

Potential and Expansion Strategies for Small and Marginal Farmers in India Agriculture

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Abstract

This paper examines the Potential and Expansion Strategies for small and marginal farmers in India's Agriculture. Agriculture is considered to be the backbone of the Indian economy and the primary means of subsistence for rural households, mostly small and marginal farmers, assuring the sustainability of food and nutrition. These farmers suffer numerous issues including loans, scarcity of resources, appropriate market connectivity, and many others. Women farmers are lagging in adopting the drudgery reduction technologies followed by the health and nutrition of farm families. Their standard of living can be improved by implementing various ICT initiatives, capacity building, addressing climate change, formation of Farmer Produce Organizations, and increasing food supply, etc. Based on these prospects, the present study analyzes the changes in the pattern of the number and share of area under operational holdings in various size groups of farmers another important objective is to analyze the potential and expansion strategies for marginal and smallholder farmers in Indian agriculture. Moreover, a financial criterion needs to be considered. To protect our farmers from the glut condition and enhance income, more money should be invested in market-oriented research and development. This can be achieved through the implementation of the Farmer Producer Organisations (FPOs) idea in a larger context.

Keywords: Small and Marginal farmers, Expansion Strategies, ICT, Sustainable Development Climate Smart Agriculture, FPOs.

Introduction

Agriculture remains the primary source of income for India's population, and the majority of India's farmers subsist on small farms, less than two hectares (five acres). It is all but self-evident that these facts imply continuing poverty and low quality of life for rural Indians and yet the basic facts and economics of the small farm sector are poorly understood. Due to its significant contribution to employment opportunities and means of livelihood, the agriculture and associated sector is without a doubt the potential harbinger of rural India's prosperity. In addition to providing for the 1.3 billion Indians' food and nutritional needs, agriculture and related industries employ 54.6% of the population as of the 2011 Census and contribute 18.8% of the nation's Gross Value Added. (Annual Report 2021-22, MoAFW). Approximately 86 percent of the farm households comprise small or marginal farmers with less than two hectares of land. The average landholding is only 0.5 hectares per household. These small units of land are frequently seen as unviable for farming and incapable of providing a sustainable livelihood for their owners. This is even more likely to happen in regions where water security is an issue. There are several

issues related to agriculture are first is agriculture is unorganized activity today. Agriculture in India is primarily an unorganized industry. Cultivation, irrigation, harvesting, etc. do not involve systematic institutional and organisational planning. The minimum support price set by the government does not reach the poorest farmer and institutional financing is insufficient. The ground reality is that the majority of the farmers in India own less than two acres of land. In many cases, the farmers are not even the owners of the land, which makes profitable cultivation impossible because a significant portion of the earnings goes towards the payment of the lease for the land. Second, Government programs do not reach small farmers, the government's agricultural debt relief and waiver program, which was put into place in 2008 to help over 36 million farmers, does not reach small farmers. This program also included coverage for direct agricultural loans to distressed farmers made through the so-called Kisan Credit Card. Unfortunately, the majority of the welfare programs and subsidies that the Central and State governments have announced do not benefit impoverished farmers. Contrarily, the programs exclusively benefit large landlords. Third is High levels of debt and excessive interest rates, The rise in their debt and indebtedness is the primary reason why farmers commit suicide. The government must declare exorbitant interest rates unlawful and must take strict action against greedy money lenders. Small and marginal farmers must have simple access to institutional loans without having to go through lengthy formalities.

Moreover, the declining natural resource base, increasing holding fragmentation, frequent climate changes, rising input costs, and post-harvest losses all contribute to India's low agricultural growth rate and productivity. The prosperity of rural areas and the expansion of the economy as a whole are seriously impacted by declining farm production and farmer income. A complex interaction of these causes has led to the agrarian crisis in recent years. These elements hinder the expansion of Indian agriculture and its ability to attain sustainable development. To address this agrarian distress, farmers' income must significantly improve (Chand 2016a). So here, the more important question that arises is what about the welfare of the small and marginal farmers?

Furthermore, most farmers belong to small and marginal farmers categories majority occupying agricultural activities, they hurdle some problems at the farming level, and it leads to affect the current savings. It is called capital formation. Small and marginal farmers are facing lots of difficulties in creating capital formation. The problem of capital formation is due to various reasons such as low levels of saving, low productivity inflation, problem in obtaining credit, and the capital investment in agricultural activities decreasing, which will affect the farmers' income. So, we need to boost the small and marginal farmers. So, there are many possibilities for smallholders which helps to solve their credit requirements at the time seasonal. Not only credit support but also giving non-fund-based services to their members. Based on these prospects, the present study analyzed the potential and expansion strategies for marginal and smallholder farmers in Indian agriculture. Several studies conducted on an issue related to the viability of marginal and small farmers at the micro-level.

Review of Literature

Pasha (1991) examined the role of animal husbandry and common property resources for the sustainability and viability of small and marginal farmers in the drought-prone region and found that ruminant livestock and common property resources played an important role in the viability and sustainability of marginal and small farmers.

P. Praveen (2008) examines that Small farmers are more vulnerable to crop production risk than the

surrounding area for crops including maize, sunflower, peanut, and red gram. For medium-sized and large-scale farmers, the production risk is higher concerning oil seed crops like castor and groundnut. All of the crops in their analysis were subject to the financial risk of a decline in sold excess. They believe that land leasing has shown to be a crucial tool for boosting the base of production and raising the level of income for small and medium farmers.

Singh (2009) examined the contribution of various factors to the viability of marginal and small farmers in the state of Punjab and suggested that the creation of off-farm employment opportunities, public investments to remove the regional productivity gap, assuring remunerative prices of output, and up-scaling of input supply to promote dairy and other allied activities should be made helpful viable to marginal and small farmers.

Mahendra Singh (2012) examined the challenges and possibilities for Indian marginal and small farmers' sustainable profitability. It is suggested that creating job opportunities in rural areas, along with appropriate policy support for the development of the livestock sector and other related activities, particularly in dairy, goat, and sheep farming, would be a panacea for the farming community's resource-poor condition in the future.

Varun Gandhi's (2013) article examines the working Group on marginal farmers and recommended that marginal cultivators could be encouraged to join farmer producer organizations (FPOs), such organization can provide interest subvention on loans for five years and are exempted from the agricultural produce market committees, procurement from small and marginal farmers should be protected particularly through regulation for multi-brand retail.

Dr. Jagadeesh Babu (2015) examines the challenges and opportunities of small and marginal farmers in India and examines the roles and challenges of small-holding agriculture in India. It covers trends in agriculture growth cultivation patterns, different policies, and institutional support for smallholders.

Saravanadurai.A, Manimehalai. N, (2016) examines the efficiency of India's primary agricultural credit societies. Due to their extensive reach in rural, remote areas and accessibility to small & marginal farmers and other marginalized populations, cooperative credit institutions have been playing a significant role in the distribution of agricultural credit. This is due to their significant role in providing credit to rural peoples, primary societies owned by farmers, rural artisans, etc

Parmar (2019) examine the barriers to adopting better farming techniques were evaluated, including those caused by ignorance, a lack of farmyard manure, and a lack of vermin compost, which is recommended. The ultimate result is based on recommendations made by respondents, who suggested making all input available through cooperatives. This assistance facilitates the acceptance and use of new technology.

Harish Kumar H V, (2020) their study focused on how institutional credit affects agricultural output. It found that it has increased positively in the past and that farmers mostly use it as a source of formal credit. Lastly, this study recommended that smallholders have improved access to loans.

Karthick V and Madhewaran S (2020) examine that agriculture credit is a crucial requirement for agricultural productivity, but access to credit is based on caste discrimination. His research revealed that while large landowner farmers still have credit access in cooperatives, their level of influence is significantly higher than that of small landholders. To prevent deliberate defaulters, they advise offering special programs for SC/ST marginalized farmers. They also suggest paying more attention to which households may receive credit. Our government needs to ensure certain regulations and programs regarding agricultural farmers' access to financing.

Keeping in view the majority of marginal and small farmers and their resource-poor condition, this study attempts to identify the Expansion strategy for marginal and smallholder farmers in Indian Agriculture. So, it determines the viability of small and marginal farmers in the present economic scenario. Hence, the objective of this paper is to analyze the changes in the pattern of number and share of area under operational holdings in various size groups of farmers and another major objective is to examine the strategy for marginal and smallholder farmers in Indian agriculture.

Methodology of the Study

Present study is based on secondary data collected from various publications such as the Agricultural Census in India, Directorate of Economics and Statistics, Ministry of Agriculture, Ministry of Rural Development, National Sample Survey Office of the Ministry of Statistics and Programme Implementation, Planning Commission, Ministry of Labour and Employment, Government of India and International Food Policy Research Institute. This study is based on descriptive statistics and the tabular analysis was used in this study.

Result and Discussion

This paper is divided into two sections first section discuss the number of operational holdings and the number of operated areas as per different agriculture census and the second section discuss the expansion strategy for marginal and smallholder farmers in India.

The numbers and area under operational holdings in various size groups of farms are shown in Table 1 and Table 2.

Table 1: Number of operational holdings as per different Agriculture Census

Size Group	1970-71	1976-77	1980-81	1985-86	1990-91	1995-96	2000-01	2005-06	2010-11	2015-16	CAGR(%)
Marginal Farmers	36200	44523	50122	56147	63389	71179	75408	83694	92826	100251	12%
Small Farmers	13432	14728	16072	17922	20092	21643	22695	23930	24779	125809	28%
Semi-medium Farmers	10681	11666	12455	13252	13923	14261	14021	14127	13896	13993	3%
Medium Farmers	7932	8212	8068	7916	7580	7092	6577	6375	5875	5561	-4%
Large Farmers	2766	2440	2166	1918	1654	1404	1230	1096	973	838	-12%

Total	7101	8156	8888	9715	10663	11558	11993	12922	13834	14645	8%
	1	9	3	5	8	0	1	2	8	4	

Source: Agriculture Census (various issues), Ministry of Agriculture, Government of India.

The compound annual growth rate (CAGR) in number and area under operational holdings by various size groups for the period of 1970-71 to 2015-16 is presented in Table 1. It shows that the total number of operational holdings in the country has increased from 120 million in 2000-01 to 139 million in 2015-16 and increased by around 8 percent during ten years.

Table 2: Area operated by operational holdings as per different Agriculture Census

Size Group	1970-71	1976-77	1980-81	1985-86	1990-91	1995-96	2000-01	2005-06	2010-11	2015-16	CAGR(%)
Marginal Farmers	36200	44523	50122	56147	63389	71179	75408	83694	35908	37923	1%
Small Farmers	13432	14728	16072	17922	20092	21643	22695	23930	35244	36151	12%
Semi-medium Farmers	10681	11666	12455	13252	13923	14261	14021	14127	37705	37619	15%
Medium Farmers	7932	8212	8068	7916	7580	7092	6577	6375	33828	31810	16%
Large Farmers	2766	2440	2166	1918	1654	1404	1230	1096	16907	14314	20%
Total	162318	163343	163797	164562	165507	163355	159486	158323	159592	157817	0%

Source: Agriculture Census (various issues), Ministry of Agriculture, Government of India.

Table 2 shows that the total operated area has decreased from 159.48 million hectares (m ha) in 2000-01 to 157.81 million hectares (m ha) in 2015-16 showing a decline of about one percent in the corresponding period. The highest CAGR in the number under-size group of holdings was recorded in small farmers (28 percent) followed by marginal farmers (12 percent). However, the maximum negative CAGR was observed in large farmers (-12 percent), followed by medium farmers (-4) farmers during 1970-71 to 2015-16. The same pattern was observed in CAGR in the area under various size groups.

Table 3: The percentage share of Operational holdings and operated area by size class 1970-71 to 2015-16

Year/Categor y	Marginal Holdings		Small		Semi-medium		Medium		Large	
			Holdings		Holdings		Holdings		Holdings	
	No. Holdin g	Area	No. Holdin g	Area	No. Holdin g	Area	No. Holdin g	Area	No. Holdin g	Area
1970-71	50.98	8.1	18.92	11.8 8	15.05	18.4 9	11.18	29.7 2	3.87	30.8 5
1976-77	54.59	10.7 2	18.06	12.8	14.31	19.8 6	10.07	30.3 9	2.99	26.2 5
1980-81	56.4	12.0 5	18.09	14.1 5	14.02	21.1 6	9.08	29.6 4	2.99	23.0 2
1985-86	57.8	13.0 4	18.45	15.6 3	13.65	22.2 9	8.15	28.6 5	1.98	20.0 6
1990-91	59.45	15.0 5	18.85	17.4 2	13.06	23.1 8	7.11	27.0 4	1.56	17.3 2
1995-96	61.59	17.2 2	18.73	18.8 1	12.34	23.8 5	6.14	25.3 5	1.21	14.7 9
2000-01	65.25	18.7	19.64	20.1 6	12.14	23.9 6	5.7	23.9 8	1.07	13.2 2
2005-06	64.77	20.5	18.52	20.9 1	10.94	23.9 4	4.94	23.1 1	0.85	11.8 3
2010-11	67.1	22.5	17.92	22.0 9	10.05	23.6	4.25	21.2	0.71	10.6
2015-16	68.45	24.0 3	17.62	22.9 1	9.55	23.8 4	3.8	20.1 6	0.57	9.07

Source: Agriculture Census (various issue), Ministry of Agriculture, Government of India.

Table 3 shows the percentage share of number and area under various size groups of operational holdings during 1970-71 to 2015-16. The small and marginal holdings constituted 86 percent in 2015-16 against 70 percent in 1970-71 with the operated area of 45 percent in 2015-16 against 20 percent in 1970-71. In the case of semi-medium holdings and medium holdings, the number and area have continuously decreased during the period 1970-71. The large holdings were less than one percent of the total number of holdings in 2015-16 with a share of 9 percent in the operated area in 2015-16. The share in number and area operated by marginal farmers was continuously increasing while medium and large farmers were decreasing. It implies that 68 percent of marginal farmers occupied only 24 percent of land area while less than one percent of large farms occupied 9 percent of land area in 2015-16.

II. Expansion strategy for small and marginal farmers in Indian agriculture

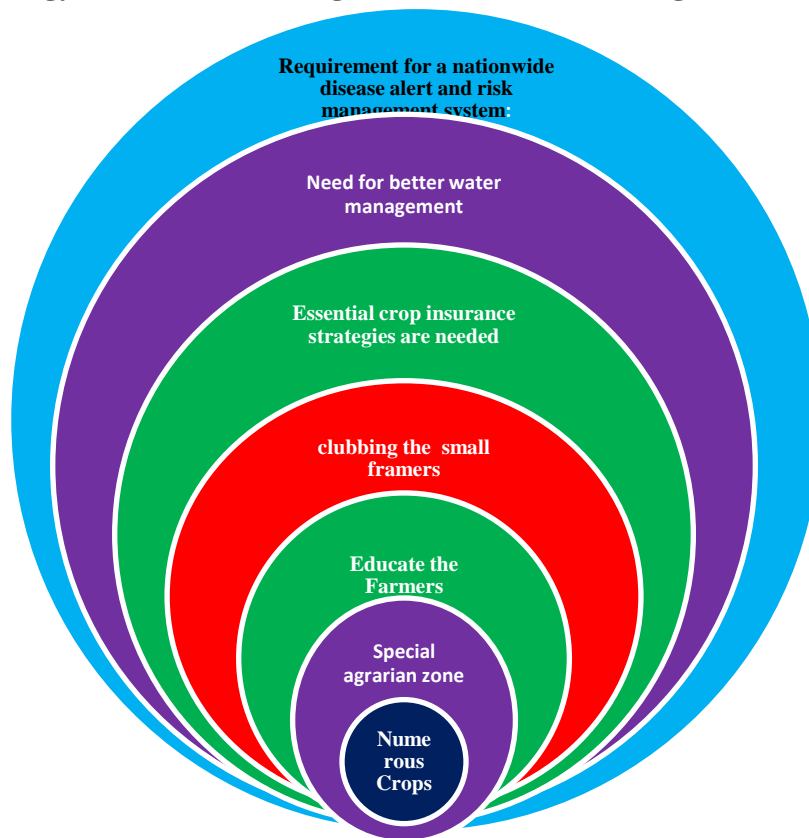


Figure: Expansion strategy for marginal and smallholder farmers

1. Numerous Crops and increase in cropping intensity:

The cultivation of multiple crops, such as coconut, turmeric, pineapples, bananas, apples, papayas, and ginger, will provide farmers with beneficial returns. There are only two options to meet the growing food and other agricultural demands of the nation's expanding population. According to Kalaiselvi and Sundar (2011): either increasing the net area under cultivation or intensifying cropping over the current area. Farmers must be encouraged to cultivate the available agricultural area and grow a variety of crops during all cropping seasons. Intercropping, multi-story cropping, and border cropping are three innovative cropping system techniques that farmers should be encouraged to use more to increase the intensity of their farming operations. These crop systems allow for the intensive use of farmland and farmers' time without running the risk of resource competition between crops.

2. Special agrarian zone:

Similar to industrial zones, special agricultural zones must be set up where only activities linked to farming and agriculture should be permitted. It is economically feasible to promote youngster involvement in agricultural fields by developing farming methods that ensure certain success. this can be possible Only through the implementation of new technologies. Research should be carried out to produce crops with greater potential for yield and greater pest resistance. The benefits of agricultural technology improvement should be distributed to small and marginal farmers. Farmers should be assisted in switching to producing crops that would be simple and affordable to plant in areas where the existing crops would not fare well under drought and weather conditions.

3. Educate the farmers:

Crop rotation is not widely known among Indian farmers. The government has neglected education in rural areas generally and the agricultural sector in particular, even though education in urban areas has significantly improved. Due to this reason, Farmers are not properly aware of the numerous government program.

4. Clubbing the small farms and Increase in agricultural productivity:

Small-scale farmers can join together and merge their small farms into one huge field. This could be beneficial in a variety of ways. The extent to which economic, cultural, technological, and organisational factors can utilize the local biotic resources for agricultural output is known as agricultural productivity (Singh 1972). Increasing production per unit area is a crucial step in meeting the rising demand for food. India lags behind other countries in the world in terms of crop output, hence it is crucial to boost productivity per hectare right away to lift farmers out of poverty. Production and productivity will increase through the use of soil health cards, superior cultivars, cutting-edge technologies, and greater irrigation access.

5. Essential crop insurance strategies are needed:

Conventional crop insurance reimburses farmers based on an exact assessment of the harm they have suffered. Nevertheless, because the majority of our farmers are smallholders, field loss assessment is frequently neither practical nor affordable. On the other hand, index-based insurance reacts to a specified parameter. The benefits of index-based insurance include transparency and equitable treatment of all insurers within the specified geographic area. It guarantees prompt payouts and has low operational and transactional costs.

6. Need for better water management:

currently, the cultivable area is not entirely covered by the irrigation facilities. Most agricultural fields lack irrigation facilities, except regions with perennial rivers. Most often, poor water management rather than a lack of water is to blame for a shortage. It is necessary to develop enhanced contemporary rainwater gathering techniques. With inter-state cooperation on water resources, where excess water from perennial rivers may be redirected to needy areas, water management can be made more effective. The solution to this issue is to connect the rivers across the nation. If the monsoon were to fail, the building of National Waterways would strengthen the irrigation system, saving the farmers.

7. Farmers' potential source of income:

Smallholders should be encouraged to create alternate sources of income, and the government should bear responsibility for helping the farmers get the training they need to further their careers. The government should launch alternative employment generation initiatives in drought-affected areas to reduce reliance on agriculture as the only source of income. Such programs ought to be uniform. Farmers should be allowed to divide their work into three categories. One for regular crop production, one for animal husbandry or fisheries, and another for timber production. These activities complement each other and also alternate sources of income for farmers can be ensured. one for raising crops regularly, one for raising livestock or fishing, and one for growing wood. Despite offering farmers other sources of revenue, these activities complement one another.

8. Requirement for a nation wide disease alert and risk management system:

A major step towards minimizing losses in agriculture would be the facilitation of a national weather risk management system that informs farmers when there is a threat of extreme weather. The Indian agricultural industry is currently exposed to a wide range of risks, including those related to climate

change, frequent natural disasters, uncertainty surrounding crop yield and market prices, poor market infrastructure, inadequate storage facilities, and the lack of timely credit options for small and marginal farmers. All of the following factors directly contribute to the threat to farmers' livelihoods and the industry's lack of commercial viability. Hence, there is a need for a suitable risk mitigation mechanism to address all of the above challenges.

9. Information Communication Technology (ICT) use in agriculture:

Agriculture is facing new and severe challenges in its own right. More effective interventions are required in agriculture due to the rising food prices that have forced over 40 million people into poverty since 2010. (World Bank 2008). To meet the demands of 9.2 billion people in 2050, global food production will need to rise by almost 70 percent, nearly double of developing nations (FAO 2011). Information and communication technology (ICT) is essential for agriculture. Given the challenges, the arrival of information and communication technology (ICT) in agriculture is well-timed. ICTs have the potential to directly assist farmers in gaining timely access to pertinent information as well as to empower the farming community by producing and distributing knowledge. Accessibility to ICT can have a significant positive impact on poverty reduction and sustainable development (Torero and Braun 2006). Technology has a significant impact on the adoption of emerging technologies like no-till farming and the GM technology revolution (Fischer et al. 2009). Technology also plays a significant role in price discovery and can provide vital microclimate and weather information for planning farming activities. Hence, encouraging IT in agriculture will be a stimulus for farmers' earnings.

10. Climate-smart agriculture:

Climate-smart agriculture must be developed urgently since the effects of climate change are very significant. Increases in average temperature will harm crops, especially in semiarid regions where heat is already a production barrier, according to IPCC (2007). Similar to how continuous rises in minimum temperatures increase the crops' need for maintenance respiration, which further inhibits net growth and output (Aggarwal 2003). To effectively promote development and assure food security in a changing climate as well as the sustainable growth of agricultural production and incomes, climate-smart agriculture (CSA) helps restructure and reorient agricultural systems.

11. Formation of Farmer Producer organizations:

Farmers' Organizations (FOs) are essential organisations for the development of farmers and the rural poor. They also help to reduce poverty (Marsh 2003). Small farmers functioning alone are weak competitors in the market. They can strengthen their bargaining power, lower their transaction costs for obtaining inputs and transportation, facilitate the processing and marketing of agricultural goods, and increase their earnings by grouping into larger groups (Birchall 2004). To increase the income of small and marginal farmers, it is necessary to include FOs in the planning, developing, and implementation of agricultural and rural development policies.

Expansion Strategies for future growth for marginal and smallholder farmers:

The sustainability of small and marginal farmers in India depends on utilizing their land resources to enhance productivity and overall income. They should be given access to fundamental and required support systems so that they can learn more and embrace scientific farming practices. They ought to be included in the supply value chain, which can be improved by the creation of Farmer Producer Companies. Women farmers should be given special consideration and treated equally in terms of

sharing resources, information, and wages. Technology for drudgery reduction has to be extensively promoted.

Sl.No	Technology	Adaption/Mitigation Potential
1.	Water Smart	Activities that improve water utilization effectiveness
	Collecting Rainwater	In water collection that prevents run-off and is used on-site for agricultural purposes in areas that are rainfed or dry.
	Drip Irrigation	Water loss may be minimized by providing water directly to the root zone of crops.
	Accurate Land Levelling	By leveling the field, producers can ensure that the water is distributed evenly and reduce the water loss (also improves nutrient use efficiency)
	Furrow Irrigated Bed Planting	This strategy provides more effective drainage, irrigation, and monsoon rainwater management control (also improves nutrient use efficiency)
	Drainage Management	Using a water control structure or drainage management to remove excess water (flood)
2.	Energy-smart	Strategies to improve the energy use efficiency
	Zero Tillage/Minimum Tillage	Uses of minimum tillages reduce the amount of energy needed to prepare the land. Long-term, it also enhances soil retention of organic matter and water infiltration.
3.	Nutrient-smart	Expansion strategies to improve the efficacy of nutrient use
	Integrated-Nutrient Management for specific area	The best possible source of soil nutrients is provided across time and area, corresponding to the needs of the crops with the appropriate product, rate, and place.
	Organic farming/ Green Manuring	Legumes are cultivated in a cropping technique. This approach raises soil quality and nitrogen supply.
	Chart of Leaf Colors	Determine the needed nitrogen use based on how green the crops were. To identify a deficiency of nitrogen in crops, mostly utilized for split dose application in rice but it is also applicable to maize and wheat.
	Intercropping with Legumes	Legumes can be grown alongside other major crops in mixed or alternate rows. This approach raises soil quality and nitrogen availability.
4	Carbon-smart	Reducing GHG emissions through carbon-smart initiatives
	Sustainable Forestry/Organic forestry	Enhance carbon storage through the management of sustainable land use.

	Concentrate Feeding	Livestock decreases nutrient losses and minimizes feed requirements for livestock.
	Managing for fodder	To promote sustainable land use management
	Integrated Pest Management	Minimal utilizes of chemicals
5	Weather-smart	Interventions that provide services related to income security and weather advisories to farmers.
	Climate Smart	Sustainable management for livestock from extreme climatic events, such as heat and cold stress, through the housing for livestock (CSH)
	Weather-based Crop Agro-advisory	Agro-advisories with a higher added value for farmers based on climate information
	Crop Insurance	Crop-specific insurance to address income loss resulting from weather-related vagaries.
6	Knowledge-smart	Application of science and local knowledge together
	Planning Completely Reliant Crops	Plan for managing climate risk to prepare for significant weather-related events such as drought, flooding, and heat/cold pressures during the crop season.
	Good Crop Varieties	Crop varieties that can endure stresses like heat, cold, and drought.
	Seed and Fodder Banks	Conserving livestock and agriculture seeds to minimize climatic risks.

Source: Adopted from Khatri-Chhetri,2017

Technology for drudgery reduction has to be extensively promoted. The needs of the farmer should guide the transfer of technology. Technological development should involve farmer input during the design and execution of research on a farmer-to-scientist basis. To address climatic change, climate-smart technologies should be encouraged. The infrastructure for collective marketing should be supported. The infrastructure for collective marketing should be supported. By implementing these methods, our small and marginal communities may improve their way of living life and explore methods for generating income in an integrated way.

Conclusion:

Marginal and Smallholder farmers face a lot of challenges on account of their size and often remote and rural location, which hinder their ability to grow a prosperous business and provide food for their families. Many cannot access credit, formal markets, and high-quality inputs like seeds, farming equipment, or medicine to keep their animals healthy. Limited economic influence and access to finance on account of their size are a major barriers for India's smallholders. By developing expansion strategies for marginal and smallholder farms, we help small-scale farmers in overcoming this challenge. So, forming them is a major step for working through co-ops as a vehicle to organize technical assistance and organize access to capital. When smallholder farmers organize into agricultural cooperatives, associations, Self-help groups, and women’s groups, they increase their access

to markets, and Farmer Producer Organisations, can participate more equitably in local value chains, and enhance their bargaining power to earn more for their goods. Supporting farmers to share knowledge and equipment, and hold each other accountable in a formal group, leads to long-term change. The study suggests that for ensuring the sustainable viability of marginal and small farmers, the creation of job opportunities in rural areas along with expansion strategies for future growth for farmers and suitable policy support for the development of the agriculture sector would be a panacea for resource-poor farming community in the future.

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