role of culture in determining the innovation capacity (crucial for economic development) of a society refers to socio-cultural innovation. These innovations can bring about changes in social behaviours, norms, values, and cultural practices. Examples: Agroecology and traditional farming practices and community seed bank.

- **Agroecology and Traditional Farming Practices**: Socio-cultural innovation in agriculture involves the promotion and integration of traditional farming practices and indigenous knowledge systems. These practices emphasize the use of locally adapted crops, agroforestry, mixed cropping, and organic farming methods. By acknowledging and incorporating traditional knowledge, socio-cultural innovation in agriculture helps preserve cultural heritage and promotes sustainable and resilient farming systems.
- **Community-Based Seed Banks**: Community-based seed banks are initiatives where farmers collectively conserve and exchange traditional seed varieties. These seed banks not only preserve genetic diversity but also promote community engagement, knowledge sharing, and cultural identity. They enable farmers to access locally adapted seeds and maintain their agricultural traditions.

3. **Socio-analytical innovation**: This refers to innovation that involves analytical and sense-making frameworks. It is the application of analytical tools and techniques to understand and address social issues. Examples: SocialCops and Digital Empowerment Foundation.

- **SocialCops:** SocialCops is a data intelligence company in India that utilizes data analytics and visualization techniques to provide insights into various social challenges. They collect and analyze data from diverse sources, including surveys, government data, and social media, to generate actionable insights. Their work spans domains such as education, healthcare, agriculture, and urban planning, assisting policymakers and organizations in making data-driven decisions.
- **Digital Empowerment Foundation (DEF):** DEF is a non-profit organization that leverages data and technology to bridge the digital divide and empower marginalized communities in India. They conduct research, data analysis, and advocacy to understand the digital needs and challenges faced by underserved communities. DEF's socio-analytical approach helps in designing inclusive and impactful interventions for digital empowerment and promoting digital rights.

4. **Socio-ecological innovation**: Socio-ecological innovation refers to the development and implementation of solutions that address both social and ecological challenges, aiming to achieve sustainability and promote the well-being of both people and the environment. Examples: Citizen science and Hasiru Dala.

- **Citizen science** is the practice of public participation and collaboration in scientific research to increase scientific knowledge. Through citizen science, people share and contribute to data monitoring and collection programs.
- **Hasiru Dala**: Hasiru Dala is a socio-ecological innovation based in Karnataka that focuses on waste management and recycling. It is a social enterprise that aims to integrate waste pickers, who are often marginalized, into the formal waste management system. Hasiru Dala provides training, resources, and support to waste pickers, enabling them to transition from informal work to dignified and sustainable livelihoods. The initiative promotes waste segregation, recycling, and the circular economy while improving the socio-economic conditions of waste pickers.

5. **Socio-political innovation**: Socio-political innovation involves the development of new ideas, approaches, and practices to address social and political challenges. Examples: RTI and ILP.

- **Right to Information (RTI) Act**: The Right to Information Act, implemented in 2005 in India, is a significant socio-political innovation that empowers citizens to access information from public authorities. The act promotes transparency and accountability in governance by allowing citizens to request information, thereby strengthening democratic

processes. The implementation of the RTI Act has had a transformative impact on citizens' participation and the fight against corruption.

- **Inner Line Permit (ILP) System**: The Inner Line Permit is a socio-political innovation implemented in some states of Northeast India, including Arunachal Pradesh, Nagaland, and Mizoram. The ILP system regulates the entry of non-residents into these states to protect the rights and interests of the indigenous communities. It is aimed at safeguarding the socio-cultural fabric and identity of the region. The ILP system allows authorities to monitor and regulate the movement of outsiders in these states.

6. **Socio-ideological innovation**: Innovation of ideological frameworks, mindsets, paradigms, etc. An example is the reformation movement. Socio-ideological innovation involves the development and promotion of new ideas, ideologies, and belief systems that aim to bring about social change and transformation. Examples: Eco-spirituality and Environmental Conservation and Naga Identity and Cultural Revival.

- **Eco-spirituality and Environmental Conservation**: Eco-spirituality is an emerging socio-ideological concept that combines spiritual and environmental values. It emphasizes the interconnectedness of all living beings and promotes ecological consciousness and environmental conservation. In India, various organizations, such as the Art of Living Foundation and the International Society for Krishna Consciousness (ISKCON), have integrated eco-spirituality into their teachings and practices, fostering a socio-ideological perspective that promotes sustainable living and environmental stewardship.
- **Naga Identity and Cultural Revival**: In Northeast India, particularly in Nagaland, socio-ideological innovations are centered around the preservation and revival of indigenous Naga identity and culture. Various organizations and movements, such as the Naga Students' Federation (NSF) and Naga Mothers' Association (NMA), have been at the forefront of advocating for Naga rights, cultural preservation, and social transformation. These socio-ideological initiatives aim to strengthen Naga identity, language, and traditional practices.

7. **Socio-juridical innovation**: This involves innovation of legal frameworks and laws, etc. For instance, the introduction of the citizen jury. Socio-juridical innovation involves the development of new legal frameworks, policies, and approaches to address social issues and promote justice. Examples: PPV&FR and organic Farming Certification Standards.

- **The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act**: The PPV&FR Act, enacted in 2001, is a socio-juridical innovation that provides intellectual property protection for plant varieties and recognizes the rights of farmers in conserving, using, and exchanging traditional seeds. The act encourages the development and commercialization

of new plant varieties while safeguarding the interests of farmers. It establishes a system for the registration and protection of plant varieties and includes provisions for benefit-sharing and compensation to farmers.

- **Organic Farming Certification Standards**: In recent years, there has been an increasing emphasis on organic farming in India, with the aim of promoting sustainable agriculture and ensuring consumer trust in organic products. The National Program for Organic Production (NPOP) and various state-level agencies have developed socio-juridical frameworks for organic farming certification. These frameworks define the standards and procedures for organic certification, including cultivation practices, inputs, labeling, and verification processes. Organic farming certification acts as a legal recognition of farmers' efforts and helps them access premium markets.

8. **Socio-ethical innovation**: This involves innovation of normative/ethical frameworks. An example is corporate social responsibility. Socio-ethical innovation in Indian agriculture refers to initiatives and practices that prioritize ethical considerations, such as sustainability, social responsibility, and fair trade. Examples: Community supported agriculture and fair-trade initiatives.

- **Community Supported Agriculture (CSA)**: Community Supported Agriculture is a socio-ethical innovation that involves direct collaboration between farmers and consumers. In CSA models, consumers become members or shareholders of a farm and receive regular supplies of fresh produce. This approach promotes transparency, local food systems, and mutual support between farmers and consumers. Organizations like Sahaja Samrudha and Timbaktu Collective in India have implemented CSA models, fostering relationships based on trust, shared risks, and fair compensation for farmers.
- **Fair Trade Initiatives:** Fair trade initiatives in Indian agriculture aim to ensure fair prices, decent working conditions, and sustainable livelihoods for small-scale farmers and agricultural workers. Fair trade certification programs, such as Fairtrade India, provide a framework for promoting equitable trade practices and supporting marginalized farmers. These initiatives guarantee fair prices for agricultural products, empower farmers through capacity-building programs, and promote sustainable production methods that prioritize social and environmental well-being.

9. **Socio-economic innovation**: This involves the innovation of economic models, business models, etc. An example for this can be value chains. Socio-economic innovation in Indian agriculture involves initiatives that aim to address social and economic challenges, promote

sustainable agricultural practices, and improve the livelihoods of farmers. Examples: FPOs and agri-tech startups.

- **Farmer Producer Organizations (FPOs)**: Farmer Producer Organizations are collective entities formed by farmers to enhance their bargaining power, access markets, and improve their socio-economic conditions. FPOs facilitate fair and transparent trade, provide technical assistance, and ensure the socio-economic development of farmers. They help farmers in aggregating their produce, reducing post-harvest losses, accessing credit, and negotiating better prices. Examples of FPOs in India include Sahyadri Farmers Producer Company and Nava Jeevana Green Energy Producers Company.
- **Agri-tech Startups**: The emergence of agri-tech startups in India has brought innovative solutions to address various challenges in agriculture. These startups leverage technology, data analytics, and market linkages to improve agricultural productivity, reduce post-harvest losses, and provide access to information and services for farmers. Examples include companies like CropIn, Ninjacart, and AgNext. These startups offer services like farm management software, supply chain optimization, and quality testing, enhancing farmers' incomes and overall agricultural efficiency.

10. **Socio-organisational innovation**: This involves innovation of organisational arrangements, etc. Socio-organizational innovation in agriculture refers to initiatives that focus on transforming the social and organizational aspects of the agricultural sector to promote collaboration, knowledge sharing, and sustainable development. Here are some examples of socio-organizational innovation in agriculture:

- **Farmer Cooperatives:** Farmer cooperatives are organizations formed by farmers to collectively manage and control the production, processing, and marketing of agricultural products. These cooperatives help farmers pool their resources, access markets, negotiate better prices, and share knowledge and resources. They promote democratic decision-making, economic empowerment, and social cohesion among farmers. Examples include Amul Dairy Cooperative in Gujarat and Karnataka Milk Federation in Karnataka.
- **Farmer Field Schools:** Farmer Field Schools (FFS) are participatory learning programs that bring farmers together to acquire knowledge and skills in a practical, field-based setting. FFS provide training on sustainable farming practices, pest management, soil conservation, and other agricultural techniques. By creating a platform for knowledge exchange and experiential learning, FFS empower farmers to make informed decisions and improve their farming practices. Organizations like Deccan Development Society in Telangana have successfully implemented FFS programs.

What can you gain from social innovation?

The main benefits of social innovation go beyond financial gains and encompass a wide range of added value to society. Here are some specific benefits in different areas:

Financially

- Reduced costs: Social innovation often leads to more efficient processes and resource utilization, resulting in cost savings.
- Increased revenue: By addressing societal needs and creating innovative solutions, social innovators can tap into new markets and revenue streams.
- Higher sales: Socially innovative products or services can attract a larger customer base and generate increased sales.
- Increased margins: Streamlined processes and reduced costs can lead to improved profit margins.
- Greater profit: The combination of reduced costs, increased revenue, and higher margins can contribute to overall greater profitability.

Reputation and brand

- Improved brand awareness: Social innovation initiatives can raise the visibility and awareness of a company or organization, enhancing its brand recognition.
- Better image: By actively addressing social challenges, organizations can develop a positive image and reputation in the eyes of consumers, stakeholders, and the public.
- Larger audience: Socially innovative solutions often appeal to a broader audience, expanding the reach and impact of a brand or organization.
- Positive brand experience: Socially responsible actions and initiatives can create positive experiences for customers, fostering loyalty and repeat business.
- More recommendations: Satisfied customers are more likely to recommend socially innovative brands or organizations to others, driving word-of-mouth marketing.

Customers

- Better relationship with customers: Social innovation can strengthen the bond between a brand or organization and its customers, fostering trust and loyalty.
- More involvement of employees: Engaging employees in social innovation initiatives can increase their sense of purpose, job satisfaction, and overall productivity.

- Increased customer satisfaction: Socially innovative solutions that directly address customer needs and values can result in higher customer satisfaction levels.
- Better service experience: Social innovation can lead to improved customer service, providing unique and meaningful experiences.

Partners

- Sustainable relationship with all players involved: Social innovation promotes collaboration and partnerships among various stakeholders, fostering long-term and sustainable relationships.
- Increased satisfaction of shareholders: Socially responsible initiatives can enhance shareholder value by aligning financial performance with positive social impact.

Chances for innovation

- New products/services: Social innovation often leads to the development of new and improved products or services that meet societal needs and preferences.
- New forms, models, or systems of collaboration: By challenging traditional approaches, social innovation can foster the creation of innovative collaboration models and systems.
- New business models: Social innovation can inspire the creation of entirely new business models that integrate social and environmental considerations.
- Better processes: Social innovation initiatives can drive process improvements, enhancing efficiency and effectiveness in operations.

Overall, social innovation has the potential to generate positive social impact while simultaneously creating value for organizations and society as a whole.

POLICY FRAMEWORK AND INSTITUTIONAL ARRANGEMENTS

Several national policies and organizations contribute to fostering innovation and addressing social challenges.

1. NITI Aayog

NITI Aayog, the premier policy think tank of the Government of India, plays a vital role in promoting social innovation through partnerships between government, industry, and civil society. It provides policy guidance and initiatives to address societal challenges in areas like healthcare, agriculture, education, and sustainable development. NITI Aayog supports startups,

research, and collaboration to create an enabling environment for social innovation and entrepreneurship, contributing to the overall development of India.

2. Atal Innovation Mission

The Atal Innovation Mission is a flagship initiative aimed at fostering innovation and entrepreneurship. It includes programs like Atal Tinkering Labs, Atal Incubation Centers, Atal Community Innovation Centers, and Atal New India Challenges. These programs encourage innovation among students, entrepreneurs, and startups by providing resources and platforms to develop innovative solutions for societal problems.

3. Aspirational District Programme

The Aspirational District Programme is a social innovation initiative by the Government of India. It aims to transform underdeveloped districts, improving quality of life. It identifies districts based on development indicators and implements strategies in areas like healthcare, education, agriculture, infrastructure, and livelihood. The programme promotes social innovation through collaboration, partnerships, and participation. It seeks innovative solutions through governance models, citizen engagement, capacity building, technology adoption, and local resource utilization. The programme uplifts marginalized communities and contributes to inclusive development.

4. National Innovation Foundation

The National Innovation Foundation (NIF) is an autonomous body under the Department of Science and Technology, Government of India. It supports grassroots innovation and knowledge dissemination by identifying and recognizing innovators at the grassroots level. NIF provides mentorship, funding, and support for commercialization, nurturing their ideas into viable products or services. It aims to promote the innovations of grassroots inventors for wider social benefit by showcasing their inventions to policymakers, researchers, entrepreneurs, and the public. NIF creates a platform for innovators to gain visibility, connect with collaborators, and scale up their impact. Through its efforts, NIF contributes to the promotion of innovation and entrepreneurship in India, harnessing the potential of diverse communities for societal betterment.

5. Grass Roots Innovation Augmentation Network (GIAN)

GIAN, implemented by NIF in Gujarat, supports grassroots innovators through funding, connections with institutions, and commercial partnerships. It aims to scale up and disseminate grassroots innovations by providing funding for prototype development and facilitating access to resources. GIAN identifies potential commercial enterprises to license product technologies,

fostering technology transfer and economic growth. By supporting innovators and connecting them with opportunities, GIAN contributes to the promotion and dissemination of grassroots innovations in India.

6. National Policy for Skill Development and Entrepreneurship

The National Policy for Skill Development and Entrepreneurship in India promotes skill development, entrepreneurship, and social innovation to address unemployment, underemployment, and skill gaps. It aims to create a skilled and entrepreneurial workforce contributing to economic growth and social development. The policy provides training and development opportunities to enhance employability and productivity across sectors. It encourages social innovation and recognizes social entrepreneurship's potential for inclusive and sustainable development. Collaboration among government bodies, industry associations, educational institutions, and civil society organizations is prioritized. The policy creates an ecosystem for skill development and entrepreneurship, reducing unemployment, bridging skill gaps, and fostering innovative solutions for societal benefit.

7. Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

PMKVY is a flagship program under NSDM that supports skill development, including social innovation, through training, certification, and placement support. It aims to empower individuals with industry-relevant skills, enhance employability, and contribute to economic growth. The program offers standardized training aligned with NSQF, provides certifications recognized by industries, and connects participants with potential employers. PMKVY prioritizes inclusivity and equal access, benefiting disadvantaged individuals and promoting social innovation. Overall, it fosters skill development, reduces unemployment, and fosters inclusive economic and social development in India.

8. National Policy for Micro, Small and Medium Enterprises (MSMEs)

The National Policy for MSMEs in India supports the growth of small businesses, including social enterprises, through incentives, access to finance, and capacity-building. It recognizes their role in economic growth and social impact, encouraging innovation to address societal challenges. The policy provides tax benefits, subsidies, and procurement preferences, facilitates finance through credit programs, and offers training and mentoring. By promoting social innovation and entrepreneurship, the policy aims to create an enabling environment for MSMEs to thrive, contribute to the economy, and drive positive change.

9. National Policy on Information Technology

The National Policy on Information Technology in India promotes the growth of the IT industry, fostering innovation and entrepreneurship. It focuses on technology-driven sectors to address societal challenges and drive economic growth. The policy supports research, digital literacy, and skill development while emphasizing data privacy and cybersecurity. It aims to create an enabling ecosystem for the IT industry, leveraging technology for social development and creating employment opportunities.

10. National Policy on Software Products

The National Policy on Software Products in India promotes the growth of the software industry while addressing social challenges through digital inclusion and innovative solutions. It recognizes the importance of software products in driving economic growth, creating employment, and fostering social innovation. The policy focuses on areas such as digital inclusion, e-governance, education technology, and environmental sustainability to drive positive social impact. It supports research, capacity-building, and entrepreneurship in the sector to create an enabling environment for software product development and adoption.

11. Corporate Social Responsibility (CSR) Policy

The CSR Policy in India, mandated by the Companies Act, 2013, requires eligible companies to allocate profits for social development. It encourages collaboration between businesses and social innovators to address social and environmental issues. By engaging in CSR initiatives, companies make a positive impact on communities, supporting education, healthcare, environmental sustainability, and poverty alleviation. The policy promotes responsible business practices and aligns strategies with sustainable development goals, fostering a more inclusive and sustainable society.

SOCIAL INNOVATION INITIATIVES

1. Pradhan Mantri MUDRA Yojana

Pradhan Mantri MUDRA Yojana was launched by the Government of India in 2015 with the aim of providing financial assistance to micro and small enterprises. The program offers loans to individuals, entrepreneurs, and small businesses at different stages of their growth, ranging from micro-enterprises to small enterprises. The loans provided under this scheme help these enterprises meet their capital requirements, expand their operations, and contribute to economic growth and employment generation. Pradhan Mantri MUDRA Yojana plays a crucial role in

promoting entrepreneurship and supporting the development of the micro and small business sector in India.

2. **The Digital India initiative**

The Digital India initiative aims to transform India into a digitally empowered society. It focuses on digital infrastructure, e-governance, digital literacy, and digital empowerment. The initiative improves connectivity, promotes digital inclusion, enhances government services, and empowers citizens with digital skills. It aims to leverage digital technologies for inclusive growth and efficient governance, bridging the digital divide and promoting innovation in various sectors. Overall, it is a comprehensive effort to build a digitally enabled and empowered society in India.

3. The Smart Cities Mission

The Smart Cities Mission in India aims to create sustainable and citizen-centric cities by utilizing smart solutions and innovative technologies. The mission focuses on addressing urban challenges and improving the quality of life for residents. It promotes the use of digital technologies, data analytics, and citizen engagement to drive social innovation in urban areas. The Smart Cities Mission encourages the development of smart infrastructure, efficient urban services, and effective governance systems. It aims to make cities more livable, environmentally friendly, and economically vibrant. By leveraging technology and citizen participation, the mission strives to create inclusive and sustainable urban environments.

4. Social Alpha

Social Alpha is an initiative of the Tata Trusts in collaboration with the Government of India that is dedicated to supporting social innovation and entrepreneurship. It focuses on areas such as health, education, agriculture, and clean energy. Social Alpha provides incubation support, funding, and mentorship to early-stage social ventures with the goal of scaling their impact. By nurturing and empowering social innovators, Social Alpha aims to drive positive change and address key social challenges in India. The initiative plays a vital role in promoting sustainable and scalable solutions that can create a lasting impact in various sectors.

5. The Honey Bee Network

The Honey Bee Network is an initiative that focuses on collecting and documenting examples of grassroots innovations and local knowledge related to the sustainable management of local resources. These innovations are shared with farmers and scientists through the Honey Bee newsletter, which is produced in eight different languages including English, Spanish, Hindi, Gujrati, Tamil, Kannada, Pahari, and Telegu. The Society for Research and Initiatives for

Sustainable Technologies (SRISTI), a global NGO based in India, was established to support the Honey Bee Network and its activities. SRISTI works towards promoting sustainable technologies and fostering innovation by connecting local innovators with resources, support, and recognition. The Honey Bee Network and SRISTI collectively contribute to the documentation, promotion, and dissemination of grassroots innovations and local knowledge, aiming to create a network of knowledge-sharing and collaboration for sustainable development.

6. Mei-Ramew Café - Promoting Indigenous Food and Cultural Preservation

Mei-Ramew Café, situated in Shillong, Meghalaya, is a social innovation initiative dedicated to promoting indigenous food and cultural preservation. The café focuses on serving traditional Khasi cuisine, prepared by local women using locally sourced ingredients. It serves as a platform for showcasing traditional food, fostering community pride, and creating livelihood opportunities for women in the region. Mei-Ramew Café contributes to preserving indigenous culinary traditions, supporting local entrepreneurship, and celebrating the rich cultural heritage of Meghalaya.

7. Agroecology Learning Circles (ALCs)

Agroecology Learning Circles (ALCs) are collaborative and participatory learning spaces that bring together farmers, researchers, practitioners, and community members to share knowledge and experiences related to agroecology. These circles facilitate collective learning, innovation, and the co-creation of sustainable agricultural practices. ALCs promote the principles of agroecology, which encompass ecological and social aspects of farming, emphasizing biodiversity conservation, soil health, ecological balance, and community engagement. By fostering knowledge exchange and collaboration, ALCs contribute to the adoption and advancement of agroecological approaches in farming, promoting sustainable and resilient agricultural systems.

8. Agri-Business Incubation (ABI)

The University of Agricultural Sciences, Bangalore has established an Agri-Business Incubation Center to support and nurture agri-based startups and entrepreneurs. The center provides infrastructure, mentoring, technical guidance, and access to markets to promote innovative agribusiness ventures.

9. Farmers' Field Schools

The University of Agricultural Sciences conducts Farmers' Field Schools to provide practical training to farmers on various aspects of agriculture. These schools offer hands-on learning

experiences and focus on sustainable farming practices, crop management, pest control, and resource conservation.

KEY APPROACHES AND STRATEGIES OF SOCIAL INNOVATION

Social innovation encompasses several key approaches, including community-driven development, technology and digital solutions, public-private partnerships, social enterprises, frugal innovation, and policy advocacy and reform. Social innovation initiatives often employ various strategies, such as participatory approaches, knowledge sharing, capacity building and training, multi-stakeholder collaboration, and monitoring, evaluation, and learning

- **Community-Driven Development**: Many social innovation initiatives in India emphasize community-driven development, where local communities actively participate in identifying and solving their own challenges. An example is the Barefoot College, which trains rural women as solar engineers. The initiative empowers women by providing them with the skills and knowledge to install and maintain solar power systems in their villages.
- **Technology and Digital Solutions**: India has witnessed several social innovation initiatives that leverage technology and digital solutions to address social challenges. For instance, the eVIN (Electronic Vaccine Intelligence Network) system developed by the Ministry of Health and Family Welfare uses mobile technology to track vaccine stocks and monitor cold chain logistics, ensuring the availability of vaccines in remote areas.
- **Public-Private Partnerships**: Social innovation initiatives often involve partnerships between government, private sector, and civil society organizations to leverage resources and expertise. An example is the Swachh Bharat Mission (Clean India Mission), where the government collaborated with corporates, NGOs, and citizens to achieve the goal of universal sanitation coverage and behavior change.
- **Social Enterprises**: Social enterprises combine business models with a social mission. An example is SELCO Solar, a social enterprise that provides affordable and sustainable solar energy solutions to rural communities. SELCO Solar's innovative business model focuses on reaching the underserved population and improving their access to clean energy.
- **Frugal Innovation**: Frugal innovation refers to creating cost-effective solutions with limited resources. The Aravind Eye Care System and Seed Balls is an example of frugal innovation. They have developed efficient and scalable eye care models to provide affordable and high-quality eye care services to underserved populations.
- **Public-Private Incubators and Accelerators**: Incubators and accelerators provide support and resources to social innovators and startups. One such initiative is the Villgro Innovation

Foundation, which runs an incubation program to nurture social entrepreneurs in sectors like healthcare, agriculture, education, and energy. Villgro offers mentoring, funding, and network support to help these ventures grow and scale their impact.

- **Policy Advocacy and Reform**: Social innovation initiatives in India often focus on policy advocacy and systemic change to create an enabling environment for social impact. For example, the National Rural Livelihoods Mission (NRLM) works towards poverty alleviation by advocating for policy reforms, providing financial support, and building capacities of rural households to engage in sustainable livelihood activities.

These examples highlight how various approaches are used in social innovation initiatives in India to address diverse social challenges, ranging from healthcare and sanitation to energy and livelihoods. These initiatives demonstrate the power of innovative thinking, collaboration, and targeted interventions to drive positive change in Indian society.

Table 1. Other best practices and strategies used in social innovation initiatives

Best practices and strategies	**Examples**	**Sources**
Participatory Approach	The Community-Led Extension approach in India, as implemented by organizations like PRADAN and BAIF Development Research Foundation, involves active involvement of farmers in identifying problems, developing solutions, and implementing them.	Bhattacharyya & Pampapathy (2014).
Knowledge Sharing Platforms	The Kisan Call Centre provides a toll-free helpline service where farmers can seek advice and information on various agricultural topics	Singh & Sarkar (2017
Capacity Building and Training	The Sustainable Sugarcane Initiative (SSI) in India, supported by organizations like Solidaridad and ICRISAT, provides training to sugarcane farmers on resource-efficient and climate-smart practices	Rai & Thakur (2017)
Multi-Stakeholder Collaboration	The Digital Green initiative collaborates with government departments, NGOs, and local communities to produce and disseminate localized agricultural extension videos, improving knowledge sharing and adoption of best practices.	Singh *et al.* (2018)
Monitoring, Evaluation, and Learning	The Agripreneurship Orientation Program (AOP) implemented by the Centre for Agriculture and Rural Development (CARD), monitors and evaluates the progress of trained agripreneurs, providing feedback and support for their ventures	Singh *et al.* (2017)

Table 2. Social innovation initiatives from around the globe

ORGANIZATION	INNOVATION
Grameen Bank, Bangladesh	**Microcredit package**: Provide group loans for poor and marginalized people to develop income-generating activities
BRAC (Bangladesh Rural Advancement Committee), Bangladesh	**Village development initiatives:** Create village groups that can solve local problems and provide a variety of services and supports for village development
Highland research and education centre, USA	**Build local movement**: Use adult education to empower and organize local unions, civil rights groups, and others to confront abusive elites.
Plan Puebla, Mexico	**Agriculture package**: Develop and promote innovations in maize production that enable subsistence farmers to improve family welfare and increase income.
Green Belt Movement, Kenya	**Build local capacity**: Use tree-planting and civic education programs to build local skills and organization for self-help activities.

ADVANTAGES AND DISADVANTAGES OF SOCIAL INNOVATION

Advantages of Social Innovation in Agricultural Extension

- Knowledge Sharing and Capacity Building: Krishi Vigyan Kendras (KVKs) in India provide training and extension services to farmers, enabling them to learn and adopt new techniques and practices.
- Farmer Empowerment and Participation: Self-Help Groups (SHGs) bring farmers together to pool resources, engage in collective farming and decision-making processes, empowering them to take charge of their agricultural development.
- Adoption of Sustainable Practices: The System of Rice Intensification (SRI) promotes sustainable farming practices that improve rice production while using fewer resources such as water, seeds, and chemicals.
- Access to Market Information and Linkages: The eNAM (National Agricultural Market) platform in India facilitates online trading of agricultural commodities, providing farmers with access to market information, value chain linkages, and better market opportunities.

Disadvantages of Social Innovation in Agricultural Extension

- Resource Constraints: Implementing social innovation initiatives in agricultural extension may require significant resources, including funding, infrastructure, and skilled personnel. Limited resources can pose challenges in scaling up successful initiatives and sustaining their impact.
- Adoption and Behavior Change: Social innovation often involves introducing new practices or approaches that require farmers to change their existing behaviors and adopt unfamiliar techniques. Resistance to change and cultural barriers may hinder the adoption and diffusion of social innovations.
- Contextual Challenges: Agricultural systems vary across regions and contexts, and what works in one area may not necessarily be applicable in another. Social innovation initiatives need to be contextually relevant and adapted to local conditions to ensure their effectiveness.
- Monitoring and Evaluation: Measuring the impact and evaluating the effectiveness of social innovation initiatives in agricultural extension can be challenging. Developing appropriate monitoring and evaluation frameworks is crucial to assess the outcomes and impact of these initiatives accurately.

RESEARCH STUDIES

Research Study 1: Taking agroecology to scale: the Zero Budget Natural Farming peasant movement in Karnataka, India

By Khadse *et al.* (2017)

Background: Karnataka, with a large agricultural workforce, faces challenges due to dependence on monsoon and frequent droughts. Zero Budget Natural Farming (ZBNF), originating in Karnataka, has been promoted by the Karnataka Rajya Raitha Sangha (KRRS) to address the agrarian crisis. The state has high levels of farmer indebtedness and farmer suicides, particularly among medium and small farmers. ZBNF offers a sustainable farming approach that aims to alleviate debt and improve incomes by reducing external inputs and promoting ecological practices. It provides hope for farmers seeking alternatives in Karnataka.

Methodology: The study involved interviews with 97 farmers from seven districts of Karnataka. The adoption of ZBNF was recommended by local leaders of the Karnataka Rajya Raitha Sangha (KRRS) and ZBNF. The study aimed to understand the impact of peasant movements in

promoting and scaling up agroecological practices like ZBNF in the selected districts of Karnataka.

Table 1: Characteristics of ZBNF farmers interviewed (n = 97)

Land ownership	Owned, vs. other forms of tenure[a]	Percentage
	Very small (0–1 hectares)	9.3
	Small (1–2 hectares)	19.6
	Semi-medium (2–4 hectares)	13.4
	Medium (4–10 hectares)	29.9
	Large (more than 10 hectares)	27.8
Type of farming practiced prior to ZNBF	Chemical farming	57
Irrigation	Percentage with irrigation	66
Ownership of at least one cow		68

Table 2: Most common reasons given for adopting ZBNF as reported by farmers (n = 97)

Reason	Percentage
Family health	53.6
Food self-sufficiency	45.5
Reduce costs of production	38.1
Reduce debt	30
Environmental reasons	42
Reduce dependency on corporations	33
Spiritual reasons	30

Keys to the success of ZBNF

1. Efficacy of methods

Table 3: Efficacy of ZBNF in some social, economic, agroecological indicators (%) as reported by farmers (n = 97). Highest values are in bold.

Number of farmers (%)	Yield	Soil conservation	Seed diversity	Pest attacks	Quality of produce	Seed autonomy	Household food autonomy	Selling price	Income	Production costs	Need for credit	Health
Has decreased	12.8	2.1	12.8	**84.1**	4.4	2.4	4.9	7.9	4.8	**90.9**	**92.5**	0
No change	8.5	4.3	10.3	4.5	4.4	4.9	7.3	34.2	9.5	2.3	3.8	0
Has increased	**78.7**	**93.6**	**76.9**	11.4	**91.1**	**92.7**	**87.8**	**57.9**	**85.7**	6.8	3.8	**100.0**

Adopting Zero Budget Natural Farming (ZBNF) in Karnataka has resulted in positive outcomes such as improved yield, soil conservation, seed diversity, produce quality, seed autonomy, household food autonomy, income, reduced farm expenses, and decreased reliance on credit. ZBNF helps overcome the cash-flow problem of monoculture chemical farming and reduces labor costs. It improves soil quality, conserves water, and is a sustainable approach for farmers in Karnataka.

2. Pedagogical processes

Table 4: Main pedagogical experiences through which farmers (n = 97) reported learning about ZBNF

Type of pedagogical experience	Farmers (%)
State-level ZBNF training camps led by Palekar	60.8
Advice from other farmers	49.5
Books authored by Palekar	43.3
Visiting other ZBNF farms	41.2

The scaling-up of ZBNF involves a combination of vertical and horizontal pedagogical processes. State-level ZBNF camps conducted by Palekar are the most popular method for farmers to learn about ZBNF. Attending camps is followed by interactions with other farmers and participation in local ZBNF groups for further learning. These pedagogical activities are crucial for disseminating ZBNF knowledge and practices among farmers.

3. Leadership and structure

Leadership is critical to the success of ZBNF, with three tiers of leaders: Palekar as the inspirational figure, a team of volunteers close to Palekar, and bridge leaders at the grassroots level. Local organizing is carried out by autonomous groups, while Palekar fulfils various functions and is highly regarded by followers. Bridge leaders play a key role in local organizing, while second-level leaders facilitate at the state level. The movement relies on volunteer initiative and welcomes individuals to take on roles based on dedication.

4. Mobilization of resources from allies

Allies and outside groups, including the KRRS, mathas, NGOs, and individuals, mobilize crucial resources for the ZBNF movement, such as volunteers, facilities, funds, and promotional support. Government agencies have started recognizing and supporting ZBNF. Communication through online platforms, radio, TV, and newspapers plays a vital role. Marketing challenges persist, but some shops exclusively sell ZBNF produce, and direct sales to consumers have grown through word of mouth.

5. ZBNF as ‘framing’

ZBNF promotes Gandhian values of nature respect and personal/community autonomy. Palekar frames the agrarian crisis as a result of the exploiter system dominated by transnational corporations. ZBNF offers solutions through personal change, spiritual farming, and self-contained village economies. Farmers find Palekar's discourse relevant and motivating, with cultural metaphors and references to mythology, politics, and history.

Implications

ZBNF's remarkable scale is attributed not only to its effective farming practices but also to the dynamics of a social movement. It motivates its members, mobilizes resources from allies, engages in pedagogical activities, and benefits from charismatic leaders. By eliminating reliance on purchased inputs and loans, ZBNF offers a solution to the severe indebtedness experienced by Indian farmers.

Research Study 2: Social Innovation for Agricultural Development: A Study of System of Rice Intensification in Bihar, India

By Kumar (2020)

Background

Rice cultivation in Bihar faces challenges such as low productivity, fluctuating yields, inadequate infrastructure, inequitable water distribution, and limited access to inputs, credit facilities, and market linkages. The System of Rice Intensification (SRI) technique is promoted by the government and civil society organizations to address these issues and increase rice productivity. This article aims to assess how SRI as a social innovation is linked to enhancing rice productivity in Bihar, evaluate its impact on farmers, and analyze the opportunities and constraints associated with its adoption.

Methodology

A mixed-method approach was used to collect primary data from SRI farmers in Patna district, Bihar, during the 2016 Kharif season. A total of 50 farmers, selected through stratified random sampling, were surveyed in different blocks. Data on labor, inputs, and crop cycle activities were collected at regular intervals of 8-10 days. The primary data collection involved a well-designed questionnaire and discussions with farmers and individuals involved in SRI.

Results and Discussion

Table 1: Block-Wise Area of Total Cultivation, Rice Cultivation and Their Production

Blocks	Area (in acre)	Area Under Rice Cultivation (in acre)	Production of Paddy (in quintal)
Naubatpur	11.014	10.41	193.33
Bihta	34.44	32.84	593.45
Bikram	33.24	31.64	582.25
Dulhin Bazar	22.42	21.42	384.43
Masaurhi	23.63	22.62	410.56
Total	124.76	118.95	2,164.05

Table 1 presents the production scenario of the target farmers, focusing on rice cultivation. The total land area is 124.76 acres, with 118.95 acres dedicated to rice cultivation. The production of paddy from this area is estimated at 2,164.05 quintals. The data shows that 95% of the total area is used for rice cultivation. Among the blocks, Bihta has the highest production of 593.45 quintals, while Naubatpur has the lowest production of 193.33 quintals due to a smaller area under rice cultivation. Bikram, Dulhin Bazar, and Masaurhi blocks have productions of 582.25, 384.43, and 410.56 quintals, respectively.

Table 2: **Production, Sale, Cost of Production and Gross Income of Farmer**

Blocks	Production of Paddy (quintal of total acre)	Sale of Paddy (quintal of total acre)	Gross Income (total quintal in ₹)	Cost of Production (total quintal in ₹)	Average Gross Margin (total acre in ₹)	Percentage of Margin
Naubatpur	193.33	89.57	114,500	59,700	54,800	19.46
Bihta	593.45	320.98	222,900	169,000	53,900	19.14
Bikram	582.25	347.11	212,900	166,000	56,900	20.21
Dulhin Bazar	384.43	227.67	172,000	109,000	113,900	40.45
Masaurhi	410.56	253.80	172,000	109,000	113,900	40.45
All Blocks	2,164.05	1239.16	894,300	612,700	281,600	100
Average	432.81	247.83	178,860	122,540	78,680	27.94

The adoption of the SRI method in paddy cultivation has led to increased production and higher yields, although variations exist among different blocks. The average production in SRI parcels is 432.81 quintals, with Bihta, Bikram, and Masaurhi blocks showing higher production. The average sale of paddy is 247.83 quintals, resulting in positive gross margins and savings for farmers. The SRI method significantly improves productivity and profitability compared to non-SRI parcels, as observed in other studies.

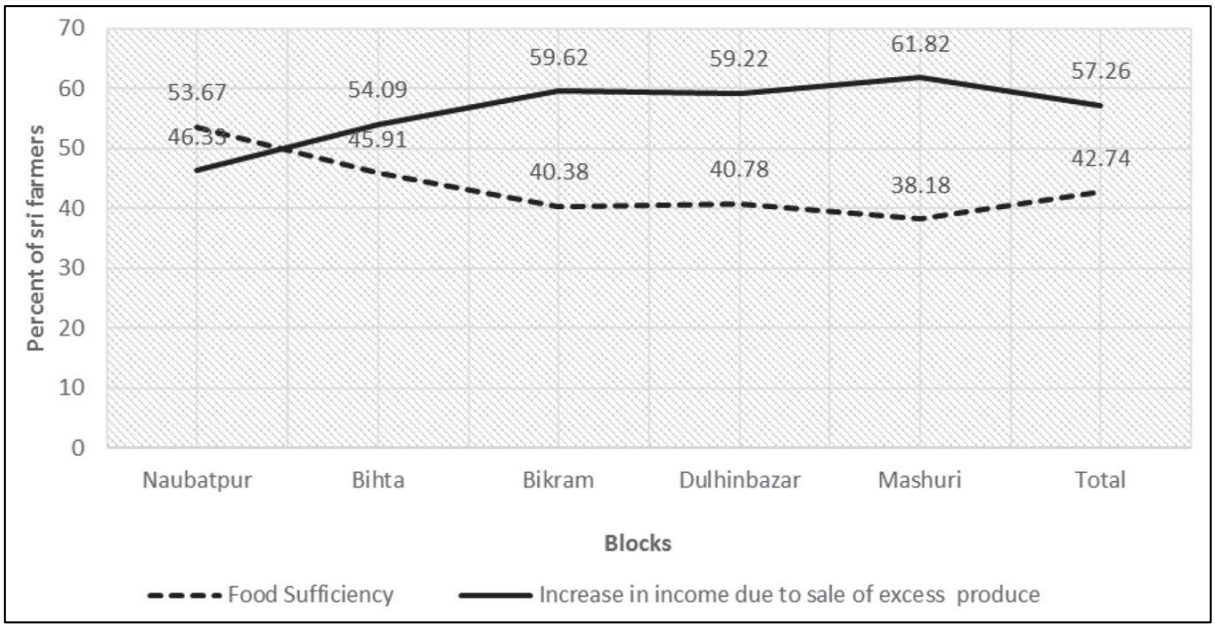

Fig 1. Increase in Productivity and Food Sufficiency

The adoption of SRI in paddy cultivation has led to increased productivity, improved food sufficiency for 42% of farmers, and 57.26% of income from the sale of excess produce. On average, farmers' income has increased by 55% after adopting SRI, with the highest increase observed in Masaurhi block at 61%. SRI has also facilitated social entrepreneurship and helped farmers overcome food shortages. Other studies have similarly highlighted the water-saving, productivity-enhancing, cost-reducing, and profit-increasing benefits of SRI compared to conventional methods.

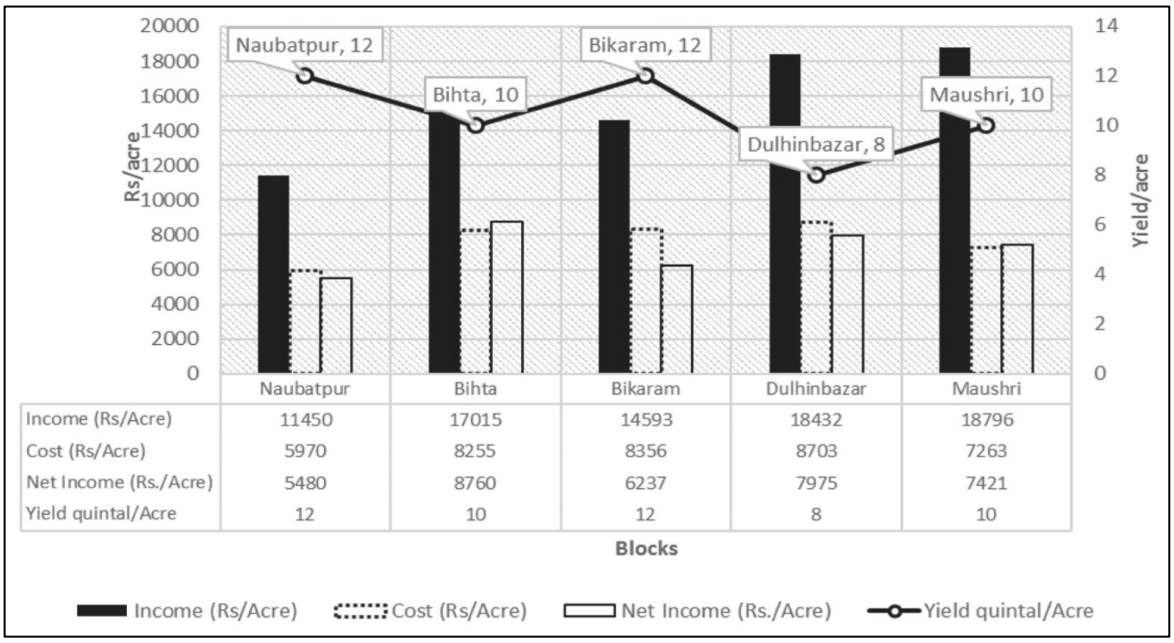

Fig.2. Average Yield, Gross Returns, Costs and Net Returns of Paddy Cultivation

The average yield of paddy in Bihar using the SRI method is 10 quintals per acre. The government's scheme of distributing subsidized seedlings encourages the adoption of SRI. Cultivation costs vary by location and time. SRI farmers benefit from lower input costs due to subsidies for seeds, fertilizers, and pesticides. However, labour-intensive practices associated with SRI have deterred some farmers from implementing it on their entire land.

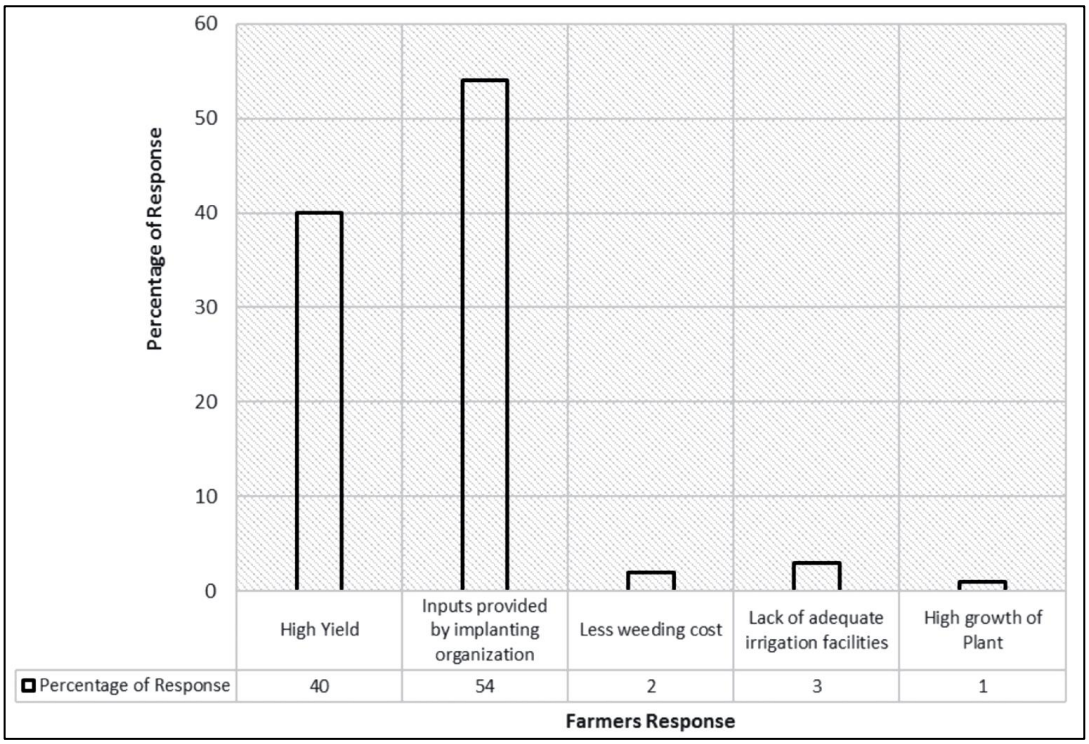

Fig.3. Factors for Adopting System of Rice Intensification Technique

The majority of farmers (94%) prefer continuing paddy cultivation using the SRI technique with support from organizations like ATMA. Higher yield and net returns, along with government provisions of subsidized inputs, drive their preference. However, challenges such as skepticism, labor shortages, and limited access to information need to be addressed through local adaptation, demonstrations, and training. Previous studies have identified resistance, non-cooperation, lack of training, and water management issues as barriers to SRI adoption.

Implications

Despite some farmers not fully following SRI principles due to resource constraints, its positive effects have driven widespread adoption. Social innovation, sustainability, and adaptation to local needs play key roles in promoting SRI. It optimizes natural resource utilization and reduces pesticide usage, aligning with sustainability principles. SRI adoption is a collective effort among farmers, highlighting its social nature.

Research Study 3: Exploring social innovation through co-creation in rural India using action research

By Cornet and Barpanda (2020)

Background

This study focuses on understanding the early stages of social innovation (SI) in disadvantaged rural communities in India. Policymakers have increasingly turned to SI as a response to diminishing government resources. However, evaluating the effectiveness of SI-based policies is challenging due to the elusive nature of the SI process. The study aims to shed light on the identification of socially innovative ideas, providing valuable insights for policymakers to foster SI and promote positive social change.

Design/methodology/approach

Co-creation workshops were facilitated to generate socially innovative solutions in villages, using co-design technique. Following an action research approach, qualitative data was collected to produce case studies

Table 1: **Overview of the characteristics and findings**

State	Punjab	Jharkhand	Odisha
Houses	60	111	65
People	320	533	400
Language	Punjabi	Hindi	Ho (tribal)
Main activity	Skilled and semi-skilled daily labour	Agriculture	Agriculture and daily labour
Social background	Low (lower caste)	Middle-low: all farmers own or co-own their land	Low (tribal population)
Problems identified	There is only one well and one water pipeline for the village. Water is unevenly distributed	River and drinking water wells dry up in summer. Shortage of water prevents cultivation during that time	Two out of four hand pumps are working. The main water source is a canal that is heavily polluted. Open defecation is still prevalent
Challenge	Water management	Water for irrigation	Water for sanitation

In the initial phase, the team recognized the importance of knowledge and understanding for effective engagement with villagers. Educational content was used in Odisha to inform villagers about healthy habits and water-borne diseases. A pedagogical approach was adopted, leveraging workshops and fun games to raise awareness and facilitate collaborative discussions. In Odisha, the team identified the lack of water distribution in government-built toilets as the core problem leading to open defecation. Through participatory activities and co-design, solutions were proposed that addressed the villagers' needs and expectations.

Table 2: Summary of the main points from the co-design workshops

Day	Process themes	Punjab	Jharkhand	Odisha
Day 1	Building legitimacy	Meeting the people informing of the activities	Reconnecting with the villagers. Advertising and preparing for the workshop	Went around the village. Started group sketching activity
Day 2	Engaging the people	Fun-based activities about water	Mind mapping in small groups: think about an ideal situation in which water is available throughout the year, without restrictions	Group sketching continued: draw your ideal house
Day 3	Engaging the people Co-creation	Demonstrating water saving method. Group discussion on pre-planned water related scenarios	Group sketching: drawing the village on a normal summer day and in an ideal summer day	Poster cards activity on the advantages and disadvantages of open defecation and toilet usage
Day 4	Building group dynamic	Introducing technical concepts on water filtration and pressure variation. Discussing design propositions with villagers	Storytelling: write stories on the daily water problems	Awareness of common water-borne diseases
Day 5	Idea recognition	Building and displaying a small-scale prototype. Collecting feedback Conclusion	Summary, Brainstorming, drawing of the proposed solution Conclusion	Door-to-door surveying and interviewing. Group meeting to validate the proposed solution Conclusion
Final SI		Small-scale water distribution system	Rainwater harvesting for irrigation	Community water distribution system

The action research approach facilitated collaborative workshops, ensuring flexibility and active participation. Workshops were adjusted to meet participants' needs, such as scheduling early morning sessions and modifying activities based on villagers' comfort.

The pedagogical approach provided structure while allowing for adaptations, crucial when working with disadvantaged populations to ensure understanding and involvement.

Table 3: Summary of the Jharkhand co-design activities and results

Day	Activity	Expected objectives	Actual results	Corrective action
Day 1	Walking through the village Advertising and preparing for the workshop	Reconnecting with the villagers Inviting them to the workshop	Success	
Day 2	Mind mapping: think about an ideal situation in which water is available throughout the year, without restrictions	To understand deeper the water problems faced by the villagers To assess their willingness to develop a new solution	Success	
Day 3	Group sketching: drawing the village on a normal summer day and in an ideal summer day	To understand the difference between both situations To understand what they consider an ideal summer day	Failure: villagers struggled doing the activity Villagers are more comfortable to talk about their problems	Storytelling activity
Day 4	Storytelling: write stories on the daily water problems	To see if villagers usually have the same water problems To start thinking about solutions	Success	
Day 5	Conclusion	To summarize all activities covered To converge toward a solution and discuss it with all To collect feedback	Success: discussion became a brainstorming Drawing of the proposed solution on a blackboard was approved by all	

The team summarizes activities and insights with participants on the final day to showcase progress and avoid misunderstandings. In Jharkhand, a brainstorming session helped villagers reach a solution collectively, while in Punjab, a prototype was built for feedback.

In Odisha, the team cross-checked information through house-to-house discussions, validating the solution of a water distribution system. All villagers, regardless of socio-economic level, contributed to socially innovative solutions.

Findings

This study found that SI was appropriate for addressing development challenges in rural India. Facilitated co-creation was successful in involving all citizens and effective in generating SI. The authors developed a framework of generating SI through co-creation that gives a more precise understanding of the SI process.

Practical implications

The authors propose a method for co-creating SI that can be of significant use for practitioners. Findings can help design better and more socially impactful public policies.

CONCLUSION

Social innovation in agricultural extension programs holds great potential for addressing the complex challenges faced by farmers and rural communities. By integrating social innovation principles and approaches, such as innovation, collaboration, inclusivity, and sustainability, we can foster positive change in the agricultural sector. Embracing innovative ideas and technologies can lead to improved farming practices, increased productivity, and better resource management. Collaboration among stakeholders, including farmers, extension workers, NGOs, and government agencies, can facilitate knowledge sharing, capacity building, and the co-creation of solutions. Inclusivity ensures that marginalized groups and smallholder farmers are included in decision-making processes and benefit from agricultural extension services. Moreover, a focus on sustainability promotes environmentally friendly practices that enhance long-term resilience and food security. By applying these principles and approaches, social innovation in agricultural extension has the potential to transform farming systems, uplift rural communities, and contribute to a more sustainable and inclusive agricultural sector.

BIBLIOGRAPHY

ALVORD, H. S., BROWN, D. L. AND CHRISTINE, W. L., 2004, Social entrepreneurship and societal transformation: An exploratory study. *J. Appl. Behav. Sci.,* **40**(3): 260–82.

ANONYMOUS, 2021, Types of social innovation. Retrieved from https://mitidinnovation.com/recreation/type-of-social-innovation/.

ANONYMOUS. 2013. Participatory Approaches in Agricultural Research and Development: A Review of Concepts, Experiences and Lessons. Retrieved from http://www.fao.org/3/i3460e/i3460e00.htm.

BHATTACHARYYA, T. AND PAMPAPATHY, G., 2014, Community-Led Extension for Social Inclusion: A Case of Watershed-Based Livelihood Promotion in India. *J. Agric. Educ. Ext*., **20**(5): 511-529.

BOCK, B. B., 2012, Social innovation and sustainability; how to disentangle the buzzword and its application in the fi eld of agriculture and rural development. *Stud. Agric. Econ*., **114**: 57-63.

CHANG, A.M., 2018, An Operating Model to Make Social Innovation Stick. *Stanf. Soc. Innov. Rev.*, Retrieved from https://ssir.org/articles/entry/an_operating_model_to_make_social_innovation_stick.

CORNET, S. AND BARPANDA, S., 2020, Exploring social innovation through co-creation in rural India using action research. *Soc. Enterp. J.,* **17**(2): 240-259.

DATTA, P. B., 2011, Exploring the evolution of a social innovation: A case study from India. *Int. J. Technol. Manag. Sustain. Dev.,* **10**(1):55-75.

HALL, A., DIJKMAN, J. AND SULAIMAN, R., 2007, Innovation Trajectories and Institutional Change: Technology Development in the Indonesian Seed Sector. Agric. Syst., **94**(1): 262-273.

KHADSE, A., ROSSET, P. M., MORALES, H. AND FERGUSON, B. G., 2017, Taking agroecology to scale: the Zero Budget Natural Farming peasant movement in Karnataka, India. *J Peasant Stud.,***45** (1): 196-219.

KUMAR, V., 2020, Social innovation for agricultural development: a study of System of Rice Intensification in Bihar, India. *Millenn. Asia,***11**(1): 99-118.

NICHOLLS, A. AND MURDOCK, A., 2012, Social Innovation: Blurring Boundaries to Reconfigure Markets. Basingstoke: Palgrave Macmillan.

RAI, A. B. AND THAKUR, A. K., 2017, Sustainable Sugarcane Initiative (SSI): An innovation for resource-use efficiency in sugarcane cultivation. *Indian J. Agric. Sci*., **87**(3): 318-323.

RIVERA, W. M., SULAIMAN, V. R. AND NAYLOR, R. L. (2001). Rethinking Agricultural Extension in a Changing World. Agriculture and Rural Development, 8. World Bank.

SATALKINA, L. AND STEINER, G., 2022, Social Innovation: A Retrospective Perspective. *Minerva*, **60**: 567–591.

SINGH, H. AND SARKAR, S., 2017, An empirical assessment of Indian farmers' access to, and use of, agricultural information and advisory services. *Outlook Agric.,* **46**(2): 111-117.

SINGH, N., KUMAR, S. AND KUMAR, U., 2017, Agripreneurship Orientation Program (AOP): A New Initiative for Promotion of Agripreneurship in India. *J. Agric. Educ. Ext*., **23**(4): 351-365.

SINGH, V. K., TYAGI, P. K. AND SINGH, R., 2018, Digital Green: Video-Mediated Extension Approach for Strengthening Adoption of Agricultural Innovations. *J. Agric. Educ. Ext.,* **24**(2): 135-149.

SWANSON, B. E. AND RAJALAHTI, R., 2010, Strengthening Agricultural Extension and Advisory Systems: Procedures for Assessing, Transforming, and Evaluating Extension Systems. The World Bank.

VAN DE VEN, A. H., POLLEY, D. E. AND GARUD, R., 2008, The Innovation Journey, Oxford: Oxford University Press.

VANLAUWE, B., VAN ASTEN, P., BLOMME, G. AND OLANREWAJU, A., 2018, Sustainable Intensification through Agricultural Research and Technology Adoption: The Case of the Great Lakes Region of Africa. In: E. Muchiri, B. R. S. Bhatta, B. Vanlauwe, & P. R. Gildemacher (Eds.), Advancing Regional Action in African Cassava: Building a Knowledge Base and Policy Support. pp. 89-106.

DISCUSSION

1. What is the difference between social innovation and economic innovation?

Ans: Social innovation is primarily concerned with addressing social or environmental challenges and improving the well-being of individuals and communities. Its main goal is to bring about positive social change and create a more just and cohesive society. The emphasis is on fostering equity, inclusion, and sustainable development. In contrast, economic innovation is primarily focused on enhancing economic performance and prosperity. It aims to generate economic value, increase productivity, create jobs, foster entrepreneurship, and drive economic growth. The main goal is to improve market competitiveness and contribute to overall economic progress.

2. How can we consider System of Rice Intensification as a social innovation?

Ans: The System of Rice Intensification (SRI) can be considered a social innovation due to its context-specific approach, participatory nature, knowledge sharing, livelihood improvement, environmental sustainability, and scalability. By addressing the social and economic challenges faced by small-scale farmers and promoting sustainable farming practices, SRI contributes to positive social change and supports the well-being of farming communities.

3. How can we consider Zero Budget Natural Farming as a social innovation?

Ans: Zero Budget Natural Farming (ZBNF) can be considered a social innovation due to its focus on sustainable agriculture, empowerment of small-scale farmers, cost reduction, climate change adaptation, knowledge sharing, community building, health and food security, and preservation of traditional knowledge. By introducing a holistic and eco-friendly approach to farming, ZBNF addresses social, economic, and environmental challenges, while empowering farmers and promoting resilient and sustainable farming communities.

4. Are all innovations a social innovation?

Ans: Not all innovations can be categorized as social innovations. While all innovations involve the creation of new ideas or products, social innovation specifically focuses on addressing social challenges and improving societal well-being. Social innovations aim to bring about positive social change and address issues like poverty, inequality, healthcare, education, and sustainability. Innovations in other domains, such as technology or business, may prioritize

economic or artistic goals without directly targeting social impact. Thus, while all social innovations are innovations, not all innovations are social innovations.

5. How can we scale up social innovation?

Ans: Collaboration and partnerships among these stakeholders are vital for scaling social innovation in India. By working together, leveraging resources, and sharing knowledge, they can create an ecosystem that supports and accelerates the scalability of social innovations, leading to positive social change and impact.

6. Can you give one examples of farm machinery in India that is an outcome of social innovation?

Ans: One example of farm machinery in India that is an outcome of social innovation is the "Solar-Powered Water Pump." The Solar-Powered Water Pump is a farm machinery innovation that addresses the challenges faced by farmers in accessing water for irrigation in remote and off-grid areas. In many rural regions of India, farmers rely on diesel or electric pumps for irrigation, which can be costly and environmentally unsustainable. The social innovation of the Solar-Powered Water Pump involves the development and implementation of solar-powered irrigation systems. These systems utilize solar panels to generate electricity, which powers the water pumps, enabling farmers to draw water from wells, rivers, or other water sources for irrigation purposes

7. Who fetch information into this social innovation like digital green?

Ans: In initiatives like Digital Green, information is fetched through collaboration among community members, agricultural extension workers, local partners, NGOs, government agencies, and technology. Community members provide their knowledge, while extension workers collect and disseminate relevant information. Local partners, NGOs, and government agencies validate the content, and technology is used to collect and analyze data on agricultural practices, weather, prices, and pests. This collaborative approach ensures accurate and contextually relevant information for effective knowledge-sharing and community empowerment.

UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE
DEPARTMENT OF AGRICULTURAL EXTENSION
COLLEGE OF AGRICULTURE, GKVK, BENGALURU-560 065

Name	**:** Deinichwa Dkhar	**Venue**	**:** Dwarkinath Hall
ID. No.	**:** PAMB 0026	**Date**	**:** 10-06-2023
Class	**:** III Ph.D. (Agril. Extn.)	**Time**	**:** 10:30 am

Seminar IV

Social Innovation in Agricultural Extension: Principles and Approaches

Synopsis

In today's interconnected world, the problems faced by one country can impact others, including slow economic growth, financial instability, political unrest, poverty, hunger, and disease. These social issues require attention and solutions. Today, a truly prosperous society is measured not only by economic prosperity but also by factors such as peace, happiness, individual freedoms, and financial well-being. The traditional approaches of agricultural extension also often fail to tackle the complex challenges faced by farmers. Social innovation brings a fresh mindset that breaks free from the narrow perception of social enterprises and for-profit businesses as separate entities. It encompasses a range of innovative approaches that drive positive social change, inclusive development, and sustainable agricultural practices. Social innovation adds an extra dimension to innovation, supporting both economic and social growth. In light of these considerations, the seminar has been designed with the following objectives:

- To explain the concept and principles of social innovation
- To highlight the policy frameworks and institutional arrangements that facilitate social innovation in India
- To know the key approaches and strategies used in social innovation initiatives
- To review the research studies related to social innovation

Concept of social innovation

Social innovation emerges as a response to critiques of traditional innovation theory. It combines the words "social" and "innovation." "Social" pertains to society and interactions within communities, while "innovation" denotes the creation of new ideas, processes, products, or services that bring significant improvements or value. Essentially, social innovation involves

finding novel and useful solutions to social needs or problems that surpass existing approaches and primarily benefit society rather than individuals. In agricultural extension, social innovation applies novel and creative approaches to tackle challenges in providing farmers and rural communities with agriculture-related information, technologies, and services**.**

Principle of social innovation

Social innovation is guided by three fundamental principles: value, impact, and growth. Additionally, other significant principles encompass participatory approaches, co-creation and collaboration, contextualization, innovation, and learning, as well as sustainability and resilience.

Policy framework and institutional arrangements

Several national policies and organizations contribute to fostering innovation and addressing social challenges. These include the National Innovation Foundation (NIF), the National Policy for Skill Development and Entrepreneurship, the National Policy for Micro, Small, and Medium Enterprises (MSMEs), the National Policy on Information Technology, the National Policy for Software Products, Corporate Social Responsibility (CSR) Policy, and NITI (National Institution for Transforming India) Aayog.

Key approaches and strategies of social innovation

Social innovation encompasses several key approaches, including community-driven development, technology and digital solutions, public-private partnerships, social enterprises, frugal innovation, and policy advocacy and reform. Social innovation initiatives often employ various strategies, such as participatory approaches, knowledge sharing, capacity building and training, multi-stakeholder collaboration, and monitoring, evaluation, and learning.

Research studies

Khadse *et al.* (2017) in their study demonstrated that the adoption of Zero Budget Natural Farming (ZBNF) led to significant improvements in various areas over time. These improvements included, 78.7 per cent increase in yield, 93.6 per cent in soil conservation, 76.9 per cent in seed diversity, 91.1 percent in quality of produce, 92.7 per cent in seed autonomy, 87.8 per cent in household food autonomy and 85.7 per cent in income. Moreover, 90.9 percent of farmers experienced reduced farm expenses, while 92.5 percent witnessed a decreased need for credit. These findings highlight how ZBNF, as a social innovation, has enabled farmers to cultivate multiple crops at low costs and generate income throughout the year.

Kumar (2020) findings showed that in all blocks, the average production in the System of Rice Intensification (SRI) area was 432.81 quintals. The income of farmers increased by over 55 percent across all blocks, and the food sufficiency of farmers exceeded 40 percent. Approximately, 94 percent of farmers expressed their preference for cultivating paddy using the SRI technique due to its high yield and net return. However, they emphasized the need for support from organizations such as ATMA (Agricultural Technology Management Agency) or other promoting organizations

Conclusion

The integration of social innovation principles and approaches within agricultural extension programs is crucial for addressing the multifaceted challenges encountered by farmers and rural communities. By adopting these principles, we can bring about meaningful and enduring transformations, encourage the adoption of sustainable agricultural practices, and ultimately improve the well-being and livelihoods of farmers.

References

KHADSE, A., ROSSET, P. M., MORALES, H. AND FERGUSON, B. G., 2017, Taking agroecology to scale: the Zero Budget Natural Farming peasant movement in Karnataka, India. *J Peasant Stud.,* **45** (1): 196-219.

KUMAR, V., 2020, Social innovation for agricultural development: a study of System of Rice Intensification in Bihar, India. *Millenn. Asia,* **11**(1): 99-118.