Livestock Extension– Beyond Technology Transfer

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Edited by
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MESSAGE

National Institute of Agricultural Extension Management (MANAGE), Hyderabad is an autonomous organization under the Ministry of Agriculture & Farmers Welfare, Government of India. The policies of liberalization and globalization of the economy and the level of agricultural technology becoming more sophisticated and complex, calls for major initiatives towards reorientation and modernization of the agricultural extension system. Effective ways of managing the extension system needed to be evolved and extension organizations enabled to transform the existing set up through professional guidance and training of critical manpower.

Crop and cattle coexist in harmony in Indian agriculture. Approximately 6% to 7% of the gross domestic product is contributed by the animal husbandry industry. The main source of additional employment and income for small, marginal, and landless farmers, who make up the majority of the farming and rural communities, has been livestock husbandry. Systematically promoting private involvement and cost recovery through cooperatives and animal husbandry departments.

This e-book covers, Livestock Extension-Beyond Technology Transfer. I would like to extend my appreciation to Dr. Shahaji Phand & Dr. Sushrirekha Das, EAAS Centre, MANAGE, Hyderabad for the tremendous effort in compiling this e-book. I also thank the authors, editors, and designers who have contributed to this e-book creation.

Dr. P. Chandra Shekara
(Director General, MANAGE)

PREFACE

In India, livestock is a crucial component of the agricultural economy and supports the livelihoods of around 70–75 million households that possess one or more types of livestock. In addition to making up 30% of the GDP of the agricultural and related sectors, the livestock industry is essential for creating assets, job possibilities, and the greatest protection against natural disasters like drought and flooding. The majority of livestock owners, small and marginal farmers who lack access to resources and landless workers, would benefit from more equitable development and socioeconomic improvement as a result of the livestock industry's sustainable growth. Despite being the world leader in milk production, India still has problems with supply, demand, quality, and safety per capita.

This book is designed to provide a comprehensive guide to those who want to run a successful and profitable livestock farming. It covers few of the entrepreneurship opportunities in livestock sector, FPOs formation, ICT in animal husbandry. The readers of the book carry a comprehensive understanding of emerging technologies in livestock sector which will help them for better livelihood.

This book will be highly useful and serves as dissemination knowledge on user friendly emerging innovations in livestock nutrition sector suitable for farming community. The editor’s express sincere thanks to Dr. P. Chandra Shekara, Director General, MANAGE for inspiration and motivation in publishing this e-book. We hope and trust that the valuable inputs provided through this e-book will help to improve the ability of all the stakeholders in livestock sector for welfare of the farming community.

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Chapter-1

ENTREPRENEURSHIP DEVELOPMENT IN LIVESTOCK SECTOR

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Introduction

Farming is the country's main source of income, and caring for animals is a significant part of it. Agriculture and livestock production are intertwined, mutually reliant, and essential to ensuring global food security. In India's economy, the livestock sector is a significant subsector of agriculture. For the majority of farmers, it is a significant source of income that supports agriculture by providing essential inputs, improves household health and nutrition, supplements incomes, creates job opportunities, and serves as a reliable "bank on hooves" in times of need. It serves as an auxiliary and supplemental business. Eggs and milk are examples of animal goods that complement crop-based agriculture. A dubious source of revenue is provided by animal husbandry.

According to the press release entitled "First Revised Estimates of National Income, Consumption Expenditure and Capital Formation for 2020-21" issued by the National Statistical Office (NSO), MoSPI on January 31, 2022, the Gross Value Added (GVA) of the livestock sector for the fiscal years 2020–21 is approximately Rs. 11,14,249 crore at current prices, which is about 30.87% of the GVA of the Agricultural and Allied Sector and 6.17% of Total GVA. At constant prices (2011–12), the GVA of the cattle industry is about Rs. 6,17,117 crore in FY2020–21, an increase of 6.13% from the prior fiscal year. In our nation, the livestock industry is crucial to the rural economy. According to the Central Statistical Organisation, livestock contributes 4.40% of the country's overall GDP (National Accounts Statistics-2009; GOI). Poor people own cattle, which is why 57.8 crore people are involved in livestock production (FAO, 2003). According to the National Commission on Agriculture (1976), livestock income makes up between 30 and 50 percent of all farm income. Since 67% of India's small, marginal, and landless labourers own livestock, any increase in livestock production will undoubtedly boost these groups' economic standing (Kumar, 2019).

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Dairying and animal husbandry might be seen as a year-round source of employment in rural regions. Since Indian agriculture depends heavily on the monsoon, there are times when it is difficult to find work in the sector. On average, the agricultural industry may give rural residents 200 days of work. For the remainder of the year, they will need to find alternative sources of revenue. The alternative sources of mix farming are dairy farming, sheep and goat keeping, poultry production, pig farming, and rabbit rearing (Kumar, 2019). It could be conceivable to provide jobs for farmers and landless labourers who are capable of doing the work themselves, or it might be feasible to hire young and elderly family members as a side business. The rural women may perform many tasks in poultry farming and animal husbandry. According to estimates, this industry has the potential to provide 35 million human years of work annually (Chandraker, 2019).

The livestock sector contributes to 13% of global calories and 28% of global protein consumption besides essential vitamins and minerals in the form of milk, meat and eggs (FAO, 2011). In spite of the tremendous development in livestock sector, animal productivity and per capita consumption of foods of animal origin remains low in India (Hegde, 2019).

Do you want to become an ENTREPRENEUR?

An entrepreneur is a person who owns a business or initiative and assumes significant responsibility for the inherent risks and the outcome. The term "Entrepreneur" is derived from the French verb entrepredre, which means "to venture." It means 'to embark on'. The phrase is used to describe someone who organises and manages a venture that involves independence, risk, and the potential for profit. "An entrepreneur is the economic agent who unites all means of production such as land, labour, and capital to produce a product. The unique tool is innovation. Thus, an entrepreneur is a type of personality who is eager to take on a new initiative or enterprise and assumes full responsibility for the outcome. Entrepreneurs find market opportunities and capitalise on them by efficiently organising their resources to achieve a result that alters existing relationships within a specific industry.

In short, an entrepreneur is someone who takes a risk, accomplishes something novel, connects multiple factors of production, and utilises perceived opportunities in order to generate demand, wealth, and employment. Entrepreneurship is the process of finding market opportunities, allocating the resources needed to pursue these chances, and investing the resources wisely to capitalise on the opportunities for long-term gains. It entails creating money by combining resources in novel ways to create and run a business.

Entrepreneurship Opportunities in Livestock sector:

A livestock entrepreneur is someone who is involved in livestock farming or business, raw material production for livestock farms, or livestock-related processing industries. In other words, a livestock entrepreneur is someone who is involved in animal husbandry or the livestock sector, either directly or indirectly to the business purpose of raising animals for commercial purposes. Additionally, encouraging value addition in the livestock sector can boost profitability. Setting up processing units for meat, dairy, and other livestock products can increase the value of the final products and create more opportunities for entrepreneurs. Developing robust infrastructure for livestock farming, including transportation, storage facilities, and veterinary services, is also essential for the sector's growth. Proper infrastructure can enhance the efficiency and effectiveness of livestock operations. Providing livestock entrepreneurs with up-to-date information on market trends, technology advancements, and best practices is crucial (Kalash et al., 2009). Research and information dissemination can empower entrepreneurs to make informed decisions and stay competitive in the market. Creating networking platforms and fostering collaboration among livestock entrepreneurs can facilitate knowledge-sharing and open up new business opportunities. Entrepreneurs can learn from each other's experiences, collaborate on projects, and collectively address challenges facing the livestock sector. By focusing on these aspects and creating a supportive ecosystem for livestock entrepreneurship, India's agriculture heritage can be further enriched. Entrepreneurs in this sector can contribute to the nation's development while preserving traditional wisdom and fostering innovation in agricultural practices (Behera & Bihari, 2020).

Workshops, seminars, and vocational training programs can focus on livestock management, modern agricultural practices, animal health, and business management. Equipping aspiring entrepreneurs with the necessary skills and knowledge will empower them to run successful and sustainable livestock ventures. Access to finance is often a significant barrier for those looking to venture into the livestock sector. Establishing special loan schemes or financial incentives specifically tailored for livestock entrepreneurs can encourage to start and expand ventures. Accessible finance can fuel innovation and growth in the sector. Encouraging the adoption of modern technologies in livestock farming can lead to increased productivity and efficiency. Smart farming techniques, precision agriculture, and digital solutions for livestock management can significantly benefit entrepreneurs and the overall sector. Investing in research and development in the livestock sector is crucial. Collaborating

with research institutions and universities can lead to the development of innovative products and practices that can transform the industry (Radha et al., 2022).

Scope of Entrepreneurship in Livestock Sector:

Value chains related to livestock are a significant and expanding source of employment. They include businesses that produce goods at the farm level, provide farmers with inputs and services, transport animals and their products, and engage in processing and marketing. High-quality food, a source of revenue, and jobs are all provided by livestock. The availability of draught power and manure for crop fertiliser through livestock ownership has a substantial influence on agricultural output. Owning livestock supports farming and economic stability. In times of drought, flood, and other natural disasters, it serves as a significant type of investment and a source of income for many farmers. Millions of small-scale farmers also value livestock in their social and cultural life since it serves as a symbol of riches and is used in several rituals. Additionally, self-employment in the cattle industry and entrepreneurship both support environmental sustainability (Schoch et al., 2010).

Globally, entrepreneurship is acknowledged as the primary driver of economic growth due to its growing importance and obvious effects on wealth creation and job creation. The tremendous contribution that entrepreneurs have made to sustainable economic growth has been acknowledged. The best protection from natural disasters like drought, starvation, and other tragedies is livestock. Entrepreneurship development in the livestock sector in India holds great potential for economic growth, employment generation, and improving agricultural practices (Ali, 2007). To foster entrepreneurship in this sector, several key factors and strategies need to be considered. Providing specialized training and education to potential livestock entrepreneurs is crucial.

Furthermore, facilitating market linkages for livestock entrepreneurs is essential. Connecting them with buyers, processors, and retailers, both domestically and internationally, can help create a stable and sustainable market for their products. Moreover, the government can play a crucial role in supporting livestock entrepreneurship through favourable policies, subsidies, and incentives. Promoting livestock-based start-ups and creating a conducive business environment can encourage more entrepreneurs to invest in this sector.

- **Meat Production:** This involves raising animals for their meat. Examples include cattle, pigs, goats, and sheep.
- **Dairy Production:** This involves raising animals such as cows, goats, and sheep for their milk. The milk can be sold to dairy processing companies or used to make products such as cheese, yogurt, and butter.
- **Poultry Production:** This involves raising birds such as chickens, turkeys, and ducks for their meat and eggs.
- **Livestock products processor:** Value addition to the livestock products such as milk, egg, meat, and fish have huge profit potential. Value of the products get increased many folds during processing, and thereby provide excellent returns. Entrepreneur can start milk parlour, where they can sell processed milk and milk products like flavoured milk, goa, ice cream, etc. or meat centre where fried chicken, chicken 65, mutton khima, etc. Marketing of these value added products could be done in their own brand name and they can start chain of parlours / hotels later.
- **Beekeeping:** This involves raising bees for their honey and beeswax. Beekeeping can also involve pollination services, where bees are used to pollinate crops.
- **Fish Farming:** This involves raising fish in tanks or ponds for commercial purposes. Fish farming can include species such as tilapia, catfish, and salmon.
- **Animal Feed Production:** This involves producing animal feed for livestock. The feed can be made from crops such as corn and soybeans or from by-products such as brewery waste. Commercial feed availability for various unconventional poultry species such as Quail, Emu, Ostrich, etc. are far less than the demand. Manufacturing feed for these species is a niche business as their energy requirement is different from the existing commercially available broiler or layer feed.
- **Livestock Breeding:** This involves breeding livestock to produce offspring with desirable traits such as higher meat yield or milk production.
- **Dog breeder:** Dog breeding is an ever green field with potential opportunities in urban areas. Dogs with good pedigree record fetches good price and the Entrepreneurs can readily exploit this opportunity. Combining dog breeding with veterinary consultancy services offer excellent earning opportunity.
- **Hatchery:** Though starting a hatchery requires higher investment, it offers good return.

- **Livestock Transportation:** This involves providing transportation services for livestock. This can include transporting animals to and from auctions, farms, and processing facilities.
- **Livestock Health Services:** This involves providing health services for livestock. This can include veterinary care, vaccinations, and other health-related services.
- **Livestock Waste Management:** This involves managing the waste produced by livestock. This can include composting, manure storage, and disposal.
- **Livestock Farms:** With their extensive technical knowledge, veterinarians can establish their own animal farms and implement scientific management approaches. GMP (Good Manufacturing Practises) and SPS (Sanitory and Phytosanitory) standards are critical for livestock commodity export in the WTO era, as the emphasis in international trade is on quality and food safety. Veterinarians might capitalise on this opportunity by establishing their own scientifically managed cattle firm. Furthermore, employing proven scientific management practises will increase animal output, resulting in an overall quantitative and qualitative improvement in the livestock sector.
- **Animal Feed:** Developing new animal feed products can be a profitable business opportunity. There is a growing demand for natural and organic feed products that improve animal health and well-being.
- **Animal Health Products:** Developing new medications, vaccines, or other health-related products for livestock can be a profitable business. There is a need for new solutions to prevent and treat livestock diseases.
- **Livestock Equipment:** Developing new equipment for livestock management can be a profitable business. This could include equipment for feeding, handling, or milking livestock.
- **Livestock Housing:** Developing new housing solutions for livestock can be a profitable business. There is a need for new and innovative designs that improve animal welfare and reduce environmental impact.
- **Animal Genetics:** Developing new breeds of livestock with desirable traits such as high meat yield or disease resistance can be a profitable business. This could involve using genetic engineering or selective breeding techniques.
- **Livestock Waste Management Products:** Developing new products to manage animal waste can be a profitable business. This could include products to recycle or manage manure and other waste products.

- **Livestock Processing Products:** Developing new products for processing livestock such as meat, dairy, or poultry can be a profitable business. This could involve developing new processing techniques or equipment.
- **Livestock Supplements:** Developing new supplements for livestock can be a profitable business. There is a growing demand for natural and organic supplements that improve animal health and well-being.
- **Livestock Health Monitoring Products:** Developing new technology or products for monitoring livestock health can be a profitable business. This could include developing new software or sensors to track animal health.
- **Animal Fibers and Textiles:** Developing products from animal fibers such as wool or cashmere can be a profitable business. This could involve developing new textiles or fashion products.

Government schemes for livestock entrepreneurship in India:

Farmers will be able to obtain breeding inputs at their doorstep thanks to the introduction of Multipurpose AI Technicians in Rural India (MAITRIs). Over the course of three months, MAITRIs undergo training equivalent to 90 days at accredited AI training centres. Equipment grants are provided to the relevant States at a cost of Rs 50,000 per MAITRI. By recouping the cost of their goods and services after three years, MAITRIs may support themselves.

The encouragement of self-employment and entrepreneurship among tribes via livestock offers great potential for their socioeconomic development. Tribes may improve their quality of life, start successful companies, and contribute to the nation's progress and prosperity by making the most of their natural capabilities. The tribes directly engaged gain from this comprehensive strategy, which also promotes inclusive and sustainable development that honours and celebrates their distinct cultural history. The potential of livestock entrepreneurship to promote rural development, enhance livelihoods, and guarantee food security has been acknowledged by the Indian government.

Table.1: Establishment of MAITRIs to extend AI Coverage during the FY 2021-22&22-23

Sl. No.	State	Targets (Nos.)	Achievement (Nos.)
1	Andhra Pradesh	1000	4746
2	Telangana	250	117
3	Karnataka	1150	1410
4	Kerala	0	0
5	Gujarat	1500	125
6	Madhya Pradesh	2733	2733
7	Maharashtra	250	248
8	Rajasthan	500	248
9	Goa	0	0
10	Jammu & Kashmir	100	100
11	Punjab	100	0
12	Haryana	119	0
13	Himachal Pradesh	50	43
14	Uttarakhand	125	15
15	Uttar Pradesh	3250	1118
16	Ladakh	300 0	0
17	Assam	1089	992
18	Arunachal Pradesh	30	0
19	Manipur	100	100
20	Meghalaya	110	120
21	Sikkim	10	172
22	Nagaland	20	20
23	Tripura	142	895
24	Mizoram	0	0
25	Jharkhand	687	580
26	Chhattisgarh	125	125
27	Bihar	1000	1090
28	West Bengal	1000	506
29	Odisha	1500	0
	Total	17240	15459

Source: https://dahd.nic.in/sites/default/filess

Numerous programmes and efforts have been launched to help and promote this industry. The main programmes the Indian government has put in place to promote cattle entrepreneurships are discussed below.

- **National Livestock Mission (NLM):** The National Livestock Mission is an initiative by the Ministry of Fisheries, Animal Husbandry & Dairying to promote sustainable livestock development. It aims to provide support for breed improvement, feed and fodder development, animal health care, and other related activities.
- **Rashtriya Gokul Mission:** This scheme focuses on the conservation and development of indigenous cattle breeds. It aims to enhance their productivity and improve their

overall economic viability. The scheme provides financial support for setting up Gokul Grams (Cattle Villages) and Gopalan Sanghs (Cattle Development Groups).

- **Dairy Entrepreneurship Development Scheme (DEDS):** This scheme supports dairy entrepreneurship by providing financial assistance to set up modern dairy farms and processing units. It aims to create self-employment opportunities in the dairy sector and promote clean milk production.
- **National Livestock Development Board (NLDB):** The NLDB offers various financial and technical assistance schemes to support livestock entrepreneurs in the country. It focuses on breed improvement, livestock feed, fodder development, and livestock-based livelihood activities.
- **National Kamdhenu Breeding Centre (NKBC):** This scheme aims to conserve indigenous cattle breeds and improve their genetic potential. It provides incentives to farmers for rearing indigenous cattle breeds and establishing Kamdhenu Breeding Centres.
- **Integrated Dairy Development Scheme (IDDS):** The IDDS provides financial assistance to farmers and entrepreneurs for setting up dairy processing plants, chilling centers, and bulk milk cooling units. The scheme aims to promote dairy entrepreneurship and improve milk processing infrastructure.
- **Scheme for Dairy Entrepreneurship Development:** This scheme is part of the National Livestock Mission and focuses specifically on promoting entrepreneurship in the dairy sector. It provides assistance for establishing dairy farms, purchase of milch animals, and infrastructure development.
- **Pashu Kisan Credit Card (PKCC):** The PKCC scheme aims to provide easy and timely credit to livestock farmers. It provides credit support for purchasing animals, animal insurance, and other livestock-related activities.
- **Pradhan Mantri Matsya Sampada Yojana (PMMSY):** Although primarily focused on fisheries, PMMSY also has provisions for promoting integrated fish farming along with livestock farming. It aims to provide support for enhancing fish and livestock productivity.
- **Startup India:** While not specific to the livestock sector, the Startup India initiative by the Government of India provides various benefits and incentives to startups, including those involved in agriculture and allied sectors like livestock entrepreneurship.

Even though these programmes have been crucial in encouraging livestock entrepreneurship, there are still certain issues that must be resolved. These include insufficient market connections, restricted financial availability, a lack of professional assistance and training, and holes in the infrastructure. By enhancing cooperation amongst different parties and allocating required resources, the government should continue to concentrate on addressing these issues and ensuring the successful execution of initiatives.

Role of livestock in socio-economic life of India:

The livestock sector plays an important role in the financial growth of farmers to significantly influence by the livestock. The farmers in India use mixed farming, which combines crops and animals and maximises resource efficiency by using one enterprise's result as another's input. The sector provides income for many families in India especially the resource poor who maintain few heads of animals by providing regular income to the livestock farmers through sale of milk. Animals like sheep and goat serve as sources of income during emergencies to meet exigencies like marriages, treatment of sick persons, children education, repair of houses etc. The animals also serve as moving banks and assets which provide economic security to the owners. The sector generates employment for a maximum of 180 days in a year. The sector provides food products such as milk, meat and eggs are an important source of animal protein to the members of the livestock owners. The per capita availability of milk is around 355 g / day; eggs is 69 / annum. The sector provides social security to the owners in terms of their status in the society. The families especially the landless which own animals are better placed than those who do not. Rearing of animals is a part of the Indian culture. Animals are used for various socio religious functions. Cows for house warming ceremonies; rams, bucks and chicken for sacrifice during festive seasons. Animal husbandry promotes gender equity, more than three-fourth of the labour demand in livestock production is met by women. The share of women employment in livestock sector is around 90% in Punjab and Haryana where dairying is a prominent activity and animals are stall-fed.

Challenges faced by the Livestock sector in India

Productivity: Improving the productivity of farm animals is one of the major challenges. The average annual milk yield of Indian cattle is 1172 kg which is only about 50 per cent of the global average.

Diseases: The frequent outbreaks of diseases like Foot and Mouth Diseases, Black Quarter infection; Influenza, etc. continue to affect livestock health and lowers productivity.

Greenhouse Gases: India's huge population of ruminants contributes to greenhouse gases emission. Reducing greenhouse gases through mitigation and adaptation strategies will be a major challenge.

Loss of indigenous breeds: Crossbreeding of indigenous species with exotic stocks to enhance the genetic potential of different species has been successful only to a limited extent.

Limited Artificial Insemination services owing to a deficiency in quality germplasm, infrastructure and technical manpower coupled with poor conception rate following artificial insemination have been the major impediments.

Less credit: The sector received only about 12 per cent of the total public expenditure on agriculture and allied sectors, which is disproportionately lesser than its contribution to agricultural GDP. The sector has been neglected by financial institutions.

Meat production and market: Likewise, slaughtering facilities are inadequate. About half of the total meat production comes from un-registered, make-shift slaughterhouses. Marketing and transaction costs of livestock products are high taking 15-20 per cent of the sale price.

Conclusion:

The initiatives by the Indian government to encourage cattle entrepreneurship show a dedication to rural development, poverty eradication, and economic prosperity. These projects enable people, particularly marginal farmers and jobless youth, to start livestock-based companies by providing financial aid, technical support, and capacity building. To solve new problems and open up fresh possibilities in the cattle industry and eventually contribute to the nation's overall socioeconomic growth, the government must constantly evaluate and enhance these programmes. Additionally, it is essential to address market integration, quality assurance, and value addition in order to ensure the viability and competitiveness of tribal livestock operations.

References:

Ali J, (2007). Livestock, common property resources, and rural smallholders in India. International Journal of Agricultural Sustainability, 5(4), 265-268.

Chandraker K, Pandey A.K. 2019. Case study of an entrepreneur involved in Livestock. The Pharma Innovation Journal 8(12): 181-184.

Hegde N. G. 2019. Livestock Development for Sustainable Livelihood. Asian Journal of Research in Animal and Veterinary 3(2): 1-17.

Kalash P, Rathore R.S, & Kumar M. 2009. Livelihood Improvement of Farm Women through Cattle and Buffalo Rearing in Jhunjhunu District of Rajasthan. International Journal of Rural Studies 16(1): 39-41.

Kumar D, Verma M.K, & Lawania P.2019. Problems Encountered by the Tribal Livestock Farmers of Southern Rajasthan. Journal of Krishi Vigyan 7(2):194-198.

Behera V.K, & Bihari T.R. 2020. Pioneering New Approaches to Rural Agri-Entrepreneurship Skills Development in Jharkhand, India. South Asia Agriculture and Rural Growth Discussion Note Series; No. 14. World Bank, Washington, DC.

Radha Y, & Kumar V. Krishna. 2022. Development of Livestock Sector in Andhra Pradesh, India. Journal of Livestock Science 13(1): 239-249.

Schoch N, Steinmann B, & Thieme S. 2010. Migration and Animal Husbandry: Competing or complementary livelihood strategies: Evidence from Kyrgyzstan. Natural Resources Forum 34(1):211-221.

Chapter-2

MARKET LED EXTENSION AND ADVISORY SERVICES FOR FARMER PRODUCER ORGANIZATIONS IN LIVESTOCK SECTOR

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Introduction:

Present agricultural and livestock scenario is full of challenges and threats of international competition even in our local markets. Also there are many new opportunities available to rural people to make use of and enhance their remuneration from farming. Earlier the agricultural and livestock sector was production based but modern agriculture and livestock sector is to be developed essentially on the lines of market based economy. With major thrust of extension agencies focused on production techniques till now, market-led extension holds the key to the future. This assumes greater significance in the light of the new international trading regime under WTA and the export opportunities being opened up. Public extension functionaries are presently ill equipped to deal with such challenges. The multi-agency extension service will need to address these issues though strengthening capacity of the public agency, supporting private sector in market led extension and marketing, extensive use of media in information and technology dissemination.

The livestock sector in India has grown substantially over the years. As a result of prudent policy intervention, India has a prospective livestock production. Despite this entire scenario, the marketing of livestock and its products has been a major challenge for small and landless farmers which might be due to various factors. It should be noted that, extension system has played its role untiringly in transfer of production technologies from lab to land besides the scientists, farmers and marketing network. With major thrust of extension agencies focused on production techniques till now, market-led extension holds the key to the future. The multi-agency extension service will need to address these issues though strengthening capacity of the public agency, supporting private sector in market-led extension and marketing, extensive use of media in information and technology dissemination. Market-led extension so far is a peripheral issue in the extension scenario will need to be brought center-stage.

With the globalization of market, farmers have to transform themselves from mere producers-sellers in the domestic markets to producer cum seller in a wider market sense to

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best realize the returns for his investments, risks and efforts. This to be achieved, farmers need to know answers to questions like what to produce, when to produce, how much to produce, when and where to sell, at what price and form to sell his produce. An efficient marketing system is essential for the development of the agricultural sector. Failure to develop the agricultural and livestock marketing system is likely to negate most, if not all, efforts to increase agricultural production (FAO, 2000). Extension education needed to be focused on marketing aspect, particularly on to produce more quantitative and qualitative products for export-oriented standard from existing available resources to create the new avenue of income generation (Singh, *et al* 2004). One of the most important is the information and extension services to farmers besides transport & communication facilities, public utility supply, like water, electricity, fiscal and trade administration and public storage, market and abattoir facilities (FAO, 2000).

Paradigm Shift from Production-led Extension to Market Led Extension

Aspects	Production-led extension	Market-led extension
Purpose/objective	Transfer of production technologies	Enabling farmers to get optimum returns out of the enterprise
Expected end results	Delivery of package of practices	High returns
Farmers seen as	Progressive farmer High producer	Farmer as an entrepreneur
Focus	Production	Whole process as an enterprise
Technology	Fixed package recommended for an agro-climatic zone covering very huge area irrespective of different farming situations	Diverse baskets of package of practices suitable to local situations/ farming systems
Extensionists' interactions	Messages Training \ Motivating Recommendations	Joint analysis of the issues varied choices for adoption Consultancy
Linkages	Research-Extension-Farmer	Research-Extension-Farmer extended by market linkages
Extensionists' role	Limited to delivery mode and feedback to research system	Establishment of marketing and agro processing linkages between farmer groups, markets and processors
Maintenance of Records	Not much importance as the focus was on production	Very important as agriculture viewed as an enterprise to understand the cost benefit ratio and the profits generated
Information Technology support	Emphasis on production technologies	MI including likely price trends, demand position, current prices, market practices, communication network,

Over a period of time, Indian government has directed state governments to make efforts to connect FPOs to the processing industry, exporters, bulk buyers and big retailers to maintain the supply line. After the demand from FPOs, the government allowed them to sell their produce from FPO premises through e-National Agriculture Market (e-NAM), an electronic marketing platform that does not require the produce to come to markets. This will

help FPOs get remunerative prices for their produce and help track transportation online. Various state governments allowed FPOs to sell their produce by facilitating packaging, transport and marketing of their produce by relaxing limitations and providing certificates to them.

Basics of market led extension

* Market oriented production
* Updated knowledge of market
* Market intelligence
* Use of technology
* Appropriate extension approaches

Table.1: Problems related with market led extension

Production related	* Seasonality of production: Supply not uniform * Perishability of produce leading to storage problem. * Bulkiness of production: Transportation problem
Market related	* Non - availability of market information * Existence of middleman * Inferior quality of produce
Extension related	* Lack of communication skills * Lack of credibility * Insufficient information related with market

Market Led Extension: Need of the Hour

The paradigm shift of present scenario especially in India context as well as globally spurs for all hands to be on desk to transform Agriculture and livestock sector into worthwhile and profit oriented business through the intervention of Market Led Extension. Farmers which are the producer and the almost receiver of the shocking wave in the sector must be taking care of in terms of building their capacity to face the challenge of the hour. Indian livestock sector has been characterized with high input cost, lack of access to quality information especially information about markets, lack of labour as a result of rural urban migration, lack of infrastructure facility, large number of market functionaries, lack of grading and standardizing, good storage facilities, lack of market intelligence among others which resulted in high marketing cost and minimum share in consumer's rupee.

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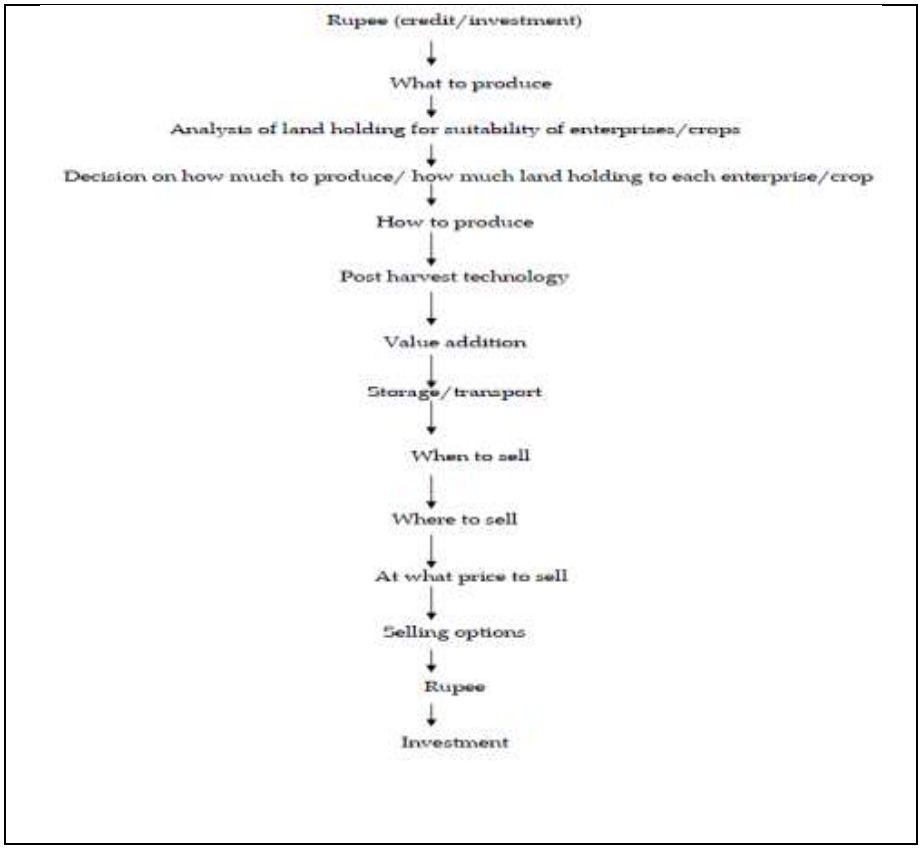

Fig.1 Flow chart of agriculture/livestock farming as an enterprise

Challenges related with market led extension:

- The challenge is to motivate the extension personnel to learn the new knowledge and skills of marketing before assigning them marketing extension jobs to establish their credibility and facilitate significant profits for the farming community.
- Success stories of profitable ventures by farmers need to be publicized. A whole network of skilled personnel needs to be engaged in collection of current information and creation of relevant websites pertaining to/serving specific needs of farmers.
- Generation of data on the market intelligence would be a huge task by itself. There is a dire need to upgrade basic facilities and free the extension cadres from the shackles of the hygiene factors and enthuse them to look forward for the motivating factors like achievement, job satisfaction, recognition etc.
- Reorganization of the extension system to focus on both extension and market led extension may be emphasized in the departments.

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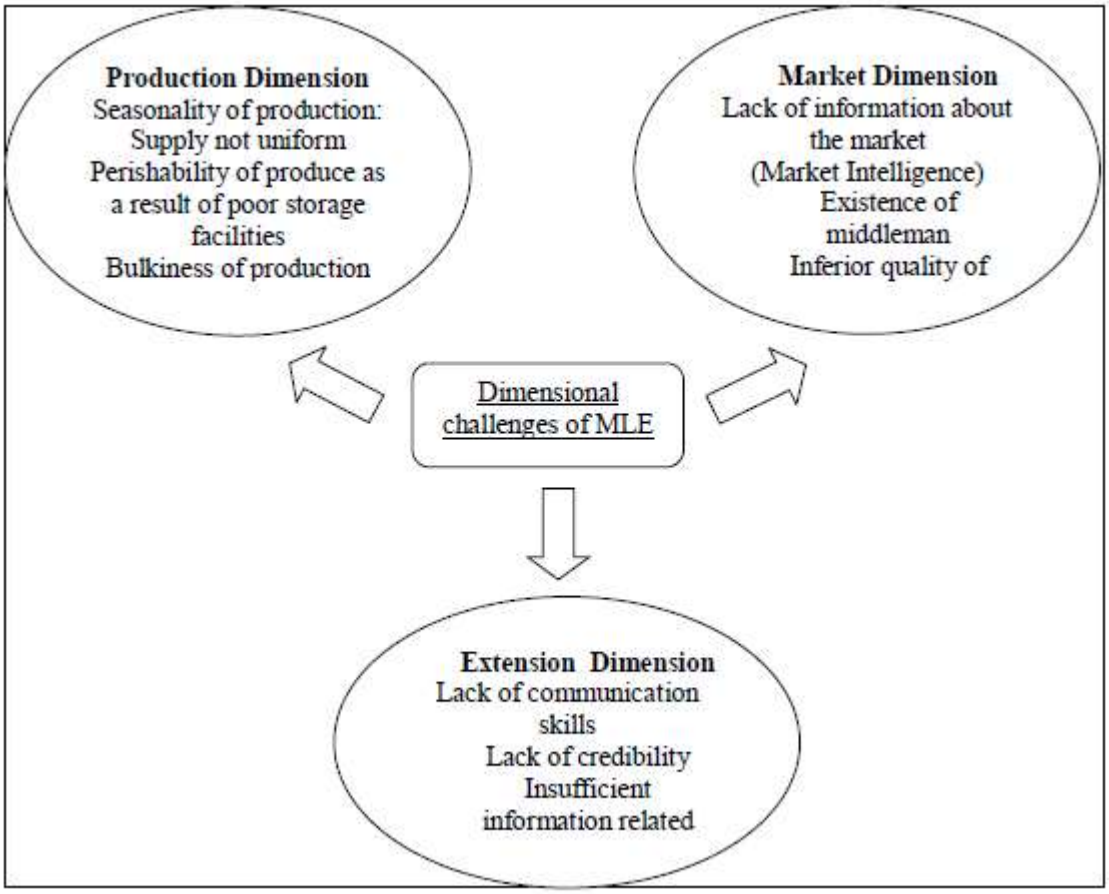

Fig.2 Three Dimensional challenges of Market Led Extension (Shitu *et. al*., 2013)

- Training programme for extension professionals- It makes them skilled, able to take decision according to situation.
- Basic concepts and issues in markets and marketing
- Introduce market-oriented approach into extension
- Development of local market and promoting local consumption
- Entrepreneurial training to farmers
- Linking farmers to markets
- Market reforms- It includes partnership with KVK & ATMA for effective technological reach.
- To facilitate the State Governments, Ministry of Agriculture should frame model rules and procedures for circulation to states as guidelines.
- Formation of Market-Led Extension policies and its implementation

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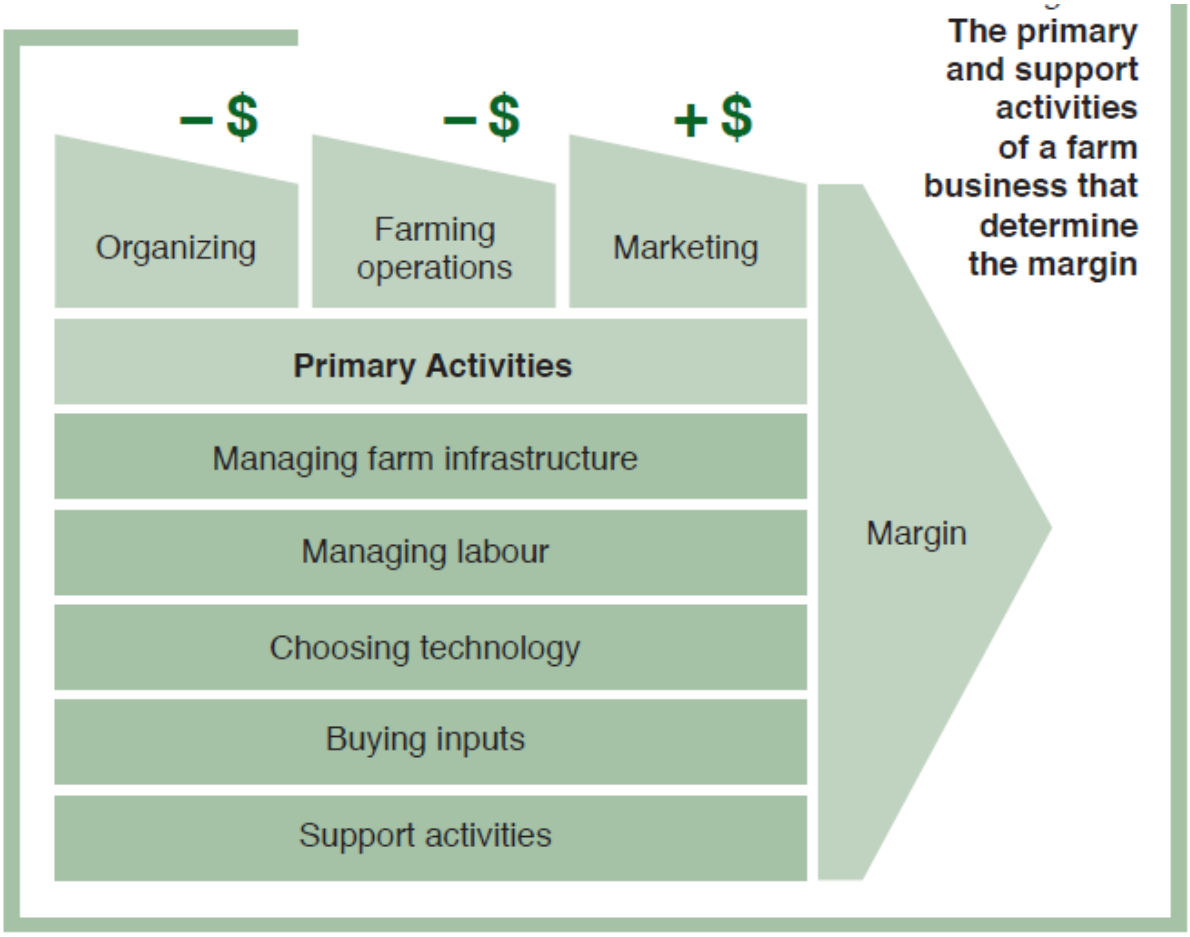

(FAO, 2013)

Information to be delivered by extension system to FPOs/ farmers in the context of MLE:

- The present agricultural and livestock scenario and land pattern
- Suitability of livestock holding, species, breeds, fodder in different regions and contexts
- Direct marketing by farmers may be encouraged as an innovative channel.
- Credit facilities- Helps farmers to arrange quality of input required for production
- Desired qualities of the products desired by consumers- needed for competitive marketing.
- Market network of the local area and the price differences in various markets Network of storage and warehouse facilities available.
- Production technologies and processes like improved breeds, feeds and fodder, health care, breeding aspects etc.
- Post-harvest management like processing, grading, standardization of produce, value addition, packaging, storage, certification, etc. with reference to livestock and its

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products. Value addition is the process of changing or transforming a product from its original state to a more valuable state.

- Transport facilities since majority of the livestock products are perishable.
- Contract farming- Contract farming that helps infusion of new technology and capital in farm business should be popularized and encouraged.
- Information about integration of components like agriculture, livestock, horticulture etc.
- Nearby agencies or organizations dealing with a particular product or production system
- Food retail chains- Major conditions for successful interlocking between agribusiness firms and small producers.
- Increased competition for procurement, guaranteed market for farmers produce, effective repayment mechanism, and market information for farmers, which should be adequately recognized in evolving agreements.
- Market information, intelligence and forecasting
- Operational and managerial difficulties in livestock production
- Food safety and quality standard- Should promote consumer demand for safe and healthy foods, so that the demand will drive the implementation of food safety measures, which will ultimately enable us to capture global markets.
- Price incentives can provide demand-pull for quality and safe food.

Role of extension personnel in light of market-led extension:

- SWOT analysis of the market
- Organization of Farmers' Interest Groups (FIGs), FPOs etc.
- Supporting and enhancing the capacities of locally established groups under various schemes/ programmes.
- Enhancing the interactive and communication skills of the farmers.
- Establishing marketing and agro-processing linkages between farmers' groups, markets and private processors.
- Educating the farming community about different inputs, practices, methods to decrease cost of production and improve income, limitations etc. in livestock production.
- Direct marketing-farmers need to be informed about the benefits of direct marketing.
- Capacity building of FIGs in terms improved production, post-harvest operations, storage and transport and marketing.
- Acquiring complete market information, intelligence and forecasting regularly on various aspects of markets.

- Creating awareness about value addition of livestock products to improve the income level.
- Linking the producers or farmers to markets
- Regular usage of internet facility through computers to get update on market intelligence
- Production of video films of success stories of community specific farmers.

Extension Strategies for Market Led Intervention:

Without mincing words, innovative strategies embedded in extension principle and practices is a sure way to linking the farmers to market. One of these strategies is the timely initiatives of marketing the produce through FIGs, Commodity groups as well utilization of other group approaches. This will ultimately enable the participation of various stakeholders in marketing agricultural produce thereby maximizing their potentials for maximum profit. Also, another profitable extension strategy is the utilization of principle of e- extension for marketing purposes. This can be done through initiation of online marketing system through farmers-traders-wholesalers and monetary transaction (eg. Amul Model). Also, the introduction of subsidies provision for postharvest management practices as well as value addition can go a long way in minimizing the challenges of post-harvest loss. Public-Private Organizations should also give emphasis on forward linkages of both crop and animal enterprises in addition to Non- Farm Activities at villages. Moreover, there should be adequate provision of credit facilities for storage transportation, grading, value addition, packaging activities for farmers/farm women/rural youth with proper and strategic monitoring and evaluation for the extension functionaries.

Conclusion:

The focus of the extension functionaries need to be extended beyond production. Farmers/FPOs should be sensitized on various aspects on quality, consumer's preference, market intelligence, processing and value addition and other marketing information. This will help the farming community to realize high returns for the produce, minimize the production costs, and improve the product value and marketability. Extension functionaries need to work more on the area of marketing through the use of extension strategies to disseminate not only production but essentially marketing related information for holistic sustainable Agricultural development. Information technology, electronic and print media need to be harnessed to disseminate the production and market information. In order to be successful in the liberalized market scenario, the farmers have to shift their focus from 'supply driven' to market driven' and produce according to the market needs and earn high returns.

References:

FAO (2000). Agricultural marketing: concepts, policies and services, FAO

FAO (2013).Market Oriented Farming: An overview. Eds. David Kahan, FAO pp: 104.

Shitu, G. A., Sakia, R., Meti, S. K. and Maraddi,G. N..(2013). Market Led Extension; Prospects and Challenges for Agricultural Sustainability in the 21st Century. Paper presented at the International Conference on "Extension Educational Strategies for Sustainable Agricultural Development – A Global Perspective" University of Agricultural Sciences, Bangalore, India December 5th – 8th, 2013.

Singh, B. P., Tiwari, R. And Mandape, M. K. (2004). Market oriented extension education for livestock development. Indian Dairyman. 56 (9).

Chapter-3

TRANSFORMATIVE IMPACT OF INFORMATION COMMUNICATION TECHNOLOGIES AND SOCIAL MEDIA IN ANIMAL HUSBANDRY

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Introduction:

The integration of information and communication technology (ICT) and social media platforms has caused a paradigm shift in various sectors around the globe, and animal husbandry is no exception. This transformation offers exciting possibilities and challenges as we look to improve efficiencies, productivity, and sustainability in the animal husbandry industry. ICT and social media have paved the way for what can be termed as digital animal husbandry. In essence, digital animal husbandry represents the use of digital tools and platforms to facilitate communication, dissemination of information, and execution of various tasks involved in animal husbandry. These digital tools range from data management systems to sensors, monitoring systems, drones, and Global Positioning System (GPS) technology. These digital innovations provide opportunities for efficiency, productivity, animal health and welfare improvement, transparency, and effective communication in the animal husbandry industry. Equally important is the role of social media platforms in animal husbandry. These platforms have provided a stage for robust interaction between different stakeholders in the industry including producers, consumers, and regulatory bodies. Social media platforms like Facebook, Twitter, and Instagram have been effectively used to connect with customers, share information and resources, and promote animal welfare and sustainable practices.

This book chapter seeks to explore the evolution of ICT in animal husbandry, focusing on the increasing adoption of ICT and social media tools, their role and impact on the animal husbandry industry. The chapter also identifies potential drawbacks and challenges associated with the use of these tools, and suggests ways to overcome these challenges and optimize the benefits. The hope is that through the discussion in this chapter, readers will gain insights into

the significant transformations in animal husbandry induced by the integration of ICT and social media. This is particularly pertinent at a time when the world is seeking sustainable and efficient ways to meet the growing demand for animal products amidst concerns about animal welfare and environmental sustainability.

Evolution of ICT in Animal Husbandry:

In the context of animal husbandry, the advent of ICT marked a significant shift from traditional methods of animal rearing. Over the decades, ICT has transformed into an indispensable tool for modern livestock farming, ensuring higher productivity and sustainability.

1. Emergence of ICT in Animal Husbandry:

The onset of ICT in animal husbandry can be traced back to the introduction of basic computer systems and software designed to facilitate record keeping and data management. Initially, the technology was primarily leveraged to track and maintain animal health records, breeding information, and feed management data. With the proliferation of the Internet in the late 20th century, ICT took a leap forward in animal husbandry. Web-based systems and applications were developed, allowing farmers to remotely access data, stay updated with market trends, and connect with a broader community of livestock farmers and experts. This era also marked the start of automated feeding and milking systems, providing significant relief in terms of labor and time management.

2. Role and Impact of ICT in Modern Animal Husbandry:

Modern animal husbandry has come a long way with the aid of ICT. Current technological advancements provide numerous tools and platforms that assist farmers in monitoring animal health, optimizing breeding and nutrition, and managing overall farm operations.

Precision livestock farming (PLF) is a prime example of the application of ICT in animal husbandry. It involves the use of sensors, GPS technology, and IoT devices to continuously monitor animal behavior, health, and environmental conditions. This real-time data allows for quick detection of health issues, helping reduce mortality rates and ensuring improved animal welfare. Moreover, these technologies assist in managing feeding, reducing wastage, and consequently, improving farm productivity.

Farm management software (FMS) has also been a significant development in modern animal husbandry. FMS assists in managing and analyzing farm data, enabling farmers to make

data-driven decisions that enhance productivity and profitability. ICT has even found its application in marketing and sales of livestock products. Many producers use online platforms to reach customers directly, bypassing traditional channels and increasing the overall profitability.

The following sections delve deeper into the role of ICT in animal husbandry, exploring the applications of social media and their impact on the industry.

Use of ICT in animal husbandry:

1. Sensors and monitoring systems:

Sensors and monitoring systems have become increasingly important in animal husbandry. They provide producers with real-time data on animal health and behavior, enabling early detection of health issues and adjustments to management practices. Sensors can measure parameters such as temperature, humidity, feed intake, water consumption, and movement. This allows producers to track animal growth and development, optimize feed and nutrient management, and improve production efficiency. For example, in dairy farming, sensors can detect the onset of estrus and enable optimal timing for artificial insemination.

Furthermore, the use of sensors can also improve animal welfare. For instance, researchers have used wearable sensors to monitor the behaviour of pigs in intensive farming systems. They found that the sensors could detect behaviours associated with aggression and stress, such as tail biting, and provide insights into the causes of these behaviours. The use of sensors and monitoring systems can also reduce the risk of disease transmission, as they can be used to monitor animal health and detect disease outbreaks early on.

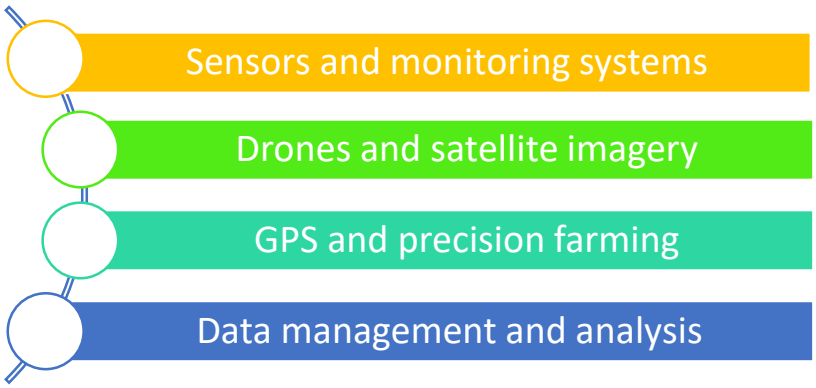

Fig 1. Usage of ICT in animal husbandry

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2. Drones and satellite imagery:

Drones and satellite imagery are increasingly being used in animal husbandry to provide detailed and accurate information about the environment and the animals themselves. Drones equipped with cameras can be used to monitor animal behaviour, movement, and grazing patterns, as well as to identify areas of the farm that require attention. They can also be used to map pastures and identify areas of low or high biomass, enabling producers to adjust their grazing management practices. Satellite imagery, on the other hand, can be used to monitor vegetation growth, soil moisture levels, and other environmental factors that can affect animal health and welfare.

Furthermore, drones and satellite imagery can help farmers and ranchers identify areas of environmental concern, such as water pollution or erosion, and take corrective action. For example, in Brazil, drones are being used to monitor the Amazon rainforest for illegal logging and deforestation, which can have a devastating impact on the habitats of many species of animals. Drones and satellite imagery can also be used to identify areas of the farm that are inaccessible or difficult to reach, such as steep slopes or areas with dense vegetation.

3. GPS and precision farming:

Global Positioning System (GPS) technology and precision farming techniques are also being used in animal husbandry. GPS allows producers to track the movement of their animals, enabling them to monitor grazing patterns, identify areas of high or low animal density, and optimize grazing management practices. Precision farming techniques, such as variable rate fertilization and irrigation, can also be used to optimize feed and nutrient management, improve soil health, and increase production efficiency. For example, GPS-enabled systems can be used to apply fertilizers and other inputs at precise locations, reducing waste and improving resource utilization.

Moreover, GPS and precision farming techniques can also help farmers and ranchers improve animal welfare. For instance, GPS-enabled collars can be used to monitor the movement of free-range pigs, enabling farmers to identify when they are close to farrowing and need to be moved to a farrowing pen. GPS can also be used to monitor the movement of animals in grazing systems, helping to prevent overgrazing and soil erosion.

4. Data management and analysis:

The use of data management and analysis tools is becoming increasingly important in animal husbandry. These tools allow producers to collect and analyse large amounts of data from sensors, drones, GPS, and other sources, enabling them to make informed decisions about animal management practices. Data analysis can be used to identify trends and patterns in animal behaviour, identify areas of inefficiency, and optimize production and management practices. For example, data analysis can be used to identify patterns in feed intake and behaviour, enabling producers to optimize feed management practices and reduce waste.

In addition, data management and analysis can also help farmers and ranchers comply with regulatory requirements and demonstrate transparency to consumers. For instance, data on animal health, welfare, and management practices can be used to demonstrate compliance with animal welfare regulations, and to provide consumers with information about the origin and quality of their food products. Data analysis can also be used to identify areas of the supply chain that are inefficient or environmentally unsustainable, enabling producers to take corrective action and improve their sustainability credentials.

Overall, the use of ICT in animal husbandry is transforming the way in which producers manage their operations. By providing real-time data on animal health and behaviour, enabling precision management techniques, and improving transparency and communication within the industry, these technologies have the potential to revolutionize animal husbandry and improve the welfare and productivity of the animals, while ensuring sustainability and profitability for producers.

Role of Social Media in Industry Evolution:

Social media's influence has pervaded all corners of society, including the realm of animal husbandry. It has become an important tool for communication, promotion, and advocacy in the livestock industry, impacting how producers connect with customers, share information, and promote best practices.

1. Facilitating Direct Connection with Customers:

Social media has revolutionized the way producers connect with customers. Platforms like Facebook, Instagram, and Twitter provide a virtual stage where farmers can showcase their products, farming practices, and even the animals themselves. By sharing updates and engaging

in online conversations, producers build a relationship with their customers, which is crucial for customer loyalty and trust.

Additionally, social media allows producers to address any concerns or questions customers may have about their products or farming practices. This interactive process helps to educate the public, dispelling myths and misconceptions about animal agriculture.

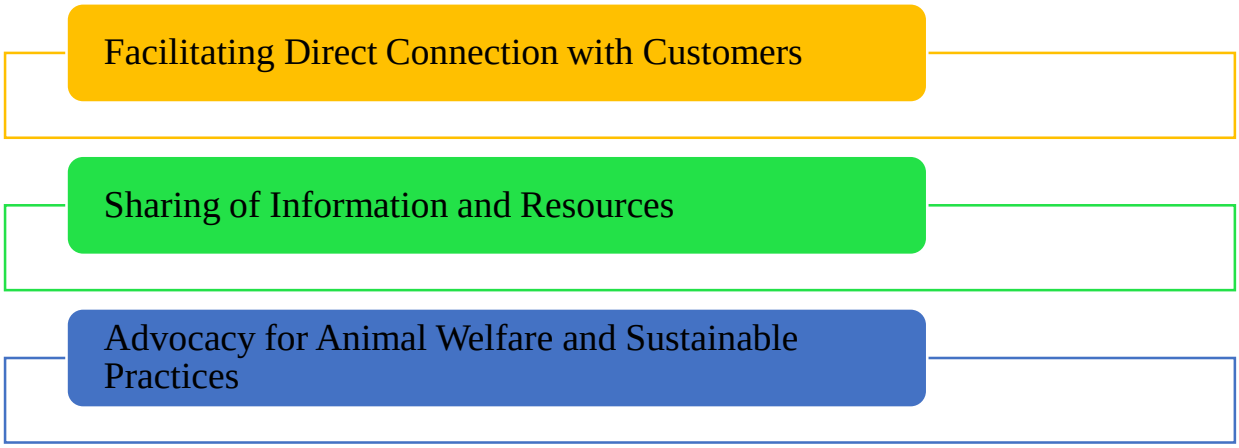

Fig 2. Role of Social Media in Industry Evolution

2. Sharing of Information and Resources

Beyond customer interaction, social media provides a valuable channel for sharing information and resources. Many farmers use these platforms to exchange best practices, discuss challenges, and explore new advancements in animal husbandry. These online communities provide support to farmers and act as a catalyst for innovation within the industry. Moreover, organizations and experts in the field often share research updates, industry trends, and advice through social media, providing farmers with easy access to vital resources that can aid in improving their farming practices.

3. Advocacy for Animal Welfare and Sustainable Practices

Social media serves as an effective tool for advocating for improved animal welfare and sustainable farming practices. Many producers use these platforms to shed light on their efforts to ensure animal welfare, such as humane handling, proper nutrition, and veterinary care. By promoting such practices and sharing the science behind them, farmers can raise awareness and foster appreciation for the labour and dedication that goes into raising animals. This can

help shift consumer behaviour towards supporting more sustainable and ethical farming practices, leading to long-term industry evolution.

In the subsequent section, we will delve into the significant impact of social media on communication and community building within the animal husbandry industry.

Social Media's Impact on Communication and Community Building

1. Digital Literacy and Communication Skills

One of the most profound impacts of social media on animal husbandry is the shift in how people in this industry communicate. As digital platforms become more prevalent, there's a growing need for digital literacy – the ability to use, understand, and communicate with digital technologies. Social media platforms necessitate a unique set of communication skills, such as crafting engaging posts, responding to comments, managing online communities, and handling online disputes or criticism.

Farmers and other industry stakeholders need to continually improve their digital literacy skills to effectively use social media. This may involve learning how to use new platforms, understanding the etiquette and norms of online communication, and staying updated with changes in digital technology. Industry organizations and educational institutions can play a vital role in promoting digital literacy, providing training programs, resources, and support for those in the industry.

2. Community Building and Social Support

Social media platforms serve as virtual meeting places where industry professionals can gather to share experiences, exchange ideas, and offer support. These online communities can be especially beneficial for those in remote areas or for small-scale farmers who may have limited access to traditional support networks. Through social media, individuals can connect with a diverse range of stakeholders – including other farmers, industry experts, support services, and consumers. This can lead to a greater exchange of ideas, a broader perspective on industry issues, and a stronger sense of community. For instance, a farmer facing a unique challenge may share their experience on a social media group, receiving advice from peers who've encountered similar situations or from experts who can provide professional insights.

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3. Promoting Animal Welfare and Sustainability

Social media also provides a platform to advocate for improved animal welfare and sustainable farming practices. By sharing behind-the-scenes glimpses of their operations, farmers can demonstrate their commitment to these principles, thereby influencing public perception and encouraging other farmers to adopt similar practices. This transparency helps bridge the gap between producers and consumers, fostering a deeper understanding and appreciation of sustainable farming and animal welfare.

For example, farmers can use social media to showcase how they ensure their animals' health and wellbeing – such as providing comfortable living conditions, a balanced diet, and regular veterinary care. They can also share their sustainability initiatives, such as efforts to reduce water usage, minimize waste, or enhance biodiversity on their farms. While social media offers immense potential for promoting animal welfare and sustainability, it's important to present an accurate and balanced view. Overly idealized or misleading representations can erode public trust and lead to skepticism. Transparency and honesty should be at the forefront of all communications.

The Potential of social media for Industry Evolution:

1. Influencing Consumer Behaviour

As consumers increasingly turn to social media for information about their food sources, farmers have a unique opportunity to influence consumer behaviour. By providing insights into farming practices, farmers can help consumers make informed decisions and foster a deeper connection with the food they consume. This could potentially influence consumer behaviour in favour of more sustainably produced and ethically raised animal products.

However, influencing consumer behaviour through social media requires a strategic and thoughtful approach. Consumers value authenticity and are likely to be put off by overt marketing tactics. Sharing real stories, engaging in genuine dialogue, and providing valuable information can go a long way in building trust and influencing consumer behavior.

2. Driving Innovation and Adaptation

Social media also holds significant potential for driving innovation and adaptation within the animal husbandry industry. By facilitating the sharing of ideas and experiences, social media can help farmers learn from each other, identify new opportunities, and adapt to changing circumstances.

For instance, a farmer using an innovative approach to animal health management could share their experiences and insights on social media, inspiring others to try out this approach. Similarly, farmers facing new challenges – such as climate change, market fluctuations, or new regulations – can share their coping strategies and adaptive practices, providing valuable insights for others in similar situations. This collective problem-solving can lead to innovative solutions and help the industry adapt more swiftly to emerging challenges.

3. Creating New Business Opportunities

Through social media, farmers can reach a wider audience and explore new business opportunities. For example, direct-to-consumer sales models have become increasingly popular, with many farmers selling their products directly to consumers through online platforms. This can offer farmers greater control over their prices, improved profit margins, and an opportunity to establish stronger relationships with their customers. Moreover, farmers can use social media to offer value-added services. For instance, they could host virtual farm tours, provide educational content, or offer online workshops on topics related to animal husbandry. These initiatives not only diversify their income streams but also help enhance public understanding of the industry.

However, leveraging social media for business growth requires a sound strategy. Farmers need to understand their target audience, craft compelling content, and engage actively with their online communities. They may also need to navigate logistical challenges associated with direct-to-consumer sales, such as setting up an online store, managing orders and inventory, and coordinating delivery or pick-up.

Challenges and the Way Forward

As transformative as the integration of ICT and social media in animal husbandry has been, it's not without its challenges. There are concerns about data privacy and security, especially as farming becomes increasingly data-driven. Farmers need to ensure they are implementing appropriate safeguards to protect their business information and any data they collect from consumers through online sales or social media interactions.

The cost of adopting new technologies can also be a significant barrier for many farmers, particularly those operating smaller or less profitable businesses. As such, the industry and policymakers need to work together to make sure the benefits of these technologies are accessible to all farmers, regardless of their size or profitability. Additionally, as farming becomes more visible through social media, farmers need to be prepared to handle increased

scrutiny and potential criticism from the public. They need to be proactive in addressing misconceptions and demonstrating the value and ethical standards of their work.

Looking ahead, continuous training and education will be crucial to help farmers keep up with the rapidly evolving technological landscape. As more research is conducted and more technologies become available, farmers will need to stay informed about the best ways to incorporate these tools into their operations to improve productivity, sustainability, and animal welfare. Overall, while the challenges are significant, the opportunities provided by ICT and social media for the animal husbandry industry are immense. Through ongoing innovation, collaboration, and adaptation, the industry can leverage these technologies to create a more efficient, transparent, and sustainable future.

Conclusion:

The integration of ICT and social media in animal husbandry has reshaped the industry, offering significant benefits in terms of operational efficiency, animal health monitoring, communication, and market reach. However, alongside these advantages come challenges that must be adequately addressed to fully realize the potential of these technologies. While adoption rates vary, the trend towards increasing use of ICT and social media in animal husbandry is clear. With ongoing advancements in technology, the capabilities of these tools are continually expanding, offering new possibilities for improving the way we raise and care for animals.

The continued exploration and adaptation of these technologies will be key to the future of the animal husbandry industry. As we move forward, fostering a spirit of innovation, embracing opportunities for collaboration, and maintaining a commitment to transparency and ethical practices will be critical. These efforts will enable us to harness the power of ICT and social media to create a more sustainable, productive, and resilient animal husbandry industry.

References:

Bahlo, C., Dahlhaus, P., Thompson, H., & Trotter, M. (2019). The role of interoperable data standards in precision livestock farming in extensive livestock systems: A review. Computers and electronics in agriculture, 156, 459-466.

Cabrera, V. E., & Fadul-Pacheco, L. (2021). Future of dairy farming from the Dairy Brain perspective: Data integration, analytics, and applications. International Dairy Journal, 121, 105069.

Deepa, N., & Deshmukh, S. (2013). Social media marketing: The next generation of business engagement. International Journal of Management Research and Reviews, 3(2), 2461.

Deshmukh, S., & Patil, S. (2021). Transformation of Indian Agriculture with Digital Marketing. International Journal of Agriculture Sciences, ISSN, 0975-3710.

Deshmukh, S., & Patil, S. (2022). Applications and Challenges of Blockchain Technology in Agriculture Sector: A Review.

Garcia, R., Aguilar, J., Toro, M., Pinto, A., & Rodriguez, P. (2020). A systematic literature review on the use of machine learning in precision livestock farming. Computers and Electronics in Agriculture, 179, 105826.

Gebbert, S., & Adamchuk, V. I. (2010). Precision agriculture and food security. Science, 327(5967), 828-831.

Luo, L., Bahr, C., Schulze Westerath, H., & Soosten, D. (2021). Precision farming in pig production: The role of Global Navigation Satellite Systems and precision livestock farming technologies. Computers and Electronics in Agriculture, 189, 106315.

Lynch, P., & Quealy, S. (2017). Finding the Value in an Animal Health Data Economy: A Participatory Market Model Approach. Frontiers in Veterinary Science, 4, 145.

Olejnik, K., Popiela, E., & Opaliński, S. (2022). Emerging Precision Management Methods in Poultry Sector. Agriculture, 12(5), 718.

Rodak, O. (2020). Hashtag hijacking and crowdsourcing transparency: social media affordances and the governance of farm animal protection. Agriculture and Human Values, 37(2), 281-294.

Schulz, L., Pongratz, J., Heidecke, D., Heuwieser, W., & Krieter, J. (2021). Towards a sensor-based monitoring of tail biting in piglets using accelerometers. Computers and Electronics in Agriculture, 182, 106005.

Wang, N., Zhang, N., & Wang, M. (2006). Wireless sensors in agriculture and food industry—Recent development and future perspective. Computers and electronics in agriculture, 50(1), 1-14.

Chapter-4

ENTREPRENEURSHIP DEVELOPMENT THROUGH AGRI-CLINICS & AGRI-BUSINESS SECTOR SCHEME (AC&ABC)

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Introduction:

The agricultural sector is the foundation of the rural Indian economy, around which social privileges and deprivations revolve, and any change in its agreement is likely to have an impact on the existing pattern of communal fairness. This sector is not only fulfilling the food needs of the country but also providing employment in larger proportions, supply of agricultural produce to the industry as input, earning foreign exchange by exporting the surplus produce and keeping the ecological balance. Agripreneurship is the finest way to tap into the entrepreneurial abilities of rural educated youths. Agripreneurship is the combining of agriculture and entrepreneurship, as the name suggests. Thus, when the entrepreneurial skills of untapped rural youths or Agricultural graduates are united in the Agriculture sector, the result is agripreneurship. The reason for rural youth migration to urban regions is a lack of opportunity in rural areas. Despite possessing qualifications, the ability to take risks, and a greater awareness of agriculture sector difficulties, these agricultural graduates are unable to contribute to the sector's improvement. As an opportunity, these agriculture graduates were missing something. As a result, in 2002, the Government of India, in partnership with the Ministry of Agriculture and Farmers Welfare, MANAGE, and NABARD, launched the Agriclinics and Agribusiness Centre initiative. The scheme's main goal was to tap into the untapped reservoir of expertise and skill of rural talent and transform them into Agripreneurs. Since the scheme's implementation, there have been changes in the status of farmers and agricultural graduates. Our rural kids were gradually moving towards Agripreneurship. Agripreneurship might be reached at 100% with certain changes to Agri-Clinics and Agribusiness Centre initiatives. Hidden entrepreneurial skills among rural youngsters have been obvious in reality after the implementation of this scheme.

In this research paper, we will delve into the topic of Entrepreneurship Development through the Agriclinics and Agribusiness Centre (AC&ABC) Scheme. The AC&ABC Scheme is a government initiative that aims to promote entrepreneurship in the agricultural sector by providing support and training to individuals interested in establishing agribusinesses. This scheme plays a crucial role in fostering rural development, improving agricultural productivity, and creating employment opportunities. Throughout this paper, we will explore the various aspects of the scheme, its benefits, challenges, and the potential for its success in driving entrepreneurship in the agricultural domain. AC&ABC scheme provides training, support, and finance and market linkages to promote entrepreneurship development in the agriculture sector. With agriculture being the primary source of livelihood for a large section of the population in developing countries, AC&ABC plays a vital role in promoting rural development, agricultural productivity, and food security. This paper explores the concept of Agri Clinics and Agri-business Centers and their role in entrepreneurship development in the agriculture sector.

Agri-Clinics:

Agri-Clinics are envisaged to provide expert advice and services to farmers on various agri-technologies including soil health, cropping practices, crop insurance and clinical services for animals, feed and fodder management, prices of various crops in the market etc. which would enhance the productivity of crops/animals and ensure increased income to farmers.

Agri-Business Centres:

Agri-Business Centres are commercial units of Agri-ventures established by trained agriculture professionals and are envisaged to provide services to farmers on maintenance, repair and custom hiring of farm equipment, sale of inputs and other services in agriculture and allied areas including post-harvest management and market linkages for income generation and entrepreneurship development.

Objectives of the AC&ABC training program:

• To supplement efforts of public extension by necessarily providing extension services to the farmers.

• To support agricultural development.

• To create gainful self-employment opportunities for unemployed agricultural Graduates & agricultural diploma holders.

The National Institute of Agricultural Extension Management (MANAGE), Hyderabad is the Implementing agency for the training component under the scheme through a network of identified Nodal Training Institutes (NTIs) in various states and NABARD is implementing the subsidy component on behalf of the Government of India and is monitoring credit support to agripreneurs through commercial banks. The scheme is operated by different entities that perform their individual task to operate the scheme successfully.

MoA & FW: The Ministry of Agriculture and farmers welfare, Government of India provides the fund for this scheme.

MANAGE: MANAGE is the monitoring and overall implementing agency of this scheme. It is responsible for reviewing the performance of the Nodal Training Institutes; decide upon the training content, methodology and duration. Be a part of the selection committee for choosing the eligible candidates and for the selection of Nodal Training Institutes.

Nodal Training Institutes: These are institutes selected by MANAGE for conducting training programmes for selected agriculture graduates and providing 45 days of free residential training and assisting them in preparing the bankable project (DPR). Once the training is over, NTI provides 1 year of Hand-holding support to trained candidates to assist them in sanctioning loans and successfully setting up their ventures.

Banks: Banks could be nationalized/ commercial/ cooperative and regional rural banks which would be the financing institution in the scheme. They are responsible for processing loan proposals and providing loans on approved proposals to the trained candidates under the scheme. In addition to providing loans to the agripreneur, they are responsible for implementing the announced policy on providing credit to such proposals.

NABARD: NABARD is implementing the subsidy component on behalf of the Government of India and also monitoring credit support to agripreneurs through commercial banks. The subsidy is 44 percent in respect of women, SC/ST and all categories of candidates from North Eastern and Hill States and 36 percent in respect of other categories.

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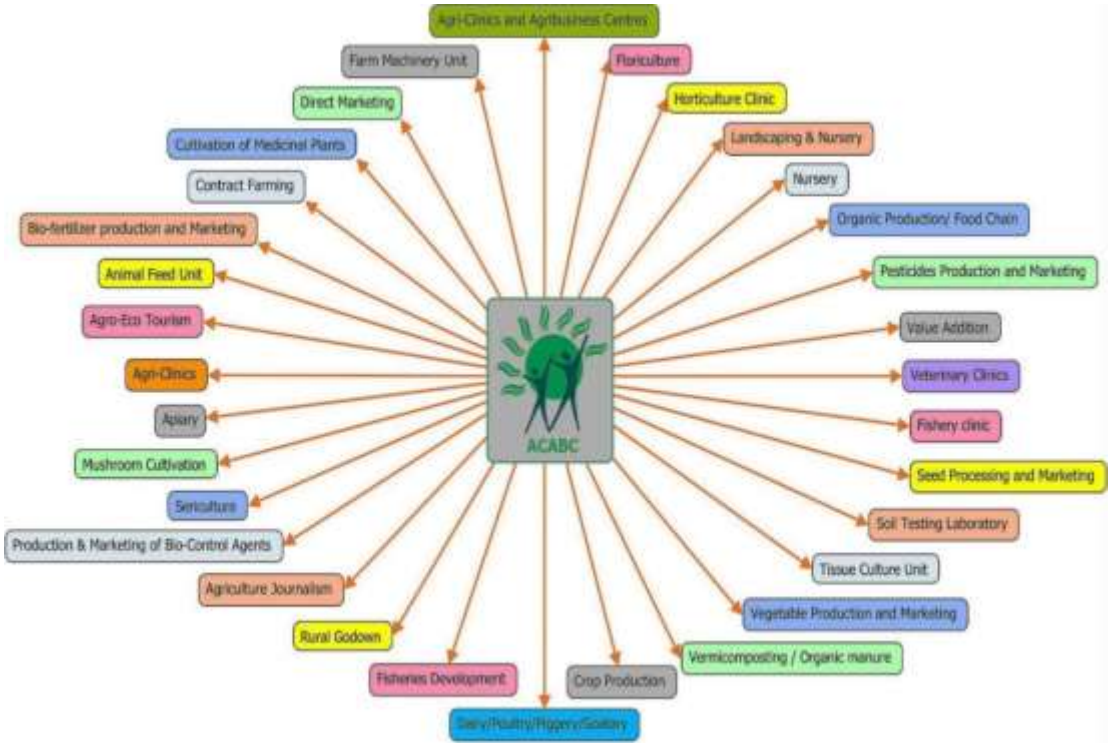

Fig.1. AC&ABC: Activity wise Agri-ventures

Benefits of the AC&ABC Scheme:

- **Promoting Rural Entrepreneurship:** The AC&ABC Scheme aims to promote entrepreneurship in rural areas. By providing training, financial assistance, and technical support, the scheme enables individuals to establish their agribusinesses. This creates employment opportunities and contributes to the overall socio-economic development of rural communities.
- **Enhancing Agricultural Productivity:** Through the establishment of Agribusiness Centres and Agri-Clinics, the scheme focuses on improving agricultural productivity. Agribusiness Centres offer services like soil testing, seed processing, and farm machinery rental. Agri-Clinics provide specialized training and consultancy in various areas of agriculture. These services help farmers optimize their resources, adopt modern farming techniques, and improve their overall yield.
- **Encouraging Technology Adoption:** The AC&ABC Scheme plays a crucial role in encouraging the adoption of modern technologies in agriculture. It provides access to advanced machinery, high-quality seeds, and technical expertise to farmers. By embracing innovation, farmers can improve the efficiency of their operations, reduce wastage, and stay updated with the latest trends in the industry.

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- **Empowering Women Entrepreneurs:** The scheme places significant emphasis on empowering women in the agricultural sector. It provides training and financial support specifically targeted toward women who wish to start their own agribusinesses. By empowering women, the scheme not only promotes gender equality but also harnesses the untapped potential of women in driving agricultural development.
- **Improved Market Linkages:** The AC&ABC Scheme facilitates better market linkages for farmers. Agribusiness Centres act as a platform for farmers to access markets, connect with buyers, and sell their produce at fair prices. This eliminates the dependency on intermediaries and ensures that farmers receive a higher share of the profits.
- **Knowledge Dissemination:** The scheme focuses on knowledge dissemination and skill development among farmers. Agri-Clinics provide training and technical support to farmers, enabling them to adopt best practices, address challenges, and make informed decisions. This knowledge-sharing enhances farmers' capabilities and equips them to tackle issues related to crop management, pest control, and resource optimization.
- **Diversification of Income:** The AC&ABC Scheme encourages farmers to diversify their income sources through value addition and agribusiness ventures. By promoting activities like dairy farming, poultry management, beekeeping, and mushroom cultivation, the scheme enables farmers to generate additional income streams. This reduces their dependency on traditional farming practices and increases their resilience to market fluctuations.
- **Environmental Sustainability:** The scheme promotes environmentally sustainable agricultural practices. Through training and advisory services, farmers are educated about the importance of soil conservation, water management, and the use of organic fertilizers. This helps in preserving natural resources, reducing environmental degradation, and ensuring the long-term sustainability of agriculture.
- **Capacity Building:** The AC&ABC Scheme focuses on building the capacity of farmers and agribusiness entrepreneurs. It provides them with access to training programs, workshops, and networking opportunities. By improving their skills, knowledge, and entrepreneurial abilities, the scheme equips individuals to overcome challenges, adapt to changing market dynamics, and succeed in their agribusiness ventures.
- **Policy Support and Collaboration:** The scheme operates in collaboration with various government agencies, financial institutions, and private stakeholders. This collaboration ensures policy support, streamlined access to credit facilities, and coordination among

different entities involved in the agricultural value chain. It creates a conducive ecosystem for entrepreneurship development in agriculture.

ACABC: Provisions

- 45 Days of free residential training on Agri-Entrepreneurship
- One-year post-training handholding support
- Start-up loan up to Rs.20 lakhs for individuals and a group of 5 up to 1 Cr
- 36 - 44% credit linked back-ended composite subsidy from NABARD
- Training and handholding through 134 Nodal Training Institutions
- Every year MANAGE organizes 20 Refresher Training Programs for established Agripreneurs
- The vision of AC&ABC is One Branch – One Agri-Clinic approach
- The Scheme provides awards to best agri-preneurs and best nodal training institutes with an objective to create an environment of competitiveness and motivate those excelling in their work. State Level Awards for agri-preneurs and national level awards for best nodal training institutes will be instituted for this purpose.

AC&ABC: Progress/Achievements:

As of now, through AC&ABC schemes

- Since inception 84,783 candidates are trained, out of which 37,375 Established Agri-ventures in 32 different agri and allied categories
- Total Women Agripreneurs trained are 7,401 out of which 2,540 Women Agripreneurs Established their Agri-ventures.
- Total Candidates trained in North Eastern States are 1,705 out of which 4,48 Established Agri-ventures
- Total Candidates trained in Jammu & Kashmir are 1,523 out of which 191 Established Agri-ventures.
- As of today, the total number of Nodal Training Institutions is 134.

Leveraged technology for making the public delivery system responsive, transparent, and efficient

- The AC&ABC MIS-Portal was introduced in 2018 and shows a live database of the status and progress of the scheme. Any stakeholder with access to personal credentials can look through the database.

- JanSamarth Portal, an initiative by Government of India, Launched on the 1st of April 2022 is a unique digital portal linking thirteen Credit Linked Government schemes including AC&ABC on a single platform, for ease of access to all the beneficiaries and related stakeholders.
- The core objective of JanSamarth Portal is to promote inclusive growth and development of various sectors by guiding and providing them to the right type of Government benefits through simple and easy digital processes.
- The portal ensures end-to-end coverage of all the processes and activities of all the linked schemes.
- Online monitoring tools, such as bio-matric attendance tracking, video conferencing, and toll-free helplines, offer informative assistance for reviewing daily tasks and enhancing the effectiveness and productivity of remote stakeholders.

AC&ABC Training: Impact

- The MANAGE has done Mid Term Evaluation of the AC&ABC scheme in 2007-08 and Third-party Evaluation in 2019-20 - On an average one Agripreneur is giving extension services to 30 villages near by his agri-venture and covering 570 farmers. Likewise, 2.13 Crores of farmers are served by agripreneurs.
- Further, mentioned that, as a result of timely input and advisory services, 72% of the farmers indicated that, there is an increase in productivity - 17.4% increase in yield and 28.8% increase in income.
- On an average one Agripreneur has created employment for 6 persons, likewise, 2.24 Lakh employment has been created by the Agripreneurs. Further, on an average one Agripreneur has invested Rs.4 lakhs to establish his agriventure and thereby Rs.1.49 lakh Crores has been invested by Agripreneurs.

Contribution of Agri-Clinics and Agri-Business Centre Scheme towards Agripreneurship

The role of the government-sponsored scheme agriclinics and agribusiness centre in converting agricultural graduates or educated rural youth into agripreneurs cannot be overstated.

Table.1 Let's break this down using the table below

Financial Year	No of Candidates Trained	No of Agri Venture Established	Success Rate %
2002 - 2003	2400	416	17.33
2003 - 2004	1828	457	25.00
2004 - 2005	2925	784	26.80
2005 - 2006	2894	1416	48.92
2006 - 2007	3149	1081	34.33
2007 - 2008	2742	1040	37.93
2008 - 2009	2504	1011	40.38
2009 - 2010	2564	1111	43.33
2010 - 2011	3224	1292	40.07
2011 - 2012	4015	2136	53.20
2012 - 2013	4424	2250	50.86
2013 - 2014	4451	2321	52.15
2014 - 2015	5437	2545	46.81
2015 - 2016	5259	2582	49.10
2016 - 2017	5728	2807	49.00
2017 - 2018	5646	2491	44.12
2018 - 2019	6600	2392	36.24
2019 - 2020	7340	625	08.51
2020 - 2021	1190	2475	207.98
2021 - 2022	5669	3410	60.15
2022 - 2023	4794	2733	57.01
Total	**84783**	**37375**	**44.08**

Source: https://www.agriclinics.net/querysheet.asp

Opportunities:

- Despite the challenges, there are many opportunities for agriculture entrepreneurship in India. The growing demand for organic and locally sourced food provides a niche market for entrepreneurs to tap into. Additionally, the government's focus on increasing agricultural productivity and exports presents opportunities for entrepreneurs to enter the export market.
- The government is also implementing various schemes and initiatives to support entrepreneurship in the agriculture sector. For example, the National Bank for Agriculture and Rural Development (NABARD) provides credit and other financial assistance to entrepreneurs in the agriculture sector. The government's Start-up India initiative also provides support and incentives for entrepreneurs in various sectors, including agriculture.
- **Sustainable Agriculture Practices:** The AC&ABC scheme can promote the adoption of sustainable agriculture practices. By integrating sustainable approaches into entrepreneurship development, entrepreneurs can contribute to environmental

conservation, resource efficiency, and climate resilience. This can lead to long-term benefits for both entrepreneurs and the agricultural ecosystem.

Challenges:

- One of the biggest challenges for agriculture entrepreneurship in India is the lack of access to financing. The agriculture sector requires significant investment in land, equipment, and other resources, and many entrepreneurs struggle to secure the necessary capital to get started. The government and financial institutions are working to address this issue by providing loans and other forms of financial assistance to aspiring entrepreneurs.
- Another challenge is the lack of infrastructure in many rural areas. Many rural areas lack basic amenities such as roads, electricity, and water supply, which makes it difficult to transport goods and conduct business. This issue can be addressed by the government investing in infrastructure development in rural areas.
- The agriculture sector is also heavily regulated, which can make it difficult for entrepreneurs to navigate. Regulations related to land use, water rights, and environmental protection can be complex, and entrepreneurs may need to seek legal advice to ensure compliance.
- Limited Awareness: One of the challenges of the AC&ABC scheme is the limited awareness among the target population about the scheme's existence and its benefits. Many potential entrepreneurs from agricultural and rural communities may not be aware of the resources, support, and opportunities provided by the scheme, which hinders their participation and utilization of its benefits.
- Implementation Gap: Effective implementation of the AC&ABC scheme across different regions and communities can be challenging. There may be variations in the availability of resources, infrastructure, and expertise, leading to disparities in the implementation process. Ensuring consistent and equitable implementation throughout the country is crucial for maximizing the scheme's impact.

Success Story of AC&ABC Agripreneurs:

Shri. Samir Ranjan Bordolai,
Jorhat, Assam
Venture: SPREAD NE

- Promoting Organic Agriculture and Natural farming among North Eastern Farmers
- Serving 25,000 farmers in 7 states
- Jobs for 18 persons, Created 1,565 Green Commandos.
- Rs.5 Crores Annual Turnover

Shri. Samir Ranjan Bordolai, Jorhat, Assam
Venture: SPREAD NE

- Farm Mechanization
- Serving 30000 farmers
- Jobs for 40 persons
- Rs.80 Crores Annual Turnover

Shri. S.V. Raju, Chitradurga, Karnataka
Venture: Varsha Associates

- Agricultural School & Services for Farmers
- Serving 2.75 lakhs farmers
- Jobs for 22 persons
- Rs.1.5 Crores Annual Turnover

Shri. Vijay Bharat, Ranchi, Jharkhand
Venture: Mobile Agricultural School & Services

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Reference:

Ministry of Agriculture and Farmers Welfare. (n.d.). agriclinics and agribusiness centre (AC&ABC) Scheme. Retrieved from.

https://www.agricoop.gov.in/divisiontype/extension-division/agriclinics-and-agribusiness-centre-acabc-scheme.

ACABC Database. (2021). Agriclinic and agribusiness centres. Retrieved from MANAGE, Hyderabad: http://www.agriclinics.net/.

https://www.agriclinics.net/querysheet.asp.

https://www.nabard.org/content1.aspx?id=595&catid=23&mid=530.

Global Agrisystem (2010). "Evaluation Study of Agriclinics and agribusiness centre scheme.

George, A., and Bhaskaran, S. (2004). Agriclinics: An Innovative Extension Approach.

Shekara, P.C., Malik, H. A., and Jan, N. (2011). "Gender Empowerment through Agri-clinics and Agri-business Centers.

Chapter-5

PROMOTION OF FPOs IN LIVESTOCK SECTOR: OPPORTUNITIES AND CHALLENGES

Amitkumar Naphade and Sintu Chakma

Krushi Vikas, Pune

Introduction:

Agriculture is a vital sector of the Indian economy, accounting for approximately 18% of India's gross domestic product (GDP) and employing around 50% of the workforce. 70 percent of its rural households still depends on it for their livelihoods [FAO]. 86.2% are marginal and small farmers operating on just 47.3% of crop area. In 2017-18, total food grain production was estimated at 275 million tonnes (MT). India is the largest producer (25% of global production), consumer (27% of world consumption) and importer (14%) of pulses in the world.

Agri export constitute 12.9% of the total exports with a value of Rs. 251564 Cr during the year 2017-18. Major agri commodities exported are spices, meat & meat products, fish & fish products and rice, fruits and vegetables. India's annual milk production was 165 MT (2017-18), making India the largest producer of milk with world's largest cattle population of 192.49 million (20th Livestock Census). It is the second-largest producer of rice, wheat, sugarcane, cotton and groundnuts, as well as the second-largest fruit and vegetable producer, accounting for 10.9% and 8.6% of the world fruit and vegetable production, respectively. [World Bank]

The agricultural scenario in India is characterized by several challenges which are outlined below:

Small and Fragmented Landholdings: The average size of landholding in India is small and fragmented, which limits economies of scale and affects the productivity of the sector.

Water Management: Agriculture in India is highly dependent on monsoon rains, which are often erratic and unpredictable. Water scarcity and poor irrigation infrastructure further aggravate the problem.

Low Productivity: Despite being one of the largest producers of food in the world, agricultural productivity in India remains low due to factors such as poor soil quality, inadequate technology, and limited access to credit and other inputs.

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Climate Change: Climate change is a growing concern for the Indian agricultural sector, with rising temperatures and changing precipitation patterns affecting crop yields and productivity.

Marketing and Pricing: Farmers in India often face challenges in accessing markets and obtaining fair prices for their produce, due to limited market infrastructure and poor market linkages.

Farming Risks: Indian farmers are exposed to various risks, such as pests and diseases, price fluctuations, and natural disasters such as floods and droughts.

- To ameliorate the agonies of farmers, Govt. of India has been implementing several schemes and missions for ensuring sustainability and prosperity of farmers. The Green Revolution that took place in the 1960s and 1970s was a major agricultural initiative. Aimed at increasing agricultural productivity and improving food security in India, it was a combination of agricultural research, modern technology, and government policies that helped increase the production of food grains, mainly wheat and rice.
- It was spearheaded by a number of individuals, including the Indian geneticist M.S. Swaminathan, who is widely regarded as the father of the Indian Green Revolution. The initiative involved the introduction of high-yielding varieties of crops, the use of chemical fertilizers and pesticides, and the expansion of irrigation facilities.
- One of the key outcomes of the Green Revolution in India was a significant increase in agricultural productivity. This helped India become self-sufficient in food grains and reduce its dependence on food imports. The initiative also helped alleviate poverty and improve the living standards of farmers in the country.

Livestock Sector in India:

Livestock plays a significant role in India's agricultural economy and is an important source of livelihood for millions of people especially the landless and marginal farmers. It contributes to about 6.17% to India’s GVA and 30.87% of Agriculture & Allied Sector GVA.

According to the latest available data from 2019, India is the world's largest producer of milk and the second-largest producer of eggs. Additionally, India is also the world's fifth-largest producer of meat.

The livestock sector in India includes various types of animals, including cattle, buffalo, goats, sheep, pigs, and poultry. Cattle and buffalo are the most important livestock species, and their

milk is a significant source of nutrition for the population, particularly in rural areas. India also has a large population of goats and sheep, which are mainly used for meat and wool production.

Livestock rearing has significant positive impact on the income, employment and poverty reduction in rural areas. Over 70% of the rural households in India own livestock and a majority of livestock owning households are small, marginal and landless households. Small animals like sheep, goats, pigs and poultry are largely kept by the landless farmers for commercial purposes because of their low initial investment and operational cost.

Challenges of Livestock Sector:

Cooperatives Movement:

The launch and promotion of 'Cooperatives' is another important step towards empowering marginalized communities through improving their socio-economic conditions. The cooperative movement in India began in the early 1900s, with the formation of the first cooperative society in 1904 in the town of Kanpur. The movement gained momentum in the 1950s and 1960s, with the government of India promoting the formation of cooperatives as a means of improving the economic and social conditions of farmers and other marginalized groups. Here are some of the key milestones in the history of the cooperative movement in India:

- Formation of the Indian Cooperative Union (ICU) in 1915, which played a key role in promoting the cooperative movement across the country.
- Establishment of the National Cooperative Development Corporation (NCDC) in 1963, which provided financial and technical assistance to cooperatives.
- Introduction of the Cooperative Societies Act in 1912, which provided a legal framework for the registration and functioning of cooperatives.
- Formation of the National Agricultural Cooperative Marketing Federation (NAFED) in 1958, which played a key role in improving market access for farmers.
- Formation of dairy cooperatives such as Amul and Mother Dairy in the 1960s and 1970s, which revolutionized the dairy industry in India.

While the cooperative movement in India has been successful in many ways, there are several issues and challenges that cooperatives face in the country. Some of the key issues facing cooperatives in India.

Lack of Management Skills: Many cooperatives in India suffer from poor management and governance, with members often lacking the necessary skills and knowledge to run the cooperative effectively.

Financial Constraints: Many cooperatives face financial constraints, with limited access to capital and credit. This often results in inadequate infrastructure, equipment, and technology, which hinders their ability to compete in the market.

Political Interference: Many cooperatives in India face political interference, with politicians and bureaucrats often influencing the functioning of cooperatives for their own benefit.

Lack of Autonomy: Many cooperatives in India lack autonomy and are controlled by outside agencies, such as government departments or non-governmental organizations (NGOs)

Internal Conflicts: Many cooperatives suffer from internal conflicts and disputes among members, which can lead to a breakdown in the functioning of the cooperative.

Limited Market Access: Many cooperatives in India face limited market access and struggle to find buyers for their products, particularly in remote or rural areas.

Lack of Awareness and Participation: Many potential members and beneficiaries of cooperatives lack awareness and knowledge of the benefits of cooperative ownership, which hinders the growth and expansion of cooperatives.

What is needed to deal with Challenges?

- Dealing with agriculture and livestock rearing challenges requires a multi-faceted approach, involving various stakeholders, policies, and technologies. Some key factors that can address these challenges are adoption of sustainable agricultural practices, improved animal management, value addition and processing, better access to markets, improved infrastructure, technology and innovation and policy support.
- Various studies have recommended for collectivisation into groups/ cooperative/FPOs of small and marginal farmers including livestock farmers to address various challenges faced by them. Collectivisation into groups enable them to reduce costs of production, improve productivity, achieve economies of scale and enhanced bargaining power resulting in increased revenue/profit.

- Collectivisation into groups/ cooperative/FPOs shall strengthen the backward linkages through collective inputs purchase, credit linkages, dissemination and adoption of best practices and affordable technologies enabling cutting down on costs of production and increasing yields.
- For the forward linkages, the FPOs can help farmers in quality assessment, sorting, grading and storing thus preventing farmers from distress sales. It can also venture into processing and value addition for maximisation of returns. Standard products can be developed by the FPOs and can be marketed across the nation.

Concept and Importance of Farmers Producers Organisations (FPOs):

Farmer Producer Organizations (FPOs) is a group of farmers who come together to form a business entity with the aim of improving their income and livelihoods through collective marketing of their produce, procurement of inputs, and value addition. FPOs can be formed by farmers from different regions, crops, or livestock to collectively leverage economies of scale in production, processing, and marketing. The main objective of FPOs is to empower farmers to become agri-entrepreneurs by providing them with technical, financial, and marketing support. FPOs can also help small and marginal farmers overcome the challenges of accessing credit, technology, and markets. By collectively bargaining with buyers, FPOs can negotiate better prices for their produce and ensure fairer and more transparent market transactions.

The government of India has launched various schemes and initiatives to support the formation and strengthening of FPOs, such as the Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs). The government has also set up a dedicated FPO portal to provide farmers with information, resources, and access to markets.

WHY FPOs

- To overcome the constraints faced by the small size landholdings,
- Leverage collective strength and bargaining power to access financial and non-financial input, services and appropriate technologies,
- Reduce transaction costs,
- Tap high value markets and enter into partnerships with private entities on more equitable terms
- The efficiency is achieved with professional management, aggregation and economy of scale

- These entities, improve return by produce modification, quality control and capability of price negotiation

GUIDING PRINCIPLES OF FPOs

The FPOs are guided by the following principles:

Farmer Ownership: FPOs are owned and managed by farmers, who are the primary stakeholders in the organization

Voluntary Membership: Membership of FPOs is voluntary, and farmers can join or leave the organization as per their choice

Collective Action: FPOs encourage farmers to come together and pool their resources, knowledge, and skills to achieve common goals

Equity and Inclusion: FPOs aim to ensure equity and inclusion in their operations, ensuring that all members have equal rights and opportunities

Democratic Decision-making: FPOs operate on democratic principles, with decisions taken through a participatory and transparent process

Sustainable Development: FPOs promote sustainable agricultural practices and strive for environmentally sustainable and socially responsible development

Market Orientation: FPOs aim to increase the market orientation of their members, enabling them to access better markets and negotiate better prices

Financial Sustainability: FPOs aim to become financially sustainable by generating income through their operations and managing their resources effectively

Operational Guidelines of FPOs:

The operational guidelines for FPOs in India are provided by the Ministry of Agriculture and Farmers Welfare, Government of India. These guidelines are intended to provide a framework for the registration, functioning, and management of FPOs. Here are some of the key operational guidelines for FPOs in India.

Registration: FPOs can be registered under either the Companies Act or the Cooperative Societies Act. The registration process is simple and can be completed online through the e-NAM portal.

Membership: The FPO must have a minimum of 10 members, who are all farmers engaged in agricultural activities.

Governance: The FPO should be governed by a board of directors, which should include at least two-thirds of farmers. The board of directors should be elected by the general body of members and should have a maximum of 15 members.

Management: The FPO should have a CEO or manager who is responsible for the day-to-day management of the organization.

Funding: FPOs can access various government schemes and programs for funding, such as the Agriculture Infrastructure Fund, Equity Grant, Credit Guarantee Fund, PMFME etc.

Operations: FPOs can undertake various agricultural activities, such as production, processing, marketing, and value addition. They can also provide services such as soil testing, crop advisory, and extension services.

Market Linkages: FPOs should focus on building market linkages and should have tie-ups with buyers and retailers to ensure the sale of their produce at a fair price.

Registration Process of FPOs

- Area/cluster selection
- Village meetings and farmers' mobilization
- FPO concept seeding and FIGs formation
- Promoters/Directors finalization
- Preparation of byelaws (MoA & AoA)
- Name Approval of FPO by RoC
- Completion of Directors DIN process
- Directors Digital Signature
- Directors KYC completions- The MCA has notified the format of E-form DIR-3 KYC under new Rule 12A
- Updated Bank Statements
- Final Incorporation Certificate to FPC
- Bank account and PAN of FPC
- Scope for Livestock FPOs

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Dairy Processing: FPOs can set up milk processing plants to produce milk, butter, cheese, and other dairy products. With increasing demand for high-quality dairy products in India, FPOs can tap into this market by producing and selling these products locally or to larger companies.

Meat Processing: FPOs can set up meat processing plants to process poultry, goat, sheep, and other livestock. Meat products are in high demand in India, and FPOs can explore this market by producing and selling these products locally or to larger companies.

Organic Farming: FPOs can focus on organic farming practices, which are becoming increasingly popular in India. They can produce and sell organic milk, meat, and vegetables to meet the growing demand for organic products.

Value-added Products: FPOs can also explore the production of value-added products such as leather products, wool, and other by-products of livestock. These products can be sold locally or exported to other countries.

Animal Feed Production: FPOs can produce and sell animal feed to other farmers or large companies. This can be a lucrative business opportunity as the demand for animal feed is high in India.

Livestock Trading: FPOs can also engage in livestock trading by buying and selling livestock to other farmers or traders. This can be a profitable business as livestock prices fluctuate based on demand and supply.

Tourism: FPOs can promote agri-tourism by showcasing their livestock farming practices and offering tourists a chance to experience rural life in India. This can be a unique business opportunity that can generate income from both tourism and livestock farming.

Convergence for Livestock FPOs:

There are several govt. schemes available in the livestock sector that livestock FPOs can leverage. Some of the schemes are:

Current Challenges of FPOs:

Approximately, 17000+ FPOs have been formed across India however majority of them are in its nascent stage or are struggling to sustain. FPOs face several challenges in their functioning and operations in India. Some of the key challenges FPOs facing are:

Access to finance: Many FPOs face challenges in accessing affordable finance, which is essential for their operations and growth. Financial institutions may view FPOs as high-risk borrowers due to their small scale and lack of collateral

Limited market access: Many FPOs face challenges in accessing markets due to a lack of infrastructure and support services. They often lack the necessary linkages to buyers and may struggle to negotiate fair prices for their produce.

Lack of technical expertise: Many FPOs may lack the necessary technical expertise to optimize their farming practices and increase yields. This can limit their ability to compete in the market.

Weak governance: FPOs may suffer from weak governance structures, with limited transparency and accountability in their operations. This can lead to internal conflicts and hinder their ability to function effectively.

Limited bargaining power: Many FPOs suffer from a lack of bargaining power when dealing with buyers, traders, or intermediaries. This can limit their ability to negotiate fair prices and access better markets.

Inadequate infrastructure: FPOs may lack access to adequate infrastructure, such as storage facilities, transportation, and cold chains. This can limit their ability to store and transport their produce, leading to losses and reduced profits.

Limited outreach: Many FPOs suffer from a lack of outreach and awareness among farmers, which can limit their ability to attract new members and grow their operations.

Krushi Vikas and all about FPO Initiative

Krushi Vikas Gramin va Prashikshan Sanstha (Krushi Vikas) is a nonprofit organization endeavouring for agricultural advancement and integrated rural development since 1991. In its 30 years' operations it has successfully implemented projects on sustainable agriculture, soil and water conservation, FPOs, animal husbandry, climate change & renewable energy, skill development & digital literacy, WASH, women empowerment and tribal development etc. Krushi Vikas has been working on collectivization and formation of groups (farmers' groups, SHGs etc.) since 1991. It was empanelled as a Resource Institution with SFAC for Pilot promotion of FPOs in 2011. It also contributed towards Policy and Procedure guidelines on FPO promotion. Now it is empanelled as a CBBO with SFAC, NABARD, NAFED and NCDC

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in 5 states for 10k FPO scheme promoting 100+ FPOs across Maharashtra, Madhya Pradesh and Gujarat including women led FPOs. In addition to working with Govt. Agencies it is also promoting FPOs with Corporates as well- HDFC Bank, John Deere- United Way Mumbai, Eaton India Foundation etc. Based on its decade of practical experience in FPOs formation and promotion, Krushi Vikas initiated '**All About FPO**' to effectively address issues faced by the FPOs and enable them to become economically viable and attain sustainability. Through the initiative, Krushi Vikas aims to provide 360-degree support to all the stakeholders on all aspects of effective formation, nurturing, and management of FPOs.

Chapter-6

LEGAL PROVISIONS AND BUSINESS PLANNING FOR FPOs

Amitkumar Naphade and Sintu Chakma

Krushi Vikas, Pune

Legal Provisions

FPOs (Farmers Producer Organizations) in India are registered under the Companies Act, 2013 or State Co-operative Societies Act, 2002. The legal provisions for FPOs in India are as follows:

Registration: FPOs are required to register under either the Companies Act, 2013 or the State Co-operative Societies Act, 2002.

Constitution: FPOs must have at least 10 members, who are all farmers or producers of agricultural products. The members must hold a majority of the shares and participate in the decision-making process.

Objectives: FPOs must have a clear set of objectives, which should include activities related to production, marketing, and distribution of agricultural products.

Governance: FPOs must have a governing body consisting of elected representatives from among the members. The governing body is responsible for the management and administration of the FPO.

Funding: FPOs can receive funding from various sources, including the government, financial institutions, and private investors.

Taxation: FPOs are exempted from income tax under certain conditions specified by the Income Tax Act, 1961.

Auditing: FPOs are required to maintain proper books of accounts and get them audited by a chartered accountant.

Compliance: FPOs must comply with all the legal provisions applicable to them, including the Companies Act, 2013 or the State Co-operative Societies Act, 2002, as well as other laws and regulations related to agriculture and farmers

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Pre-Incorporation Legalities for Incorporation

1. Any one of the following combinations can form a Producer Company:
    - Any ten or more individuals each of them being a producer
    - Or any two or more Producer Institutions or
    - Combination of 10 or more individuals and Producer Institutions.
2. There should be a minimum of 5 and maximum of 15 directors in a producer Company.
3. No minimum share capital required for incorporate FPC, and Share Capital consist equity shares only.
4. All the Subscribers should have Digital Signature in spite of the no of the Directors.
5. Following Documents Required to Incorporate FPC:
    - PAN & Photographs of the active directors & shareholders
    - Aadhar card, Driving License, passport, & voter ID of the Directors, members, and shareholders.
    - Bank Statement, utility bills such as landline bill, mobile bill, and electricity bill
    - Producer Proof 7/12 and 8A (Land Records)
    - Farmer Certificate issued by Tehsildar/Talathi of Revenue Department.
    - Sarpanch letter/ /Khasra – Khatuni/ Income Tax Return (ITR) with Agriculture Income/ Any other proof a person as a serving member.
    - No objection certificate from the owner, Utility bill and Rent agreement for Registered Office of the Company.

Procedure of Farmer Producer Company Registration in India

Draft the necessary documents like Memorandum of Association (MoA) to incorporate the company's objects and the amount of share capital to be registered and Articles of Association (AoA) contain the company's by-laws. Spice+ e-form acts as online application for company registration, which is divided into two important parts- Part A and Part B. Part-A enables the applicant to legalize the proposed name meanwhile, Part-B renders the below-mentioned services:

- DIN (Director Identification Number) allotment
- PAN (Permanent Account Number) Allotment
- TAN (Tax Account Number) allotment
- EPFO registration

- ESIC registration
- GSTIN allotment
- Profession Tax registration
- Opening of Bank Account

Post Incorporation Compliance

- As per Section 173(1), of The Companies Act 2013, the company shall hold a meeting of the Board of Directors in less than 30 days from the date of its incorporation. Directors are permitted to attend the meeting either in person or through video conferencing.
- Since the company is an artificial entity, the transactions cannot be done in the name of any natural person. Hence a bank account in the name of the FPO is required.
- Finalization of official address. This address shall be used to receive all official communication from the various authorities.
- Every company shall be required to affix its name at all places from where it carries on its business operations. It shall be displayed in the language which is generally used in the locality. Additionally, the company has to get a seal with its name engraved on it, letterheads with appropriate information and printed negotiable instruments.
- According to Section 139(1), the first auditor shall be appointed by the Board of Directors (BOD), except for a government company, within 30 days from the time the company is registered. Failing which, the members shall appoint the auditor within 90 days at an extraordinary general meeting. The term of the first auditor shall be until the conclusion of the first annual general meeting.
- The company shall be required to maintain statutory registers at the registered office of the company. The same shall be maintained in the prescribed form failing, which the company will be subject to penalties.
- The share certificate shall be issued to a shareholder within 60 days from the date of incorporation. In case of additional shares being allotted, the time period is taken as 60 days from the date of allotment.
- As per section 128, every company shall maintain proper books of accounts which shall represent an accurate and fair view of the state of affairs of the company. The double entry system shall be followed, and the accounting is done on an accrual basis.

- Within 180 days, the company shall obtain a certificate of commencement of business. There is a requirement to file a disclosure made by the directors of the company stating that every subscriber has paid the amount due on the shares. E- FORM INC-20A. Photograph of Registered Office showing external building and inside office also showing therein at least one Director/ KMP.

Annual Compliance or Roc Compliance

Form DIR-3 KYC:

- Individuals who have been allotted DIN as on March 31 of a financial year should file this form within 30th September of the immediately next financial year.
- Proof of permanent address of the director i.e. passport, election card, and ration card, driving license, electricity bill, telephone bill or Aadhaar.

Form MBP1- notice of interest:

- Directors must disclose details of their interest/shareholding in any other company, if any.
- First Board meeting that the director participates after appointment or in case of any subsequent changes.

Annual General Meeting (AGM):

- On or before September 30 for the financial year ending on March 31
- Notice of the annual general meeting along with explanatory statements
- Financial Statements
- Auditors Report.
- Directors Report
- Extract of the Annual Return

E-FORM AOC-4:

Reporting the company's annual financial statements within 30 days from the date of the company's annual general meeting held in the relevant year.

- Balance sheet
- Profit and loss account
- Directors' report

- Auditor's report
- Notice of AGM

Within 30 days of the annual general meeting. 29th October if AGM is held on 30th September

E-FORM MGT-7:

Filing the company's Annual Returns within 60 days from the date of the Annual General Meeting held in the relevant year.

- List of shareholders and/or debenture holders
- Approval letter if any for extension of the AGM
- Any other optional attachments
- If AGM is held on 30th September, then due date to file MGT-7 is 29th November

E-FORM ADT-1:

- Reporting the appointment or re-appointment of company's auditor within 15 days from the date of appointment
- An auditor has a maximum tenure of five years
- Written consent given by the auditor.
- Details of the auditor like PAN, email ID, address, Chartered Accountancy membership number.
- Board resolution
- Certificate from the auditor confirming qualification to be appointed as the auditor of the company.

Livestock Scenario in India:

Livestock plays a crucial role in the economy and society of India. According to the latest available data from 2019, India is the world's largest producer of milk and the second-largest producer of eggs. Additionally, India is also the world's fifth-largest producer of meat. The livestock sector in India includes various types of animals, including cattle, buffalo, goats, sheep, pigs, and poultry. Cattle and buffalo are the most important livestock species, and their milk is a significant source of nutrition for the population, particularly in rural areas. India also has a large population of goats and sheep, which are mainly used for meat and wool production. The livestock sector in India is primarily managed by small and marginal farmers who own one or two animals. However, there are also larger commercial livestock farms in the country.

The sector faces several challenges, including inadequate access to quality feed and water, lack of proper healthcare facilities, and poor breeding practices.

Livestock Challenges:

There are several challenges faced by the livestock sector in India, some of which include:

Lack of adequate infrastructure: India's livestock sector suffers from inadequate infrastructure such as inadequate housing, poor veterinary services, and lack of access to markets, which often leads to low productivity, poor quality, and high mortality rates.

Disease outbreak: Livestock diseases such as Foot and Mouth Disease (FMD), Brucellosis, and Avian Influenza continue to pose a significant threat to the Indian livestock sector, leading to a loss of income for farmers and the government.

Climate Change: Climate change and its impact on agriculture are affecting the availability and quality of feed and water resources, which is adversely impacting livestock production.

Lack of fodder and grazing lands: The availability of quality feed and fodder is a significant challenge in India's livestock sector, particularly in drought-prone areas, which results in low productivity and growth.

Poor animal genetics: The genetics of Indian livestock breeds is often poor, resulting in low productivity and low yields.

Lack of skilled labour: The livestock sector requires skilled labour, including veterinarians and animal health workers, to manage and maintain animal health and productivity. However, there is a shortage of skilled labour in the sector, which affects productivity.

Low prices: Farmers often face low prices for their livestock, which affect their income and discourage them from investing in the sector.

Lack of awareness: Farmers often lack awareness of best practices in livestock management, including animal nutrition, disease prevention, and vaccination, which affects productivity and profitability. Addressing these challenges will require investment in infrastructure, improving market access and linkages, strengthening quality control and assurance mechanisms, and enhancing credit facilities for small farmers and livestock owners. The government can play a critical role in supporting the sector by providing financial and technical support, creating policies and programs that promote the development of the sector, and enhancing market linkages. Despite these challenges, the livestock sector in India has shown significant growth

over the years, and the government has taken several steps to support and promote the sector. These include various schemes and initiatives to improve animal health, productivity, and breed improvement, as well as policies to support livestock-based livelihoods for rural communities.

Business Opportunities for Livestock FPOs:

Livestock FPOs (Farmer Producer Organizations) in India have several business opportunities to explore. Here are some potential avenues:

Dairy Processing: FPOs can set up milk processing plants to produce milk, butter, cheese, and other dairy products. With increasing demand for high-quality dairy products in India, FPOs can tap into this market by producing and selling these products locally or to larger companies.

Meat Processing: FPOs can set up meat processing plants to process poultry, goat, sheep, and other livestock. Meat products are in high demand in India, and FPOs can explore this market by producing and selling these products locally or to larger companies.

Organic Farming: FPOs can focus on organic farming practices, which are becoming increasingly popular in India. They can produce and sell organic milk, meat, and vegetables to meet the growing demand for organic products.

Value-added Products: FPOs can also explore the production of value-added products such as leather products, wool, and other by-products of livestock. These products can be sold locally or exported to other countries.

Animal Feed Production: FPOs can produce and sell animal feed to other farmers or large companies. This can be a lucrative business opportunity as the demand for animal feed is high in India.

Livestock Trading: FPOs can also engage in livestock trading by buying and selling livestock to other farmers or traders. This can be a profitable business as livestock prices fluctuate based on demand and supply.

Tourism: FPOs can promote agri-tourism by showcasing their livestock farming practices and offering tourists a chance to experience rural life in India. This can be a unique business opportunity that can generate income from both tourism and livestock farming.

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Business Planning Process:

Business planning is crucial for FPOs in India to ensure their long-term sustainability and success. Here are some key steps that FPOs can take in the business planning process:

- **Identify the market demand:** The FPO should analyze the market demand for their products, including crops and livestock, to understand the potential market size, pricing, and distribution channels.
- **Assess the competition:** The FPO should research and analyze its competition, including other FPOs and private sector players, to understand the current market dynamics and identify areas of competitive advantage.
- **Develop a marketing strategy:** Based on the market demand and competition analysis, the FPO should develop a marketing strategy that includes product branding, pricing, promotion, and distribution channels.
- **Plan production and procurement:** The FPO should plan its production and procurement of raw materials, including seeds, fertilizers, and livestock, to meet the market demand and ensure a steady supply of quality products.
- **Manage finances:** The FPO should manage its finances effectively, including developing a budget, forecasting cash flow, and securing financing from banks, government schemes, and other sources.
- **Invest in technology:** The FPO should invest in technology to improve the quality and productivity of its products, including modern farming techniques, storage facilities, and processing equipment.
- **Build capacity:** The FPO should build the capacity of its members and staff through training and skill development programs, including financial management, marketing, and technical skills.
- **Monitor and evaluate performance:** The FPO should regularly monitor and evaluate its performance against its business plan, including financial and operational indicators, and make necessary adjustments to ensure its long-term sustainability and success.

Business planning for livestock FPOs (Farmer Producer Organizations) in India involves several key steps, including market analysis, financial planning, and operational planning. Here are some general guidelines to follow:

1. **Market Analysis:**

   The first step in business planning for livestock FPOs is to conduct a market analysis. This involves identifying the demand for livestock products in the target market and assessing the competition. Key questions to consider include:

   - What are the current trends in the livestock market?
   - What are the primary products and services offered by competitors?
   - What are the strengths and weaknesses of existing competitors?
   - What are the pricing trends for livestock products in the target market?
   - What are the regulatory requirements and challenges for livestock businesses in the target market?

2. **Financial Planning:**

   Once you have conducted a market analysis, the next step is to create a financial plan for your FPO. This includes identifying the startup costs, ongoing operational expenses, and potential revenue streams. Key questions to consider include:

   - What are the costs of acquiring land and livestock?
   - What are the costs of hiring and training staff?
   - What are the costs of marketing and advertising?
   - What are the potential revenue streams for your FPO, such as selling livestock products or offering services like veterinary care?
   - What are the projections for revenue and expenses over the next few years?

3. **Operational Planning:**

   The final step in business planning for livestock FPOs is to develop an operational plan. This includes identifying the key activities that will be required to run the FPO and establishing timelines for implementation. Key questions to consider include:

   - What are the daily, weekly, and monthly activities that need to be completed?
   - Who will be responsible for each activity?
   - What are the timelines for completing each activity?
   - What are the key performance indicators (KPIs) that will be used to measure success?
   - How will you monitor and evaluate the performance of your FPO?

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Conclusion:

In addition to these steps, it is also important to consider the legal and regulatory requirements for establishing and operating an FPO and businesses in India. This may include obtaining necessary licenses and permits, complying with labor laws, and adhering to environmental regulations. Working with a legal or business advisor who is familiar with the livestock industry in India can help ensure that you are meeting all necessary requirements. Overall, a well-developed business plan can help FPOs in India to achieve their goals, increase their income, and improve the livelihoods of their members.

LIVESTOCK EXTENSION- BEYOND TECHNOLOGY TRANSFER

This is e-book is will be highly useful to Veterinary Professionals across the country and Extension workers who are working at the grassroot level. This book covered the topics like scope and opportunities and in livestock sector, FPOs, Success stories of Agripreneurs in AC&ABC, Application of ICT in Livestock sector. In addition, the authors address the key information in FPOs regulatory principles, managemental skills.

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