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Studies On Enhancing Farmer's Autonomy. Direct Sales Strategies In Agriculture

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ABSTRACT

This research investigates the many approaches that may be used to enable farmers to bypass traditional middlemen and engage in direct communication with clients, so strengthening their autonomy in the agricultural sector. This article emphasizes on the possible benefits and challenges that are associated with direct sales methods. In the ever-evolving global agricultural landscape, one of the most essential strategies to increase income, reduce dependency on markets, and promote sustainable farming practices is to provide farmers with greater control over their own goods via direct sales channels. Our research investigates the ways in which community-supported agriculture (CSA), internet platforms, farmers' markets, and farm-to-table programs have influenced the access that farmers have to markets, the profitability of their businesses, and the power that they have to make decisions about direct sales. The study investigates the ways in which new business models and digital technologies may be of assistance with direct sales. It offers advice on how to enhance the process by using e-commerce, digital marketing, and logistical solutions. In addition, the research offers potential answers to the challenges that farmer's face, which includes a deficiency in marketing knowledge, difficulties in logistics, and limited financial resources. By combining case studies, policy research, and interviews with agricultural stakeholders, the article highlights the impact of direct sales on improving farmers' autonomy, fostering fair trade, and building ties between consumers and producers. These effects are highlighted by the article. The findings of this study contribute to the ongoing discussion on the enhancement of agricultural systems and the facilitation of more autonomy for farmers.

Keywords: Farmer, Direct Marketing, Technology, Supply chain management, marketing mix, Grain production pattern

INTRODUCTION

There are a number of challenges that smallholder farmers and the agricultural business as a whole face. Some of these challenges include being dependent on the market, having uncertain commodity prices, and not having enough distribution control. The existence of middlemen, who manage the flow of commodities from farm to consumer, often makes poor profit margins and less autonomy for farmers worse. Middlemen are responsible for regulating the movement of commodities. The proliferation of direct sales strategies, which allow farmers to bypass intermediaries and engage in business with clients directly, is one of the potential solutions to this problem. Farmers' markets, community-supported agriculture (CSA), farm-to-

table programs, and online sales platforms are some of the key models that improve farmers' autonomy and allow them to retain a larger percentage of the value from their fruits and vegetables. Although these strategies are beneficial to the economy (in the form of improved earnings and access to new markets), they are also beneficial to the environment (in the form of enhanced openness and less waste) because they strengthen the bonds that bind farmers and consumers together. On the other hand, a significant number of farmers lack the marketing knowledge, logistical assistance, and internet infrastructure that are necessary to conduct direct sales strategies. The primary objective of this research is to investigate the extent to which these direct sales strategies empower farmers, the obstacles that prevent their broad adoption, and the solutions that may be implemented to overcome these obstacles. The overriding purpose of this study is to encourage agricultural methods that are more equitable and sustainable.

Direct marketing

Farmers are able to offer their products directly to end users via direct marketing since it eliminates the need for intermediaries like wholesalers, distributors, and retailers. Farmers are able to establish more personalized ties with their consumers via the use of this technique, which improves transparency, quality control, and market flexibility. By eliminating the middlemen, farmers have the potential to increase their profit margins and protect consumers from double marginalization. Double marginalization is a situation in which producers and intermediaries raise prices, therefore reducing the purchasing power of consumers. Farmers may be able to improve their farm's bottom line and simplify their supply chain via the use of direct marketing if they are presented with more opportunities to influence wholesale and retail pricing. Direct marketing has been further revolutionized as a result of the rise of social media, which has provided farmers with new means to engage with customers, promote their commodities, and get the views and opinions of consumers. However, since not all marketing messages on social media are really authentic, farmers need to find a strategy to differentiate them from the competition and win people's trust. Direct sales channels are beneficial to retailers for a number of reasons; including the fact that they foster healthy competition, boost demand for agricultural products, and in order to induce price reductions. While direct marketing strategies have the potential to improve the economic environment of the agricultural supply chain over the long term, they also have the potential to raise the profitability of farmers.

Financial support from the government and NGOs

When farmers get financial assistance from non-governmental organizations (NGOs) and the government, they are given the ability to invest in agricultural practices that are more environmentally friendly and productive. Farmers, particularly those who use traditional agricultural techniques, sometimes struggle to get a return on investment since they rely on word of mouth and traditional media such as newspapers to sell their products. This is especially true for farmers who utilize traditional agricultural practices. Through the introduction of a new channel known as direct marketing, farmers are now able to bypass the intermediaries and sell their products directly to end users. Because of this, their earnings have soared. Mixed farming, which mixes crop and animal production, may provide farmers with additional advantages, including enhanced financial stability and access to markets. Mixed farming takes use of both of these factors. The empowerment of farmers is a significant component of this transition. This empowerment will allow farmers to participate in decision-making on both an individual and collective level, as well as to see the answers to their concerns put into action. In order to demonstrate the significance of financial backing and organizational empowerment in the process of developing sustainable agricultural practices, a study was conducted on the function of eco-techno premiership in overseeing the social capital of various agricultural systems. This study reveals how this Endeavour’s can enhance the economic and social welfare of farming communities.

Technological support

Technological support has become a cornerstone of modern agricultural practices, offering small-scale farmers the tools and resources necessary to increase productivity and access new markets. Appropriate agricultural technology in farming is influenced by various factors, including small farmer output, access to markets, secure land tenure, infrastructure, the availability of loans, and other essential support services. Advances in digital platforms have revolutionized how farmers can market and sell their products, with studies from regions like Austria demonstrating the feasibility of using online platforms or e-commerce stores to sell crops directly to consumers. Social media platforms, particularly Facebook and Instagram, have become indispensable marketing tools, enabling farmers to showcase their products and engage with a broader audience. In Zambia, the government's implementation of the Farmer Input Support Programme (FISP) through an e-voucher system has shown promise in enhancing the efficiency and effectiveness of agricultural support programs. By integrating technology into agricultural practices, governments and organizations can provide smallholder farmers with the resources, knowledge, and access they need to thrive in an increasingly digital world.

Supply Chain Management

The process of arranging the production, processing, distribution, and delivery of agricultural commodities from the farm to the client is referred to as "Supply Chain Management" (SCM), and it is referred to by the acronym SCM. In contrast to the former paradigm, which consisted of many intermediaries, the agricultural supply chain is a collaborative effort between farmers, processors, distributors, retailers, and consumers. Supply chain management that is efficient aims to make food more accessible, cheaper, and healthier for consumers, while simultaneously cutting expenses and increasing product quality. These are the objectives of supply chain management. Despite challenges such as fluctuating demand, inadequate infrastructure, limited access to technology, and products with a shelf life, the sector is undergoing a transformation as a result of the implementation of new supply chain management strategies. These strategies include data analytics, improved logistics as well as the utilization of technology. As a result of these developments, supply chain communication, inventory management, and demand forecasting have all been improved, which in turn benefits farmers in their ability to collaborate more effectively.

Assessing Marketing Mix

When developing strategies to attract consumers, enhance sales, and increase farmers' profitability in the agriculture business, it is necessary to take into consideration the four Ps of the marketing mix: product, price, placement, and promotion. These are the four components that make up the marketing mix. Agriculture's "product" is the final result of the industry's efforts to assure quality, uniqueness, and sustainability in all of its commodities, from crops and livestock to processed food items. The term "product" is used in agriculture to refer to the ultimate result of these efforts. The word "price" refers to the manner in which things are priced in relation to the market, taking into consideration factors such as the costs of production, the level of competition, and the willingness of customers to pay. When it comes to distribution routes, "place" refers to the process of locating and optimising them. The purpose of this is to guarantee that the things are delivered to the appropriate locations at the appropriate times, whether it be to the local markets, to direct sales, or to exports throughout the world. In the end, the term "promotion" refers to the act of disseminating information about agricultural products to prospective purchasers via a variety of channels, including advertising, branding, and digital platforms. By analysing and adjusting the marketing mix in agriculture, farmers and agribusinesses have the opportunity to adjust to changing market circumstances, gain an edge over their rivals, and form tighter relationships with their consumers.

LITERATURE REVIEW

Giagnocavo, cynthiya ,et al.(2022) "Re-establishing a bond between farmers and the natural world through agro-ecological shifts: interdependent niches, experimental approaches, and the role of agricultural information and innovation networks" The investigation of sustainability transitions in agriculture (AKIS) is carried out by analysing niche activities within a common production system. These efforts make use of agro ecological frameworks, multi-level perspectives, and sustainable transitions. Additionally, multi-actor, agricultural knowledge, and innovation systems are going to be investigated in this project. This article goes into the subject matter by specifically addressing the implications of experimental niches and sustainable activities on the interactions that farmers have with nature, as well as the reconceptualisation of their production system under traditional or dominant regimes and landscapes that are less sustainable.

Azima & Mundler, (2022) The project investigates the many ways in which farmers might potentially gain financially and socially from their participation in local food networks on a local level. Direct-market farmers continue to be pleased with their jobs, despite the fact that they are confronted with difficult situations such as high levels of stress, tremendous workloads, and intense rivalry throughout their careers. In spite of the amount of knowledge on the factors that contribute to people's happiness in the workplace, the models that are currently in use are not suitable for the agricultural and direct sales industries since they were designed for workers in hierarchical organisations. Due to the fact that many farmers experience feelings of hopelessness and sometimes end their own lives, farming is considered a "high-risk" industry.

Azam, Md sikandar and musarrat saheen (2019) "A cross-sectional study on the decision-making factors that drive organic farming adoption in India." The purpose of this article is to conduct an empirical investigation of the ways in which the acceptance of organic farming is influenced by a variety of elements, including the economy, society, marketing, agriculture, and the government. In addition, this study investigates the demographic characteristics that impact farmers' decisions to utilise organic farming techniques. These elements include the level of education, the size of the farm, the number of years of farming experience, and the ownership of land.

Fulton et al. (2016), As a result of the expansion of online platforms, new opportunities for farmers to take part in direct sales have become available. E-commerce platforms, such as online farmers' markets and local food delivery services, have made it possible for farmers to reach clients all over the globe, regardless of where they are located. The use of an online platform comes with a number of advantages, some of which include a greater market reach, improved consumer interaction, and reduced total expenditures. By using these platforms, farmers have the potential to reach a larger audience, especially in urban regions, and get valuable information about the desires of the general public. However, it may be challenging for farmers to use digital platforms if they do not possess the necessary computer skills or do not have access to the appropriate instruments (Hernandez et al., 2020). Furthermore, small-scale farmers who do not have access to financial support may discover that the costs associated with establishing and sustaining an online presence are too expensive.

Irengbam Dealluck.(2012), The robustness and efficiency of the linkages that are formed across various sectors in order to operate the production and business cycle are the yardsticks that are used to measure the economic success of an area. These backward and forward linkages are comprised of financial assistance, transportation networks, and communication networks. These links make it possible for commodities to freely travel across a variety of trade channels. To a certain extent, the government is engaged in the marketing system, either directly or indirectly, 9 depending on the objectives of the government and the degree of systemic defects and malpractices that are present. In order to improve the conditions that are associated with agricultural marketing, the state administration has put into effect a variety of different policies. For the purpose of effectively organising agribusiness, it is vital to successfully perform product-

specific surveys in order to demonstrate marketability and determine the kind of venture that will be established.

Harendar Raj Gautam (2010) After doing study on the history of Indian agriculture and looking ahead sixty years to the republic, the scholar came to the conclusion that the sector had achieved significant progress over that period of time. Agriculture, which in 1947 was burdened with the responsibility of feeding 350 million people, now needs to feed 1,100 million people. As a result of this immense load, a Second Green Revolution is required, and in response to this, specific future endeavours have been recommended. According to the study, state agricultural colleges need more financing in order to enhance their research, teaching, and extension networks. According to the report, these universities should have clear targets that can be measured in order to achieve their objectives.

Sharma and Bhaduri (2009) They were of the opinion that the majority of the conversations that had taken place on the departure of Indian farmers from the business had centred on the concept of the ongoing agricultural misery. On the other hand, the reality incorporates a great deal more nuances. As a consequence of the significant transformations that have taken place in Indian communities over the course of the last several decades, the majority of the rural population in India has seen discernible adjustments in their objectives. Sharma and Bhaduri stated that their model for studying the multiple processes that effect the livelihood choices of rural young people was far from comprehensive. This was due to the fact that their model was unable to quantify some indeterminable, such as the altering goals of rural youth and the influence that it had on withdrawal.

Nwauwa et al (2014) The findings of a study that was conducted and titled "The role of Agricultural market reform in enhancing farmers' income in Nigeria" reveal that changes in the agricultural market in Nigeria have a positive impact on the income of farmers. The author highlights the general trend towards agricultural market liberalization in Nigeria while focussing on the country. The motivating reason behind this move was the notion that increased market competition and engagement from the private sector in agricultural marketing would result in increased agricultural output and a reduction in the amount of government control of agricultural marketing.

Ninsansala p. vidanapathirana (2012) An exhaustive investigation of agricultural information systems and the role they play in promoting community development in rural regions The obstacles that are faced in the transmission of agricultural information, the numerous forms of agricultural information that are required for development, the locations where agricultural information may be obtained, and the information's utility for agriculture are all topics that are discussed. The primary objectives of the study are to determine what agricultural information systems exist, where they are located, how effectively they function, any potential issues that may occur, and how to enhance their performance.

Arumugam, A. and Kanthimathinathan, S. (2009) As a result of better market efficiency and policies in agricultural goods, India is able to provide considerably higher prosperity, according to the opinion of the author. They demanded that certain obstacles be eliminated, and in order to do this, they provided a number of suggestions for the development of agricultural marketing techniques. The study came to the conclusion that the agricultural sector in India needs to be strengthened in order to contribute to the rural economic growth and alleviation of poverty. In order to achieve this, it is necessary to implement appropriate marketing strategies that enhance the competitiveness of various crops. This will ensure the survival and growth of the Indian agriculture market.

Namasivayam, N. and Karuppuchamy, M. (2010) The fact that the exact goal for why these markets were founded would be thwarted if the farmers, who are the target group of regulated markets, do not engage successfully in these markets was emphasized. They advised that the market committee's propaganda apparatus should be revved up in order to make the farmers aware of the advantages of dealing

in regulated marketplaces. This would be done in order to facilitate the market committee's mission. In their argument, they said that a robust marketing system guarantees that both consumers and producers would get appropriate rewards.

Neelam Bharadwaj (2009) stressed how important it is to make sure that agricultural research takes into consideration the resources and limits that farmers confront and that it is tailored to meet the specific requirements of different farmers. In addition, the need of creating quality management systems for agricultural products and establishing certification facilities for agro-goods was underlined. They feel that it is vital to do consumer research that is relevant to a certain region when it comes to farm marketing.

Abdullah & Hossain, (2013) In recent years, Bangladesh's agricultural output has expanded by a ratio of two to three, owing to measures taken by both the government and non-governmental organisations (NGOs). This represents a significant increase in agricultural production. However, it does demonstrate that a robust agricultural marketing mechanism is required in order to maintain a very high level of agricultural output. It is necessary to make adjustments in order to achieve sustainable development since farmers are unwilling to engage in agricultural marketing because they are experiencing a drop in profitability as a result of receiving a low price for their commodities. We need government involvement against hoarders and market manipulators, but we also need a decrease in the number of intermediaries, an increase in the producer's share, and limitations on deceptive advertising and other unethical activities in the agriculture sector. All of these things are important.

Martinez et al. (2010) The financial benefits of direct marketing were analysed, and it was found that it assists small farms in remaining in business by increasing profitability and encouraging diversity. Farmers that engage in direct sales often have more customer loyalty, which is a significant advantage in the agricultural market, which is becoming increasingly competitive. Through the encouragement of community connection and the provision of opportunities for consumers to get an understanding of the origins of the food they consume, farms may be able to achieve greater social and environmental sustainability.

Vanzetti (2014) However, despite the fact that direct sales strategies provide a multitude of advantages; they are not yet frequently used due to a variety of challenges. However, despite the fact that direct sales provide farmers greater control over their operations, the study also demonstrates that they must invest a significant amount of money in storage, transportation, and technology. On top of that, farmers often face challenges when they are attempting to penetrate unexplored markets and overcome impediments that are practical in nature. According to Vanzetti, in order to overcome these challenges and encourage the establishment of direct sales networks, it is necessary to have training efforts and support from the government.

Hendrickson & Heffernan, (2002) there have been a number of studies that have brought to light the possibility that farmers might get a larger portion of the retail price if they sell their products directly to customers rather than going via intermediaries. We observed that when farmers marketed their products directly to consumers via channels such as farm stands and farmers' markets, they had a greater degree of control over the pricing, the quality of their products, and the ties they had with their customers. Farmers are able to eliminate the need for middlemen and engage in direct business with clients as a direct consequence of this transformation, which results in increased financial independence for farmers.

MATERIALS AND METHODS:

The questionnaire was administered to farmers across the geographical locations of Kanchipuram, Chengalpattu, Tanjore, Erode, and Coimbatore. The farmers were thoroughly briefed on the purpose and content of the questionnaire to ensure clarity and accurate responses.The purpose of this study is to evaluate

the ways in which direct sales strategies in agriculture might potentially empower farmers and raise their level of autonomy. The research uses a mix of qualitative and quantitative data collection approaches. For the purpose of gathering primary data, surveys, structured interviews are conducted with farmers who participate in direct sales, agricultural professionals, and lawmakers as the subjects of the research. Secondary sources, which include such things as government documents, academic literature, and industrial sources are used in order to supplement the primary data.

RESULT AND DISCUSSION

Table 1: Challenges or Barriers in Considering New Methods of Selling

Challenge/Barrier	Count	Percentage (%)
Fear of failure	25	15.87%
High start-up costs	31	19.62%
Other	35	22.15%
Difficulty in finding customers	23	14.53%
Limited knowledge or skills	33	20.88%

Table 1 shows the main obstacles farmers encounter while contemplating new marketing strategies. 22.15% of respondents reported "Other" as a barrier, which may include technological adaptation and other barriers. Another hurdle, 15.87%, was fear of failure, showing unwillingness to try new sales approaches. 19.62% and 20.88% of farmers cited high start-up expenses and lack of knowledge or skills as impediments. Finally, 14.53 percent of farmers had trouble finding consumers, indicating that market access remained a major concern.

Table 2: Comfort with Technology for Selling Products

Comfort Level	Count	Percentage (%)
Not Comfortable	30	20.00%
Somewhat Comfortable	42	28.00%
Not at All Comfortable	26	17.33%
Neutral	39	26.00%
Very Comfortable	18	12.00%

Table 2 reflects the varying levels of comfort among farmers using technology for selling products. The majority of farmers, 28%, reported being somewhat comfortable with technology, which indicates that while they may not be fully adapt, they are open to using digital platforms for sales. However, 20% of respondents were not comfortable, and 17.33% were not at all comfortable, which suggests a substantial portion of farmers still face barriers in embracing technology. Additionally, 26% remained neutral, showing an uncertain stance. Only 12% felt very comfortable using technology, emphasizing that further training and support are needed to boost confidence and participation in digital sales channels.

Table 3: Support to Start or Enhance Direct Sales to Consumers

Support Type	Count	Percentage (%)
Financial Assistance or Grants	42	28.00%
Training in Marketing and Sales	36	24.00%
Government Policy Support	30	20.00%
Improved Infrastructure	33	22.00%
Other	29	19.33%

Farmers require encouragement to initiate or improve direct sales to consumers, as seen in Table 3. Financial aid or grants were most sought by 28% of respondents. Financial resources are crucial for farmers to switch to direct sales. Marketing and sales training was also important to 24% of farmers, underscoring the need for skills development. Around 20% of respondents wanted infrastructure upgrades and government policy assistance, highlighting the significance of enabling surroundings. Other help cited by 19.33% of farmers suggests a variety of other requirements for direct sales success.

Table 4: Communication with Customers

Communication Method	Count	Percentage (%)
Online	6	4 %
In Person	61	41%
Through Middlemen	28	18.67%
Rarely or Never	27	18.00%
Other	28	18.67%

Table 4 shows how farmers reach clients. 4% of farmers interact online, demonstrating a declining interest in digital platforms due to lack of technological advancement and adaptation. In-person communication remains relevant, with 41% of respondents adopting it. However, 18.67% of farmers use middlemen, demonstrating their persistent involvement in the agricultural supply chain. Additionally, 18% of farmers seldom or never connect with clients directly, which may indicate issues with direct involvement or indirect sales channels. These findings suggest using both conventional and innovative communication tactics to target diverse client categories.

Table 5: Critical Factors for Successfully Selling Directly

Critical Factor	Count	Percentage (%)
Strong Marketing Efforts	38	25.33%
Easy Access for Customers	27	18.00%
Building Trust with Consumers	35	23.33%
Consistent Product Quality	34	22.67%
Competitive Pricing	29	19.33%
Other	20	13.33%

Table 5 shows the key elements of direct selling success. 25.33% of respondents ranked strong marketing efforts as the most significant aspect, emphasising the necessity for successful promotional techniques to attract consumers. Farmers understand the value of relationship-building in direct sales, placing 23.33% on customer trust. 22.67% and 18% of respondents prioritised product quality and customer access. Competitive pricing (19.33%) is another important component, suggesting that price still influences customers. Other variables mentioned by 13.33% reveal additional subtleties not covered in core categories.

Table 6 Strategies for Building Trust and Loyalty with Customers

Strategy	Count	Percentage (%)
Honest and Transparent Communication	27	18.00%
Excellent Customer Service	48	32.00%
Community Involvement	39	26.00%
High Product Quality	21	14.00%
Other	30	20.00%

Table 6 shows how farmers create consumer trust and loyalty. Excellent customer service was the most popular option, with 32% of farmers. This emphasises the significance of client satisfaction for recurring business. Farmers also prioritise community participation (26%), showing that they want to have strong

local links. 18% of respondent's preferred honest and transparent communication, demonstrating that trust is built via transparency. Though vital, high product quality was the least reported approach at 14%, indicating that other variables may be more relevant in consumer loyalty.

Table 7: Interest in Offering Specialized Products (Organic or Heirloom Varieties) Directly to Consumers

Response	Count	Percentage (%)
Yes, very interested	29	19.33%
Yes, somewhat interested	34	22.67%
Neutral	41	27.33%
No, not interested	26	17.33%
No significant change	12	8.00%
Decline	50	33.33%

Table 7 shows farmers' desire to sell organic or heritage crops directly to customers. 22.67% were interested in these items, and 19.33% were highly interested. A large 33.33% of respondents were uninterested, and 8% indicated no change. The 27.33% who were neutral may have been undecided or unaware of such items' commercial potential. While there is demand in specialised services, many farmers may need more knowledge or help to capitalise on unique market prospects.

Table 8: Thoughts on the Future Potential for Direct Sales of Farm Products in the Region

Response	Count	Percentage (%)
Focus on immediate profitability	47	31.33%
Steady growth	44	29.33%
Rapid growth	23	15.33%
Decline	50	33.33%
Not sure	45	30.00%

Table 8 shows farmers' predictions for direct agricultural product sales in their area. Given farmers' short-term financial challenges, 31.33% think immediate profitability should be prioritised. However, 29.33% expect stable growth, suggesting some farmers are aiming for modest development. Interesting, 15.33% of respondents expect substantial growth, indicating confidence for direct sales. However, 33.33% foresee a reduction, potentially owing to market access issues or consumer behaviour changes. Direct sales in the area are questionable, since 30% of respondents were unsure.

Table 9: Designing Subsidies to Increase Farm Income and Ensure Long-Term Sustainability

Response	Count	Percentage (%)
Create a special fund for high risk crops	39	26.00%
Combine both profitability and sustainability	77	51.33%
Offer better insurance plans for farmers	33	22.00%
Subsidize modern farming tools	39	26.00%
Support renewable energy use on farms	61	40.67%
Fund better post-harvest infrastructure	50	33.33%
Direct payments to farmers	47	31.33%
Increase payments for organic farming	55	36.67%

Farmers propose subsidies to boost agricultural revenue and assure sustainability in Table 9. Combining profitability with sustainability was the most popular solution, selected by 51.33% of respondents, demonstrating a need for balanced assistance that meets both urgent financial requirements and long-term environmental objectives. Renewable energy usage on farms was also supported by 40.67% of farmers, indicating increased environmental awareness. Other proposals included increased farmer insurance (22%),

and incentives for advanced agricultural gear (26%), underlining the need for risk reduction and technical innovation. The different replies imply farmers want diversified strategies to improve farm sustainability and profitability.

Table 10: Improving Subsidy System to Protect Farmers and Increase Profits

Response	Count	Percentage (%)
All of the above	58	38.67%
Subsidize precision agriculture tools	39	26.00%
Offer incentives for niche and specialty crops	50	33.33%
Create shared equipment programs in villages	31	20.67%
Provide grants for shared machinery in villages	39	26.00%
Support organic and fair-trade certification	50	33.33%
Cheaper seeds and fertilizers	38	25.33%
Give more money to eco-friendly farmers	48	32.00%

The replies show strong support for improving the subsidy structure to help farmers make more money. Most people chose "All of the above" (38.67%), indicating a consensus on the need for numerous subsidy improvements. Niche and specialty crop incentives and organic and fair-trade certification garnered 33.33% approval, demonstrating the need for agricultural diversification. Precision agricultural tool subsidies (26%) and shared equipment grants (26%) showed a commitment to modernising farming. A desire for comprehensive subsidy changes that target numerous agricultural aspects is shown by the high answer for “All of the above”.

Table 11: Helping Farmers Access Advanced Farming Equipment without Leaving Small Farmers Behind

Response	Count	Percentage (%)
Create shared equipment programs in villages	31	20.67%
Provide grants for shared machinery in villages	39	26.00%
Support renewable energy projects for farms	29	19.33%
Offer incentives for niche and specialty crops	50	33.33%
Help with building storage facilities	31	20.67%

Farmers preferred initiatives that provide shared access to modern agricultural equipment. The most popular option, "Offer incentives for niche and specialty crops" (33.33%), emphasises focussing agricultural requirements to boost farm profitability. Other popular choices include incentives for shared machinery (26%) and community shared equipment programs (20.67%), which help small farmers afford new tools. Supporting farm renewable energy projects (19.33%) and developing storage facilities (20.67%) shows the necessity for complete agricultural infrastructure.

Table 12: Technological and Mechanization Subsidies India Should Prioritize

Response	Count	Percentage (%)
Subsidize precision agriculture tools	39	26.00%
Offer incentives for niche and specialty crops	50	33.33%
Support renewable energy use on farms	61	40.67%
Track subsidy use with technology to prevent misuse	48	32.00%
Use apps to deliver and monitor payments	37	24.67%

Farms using renewable energy (40.67%) are the main priority for mechanisation and technology incentives. This answer shows growing awareness about agricultural sustainability. It was also popular to provide specialised and speciality crop incentives (33.33%), demonstrating the aim to diversify agricultural production. Subsidising precision agricultural instruments (26%), the third most common option,

emphasises the necessity of contemporary farming methods to boost efficiency Technology was also preferred to track subsidies (32%), and mobile applications to track payments (24.67%), indicating a move towards technology-driven subsidy administration.

Table 13: Transforming from Quantity-Based to Quality-Based Farming by Changing Subsidy Policies

Response	Count	Percentage (%)
Subsidize organic farming	55	36.67%
Support renewable energy use on farms	61	40.67%
Track subsidy use with technology to prevent misuse	48	32.00%
Use blockchain for transparency and reduced corruption	26	17.33%
Reduce support for chemical-heavy farming	40	26.67%

Farmers mostly favour sustainable and environmentally friendly subsidies. The most popular answer, "Support renewable energy use on farms" (40.67%), shows an increasing understanding of eco-friendly farming. The need for openness and sustainability in farming was also shown by the support for subsidising organic farming (36.67%) and monitoring subsidy usage using technology (32%). Concerned about long-term environmental repercussions, 26.67% of respondents also supported limiting chemical-heavy farming. Blockchain for transparency (17.33%) was less popular but showed curiosity in novel subsidy transparency solutions.

Table 14: Types of Government Support to Help Farmers Earn More

Response	Count	Percentage (%)
Direct payments to farmers	47	31.33%
Subsidize modern farming tools	39	26.00%
Create a special fund for high risk crops	39	26.00%
Support organic and fair-trade certification	50	33.33%
Provide grants for shared machinery in villages	39	26.00%

The research suggests that most farmers are in need of government financial assistance. "Support organic and fair-trade certification" (33.33%) and "Direct payments to farmers" (31.33%) garnered the most replies, demonstrating that farmers need financial aid and certifications. The replies "Subsidise modern farming tools" (26%) and "Create a special fund for high-risk crops" (26%) indicate that farmers recognise the need for modern instruments and targeted support for fragile crops. The 26% support for shared equipment awards highlights the need for rural resource-sharing options.

Table 15: Creating Subsidies That Protect the Environment While Increasing Farming Profits

Response	Count	Percentage (%)
Offer incentives for eco-friendly farming	48	32.00%
Fund renewable energy projects for farms	29	19.33%
Support organic farming subsidies	55	36.67%
Subsidize precision agriculture tools	39	26.00%
Use block chain for transparency and reduced corruption	26	17.33%

Farmers overwhelmingly favour sustainable, profit-boosting subsidies. "Support organic farming subsidies" (36.67%) earned the most votes, demonstrating support for sustainable farming. "Offer incentives for eco-friendly farming" (32%) highlights a willingness to promote sustainable farming. Subsidising precision agricultural instruments (26%) and sponsoring farm renewable energy projects (19.33%) emphasise the significance of technology and renewable energy in contemporary farming.

Blockchain for transparency (17.33%) demonstrates an increasing interest in employing technology to assure ethical and efficient subsidy utilisation.

Table 16: Using Digital Tools and AI to Make Subsidies More Effective

Response	Count	Percentage (%)
Track subsidy use with technology to prevent misuse	48	32.00%
Use apps to deliver and monitor payments	37	24.67%
Use blockchain for transparency and reduced corruption	26	17.33%
Subsidize modern farming tools	39	26.00%
Support renewable energy use on farms	61	40.67%

The replies show a significant preference for employing technology to enhance subsidies. "Support renewable energy use on farms" (40.67%) is the top goal, demonstrating a rising interest in sustainable farming. Transparency and accountability in subsidy administration are also highlighted by "Track subsidy use with technology to prevent misuse" (32%). Respondents recognise the need for technology solutions to boost agricultural production and efficiency by subsidising new farming gear (26%) and utilising apps to monitor payments (24.67%). Blockchain for corruption reduction (17.33%) was less popular, demonstrating a desire for practical, rapid solutions.

Table 17: Redirecting Traditional Subsidies to New Farming Innovations and Entrepreneurship

Response	Count	Percentage (%)
All of the above	85	56.67%
Fund incubators for agricultural entrepreneurs	61	40.67%
Provide grants for agritech startups	47	31.33%
Subsidized input costs (seeds, fertilizers)	66	44.00%
Support cooperative ownership of advanced technology	39	26.00%

The replies indicate a strong desire to divert subsidies to agricultural innovation and entrepreneurship. Most respondents (56.67%) chose "All of the above," indicating unanimity on the need for a multifaceted approach to agricultural innovation. Other replies like "Fund incubators for agricultural entrepreneurs" (40.67%) and "Provide grants for agritech startups" (31.33%) show a need for focused technology assistance. Reduced farmer financial burdens (44%) were also highly favoured, demonstrating that agricultural innovation is enabled by subsidised input costs. The 26% preference for cooperative ownership of modern technologies shows a predisposition for community solutions.

Table 18: Perception of Financial Benefits of Government Subsidies and Schemes for Farmers

Response	Count	Percentage (%)
Comprehensive support packages	99	66.00%
Direct cash transfers	85	56.67%
Crop-specific financial incentives	56	37.33%
Subsidized input costs (seeds, fertilizers)	66	44.00%
Reduced insurance premiums	23	15.33%

The evidence reveals farmers get large financial gains from government subsidies and initiatives. The most common answer, "Comprehensive support packages" (66%), shows that farmers seek broad, integrated help. Direct cash transfers (56.67%) and crop-specific financial incentives (37.33%) were very popular, underscoring the need for tailored financial help. Input subsidies (44%), and insurance premium discounts (15.33%) were significant but not vital. Many farmers choose comprehensive support packages, suggesting they want long-term financial help to safeguard their livelihoods and boost agricultural output.

Table 19: Improvements to Make the Application Process for Government Subsidies Easier

Response	Count	Percentage (%)
Speed up the approval and disbursement of funds	83	55.33%
Simplify the application process	46	30.67%
Provide better guidance and support during the application process	33	22.00%
Simplify the application and approval process	76	50.67%
Improve information dissemination and guidance	118	78.67%

The majority of respondents (78.67%) said enhancing subsidy application information and advice is necessary. Additionally, 55.33% proposed expediting money approval and payment. With 50.67% in favour, simplifying the application and approval procedures was also recommended. Some respondents (30.67%) requested a simpler application procedure, while 22.00% wanted more help and advice. These comments show that reducing bureaucratic delays, clarifying information, and streamlining processes might greatly improve farmer subsidy systems.

Table 20: Support for Regional Farming Practices and Crop Needs in Government Schemes

Response	Count	Percentage (%)
Various targeted interventions	74	49.33%
Address regional agricultural needs	53	35.33%
Focus on specific crops	39	26.00%
General applicability across crops and regions	44	29.33%
Regional infrastructure development	36	24.00%

Regional agriculture plans and focused interventions were preferred by respondents. Many (49.33%) favoured tailored actions to fulfil area requirements, whereas 35.33% advised directly addressing regional agricultural needs. Only 26.00% of respondents thought the concentration on individual crops was required, suggesting a regional strategy may be better. A wider application across crops and geographies was preferred by 29.33%. These findings show that regional customisation and infrastructural development are essential for government agricultural projects to succeed.

Table 21: Familiarity with Government Schemes and Their Impact on Utilization

Response	Count	Percentage (%)
Fully aware and actively using schemes	34	22.67%
Moderately aware and occasionally using schemes	38	25.33%
Minimally aware and rarely using schemes	34	22.67%
Not aware at all	47	31.33%
Neutral	23	15.33%

31.33% of farmers are unaware of government initiatives, indicating a major knowledge gap. About 25.33% are partly aware but utilize the schemes sometimes, while 22.67% are completely aware and regularly use them. The remaining 22.67% has little knowledge and seldom uses the schemes. This shows that awareness and education programs and farmer engagement should be prioritized to improve government subsidy use.

Table 22: Accessibility of Government Schemes and Subsidies for Farmers

Response	Count	Percentage (%)
Very accessible and easy to use	38	25.33%
Moderately accessible with some difficulties	38	25.33%
Difficult to access and use	21	14.00%
Mostly meet needs	53	35.33%
Do not meet needs	48	32.00%

Farmers still struggle with accessibility, with just 25.33% saying government initiatives are straightforward to use. Another 25.33% considered them generally accessible with some difficulty, while 14.00% had substantial difficulties. A substantial 32.00% of respondents said the plans did not suit their requirements, while 35.33% said they largely did. These data suggest that although some farmers have access, many have trouble utilizing these programs, highlighting the need for more accessibility and assistance.

Table 23: Adequacy of Government Subsidies to Meet Financial and Operational Needs

Response	Count	Percentage (%)
Fully meet needs	40	26.67%
Mostly meet needs	53	35.33%
Partially meet needs	56	37.33%
Do not meet needs	48	32.00%

The results show that many farmers believe government subsidies partly satisfy their financial and operational demands. In particular, 37.33% said subsidies somewhat fulfil their requirements and 35.33% said they primarily do. 32.00% said the subsidies did not fulfil their requirements, while 26.67% said they did. Subsidies are helpful, but they may not solve farmers' financial and operational problems.

Table 24: Challenges in Applying for and Receiving Government Subsidies

Response	Count	Percentage (%)
Highly cumbersome and complex	101	67.33%
Significant difficulties in the application process	75	50.00%
Moderate challenges in the application process	54	36.00%
Simple and straightforward application process	43	28.67%

The research demonstrates that many farmers struggle to apply for subsidies. Most (67.33%) found the application procedure complicated. Additionally, 50.00% faced considerable hurdles and 36.00% moderate problems. However, just 28.67% considered it easy. These findings show that streamlining the application procedure, decreasing bureaucracy, and improving assistance might improve government subsidy efficiency and accessibility.

Table 25: Improvements to Enhance the Effectiveness of Government Schemes and Subsidies

Response	Count	Percentage (%)
Streamline the application and disbursement processes	89	59.33%
Enhance communication and awareness	67	44.67%
Increase the amount of financial support	48	32.00%
Implement a combination of these strategies	36	24.00%
Address regional agricultural needs	53	35.33%

Streamlining application and payout procedures was preferred by 59.33% to improve government programs and subsidies. Moreover, 44.67% supported increasing communication and awareness, while

35.33% emphasized regional agriculture requirements. The replies include reducing administrative processes, increasing outreach and awareness, and tailoring programs to regional requirements to enhance subsidy efficacy.

Table 26: Focus of Current Government Subsidies on Specific Crops or Regional Agricultural Needs

Response	Count	Percentage (%)
Focus on specific crops	39	26.00%
General applicability across crops and regions	44	29.33%
Address regional agricultural needs	53	35.33%
Not clear	38	25.33%

Most respondents (35.33%) think government subsidies should target regional agricultural needs, followed by 29.33% who think they should apply to all crops and areas. Only 26.00% supported crop-specific attention. The relevance of addressing larger agricultural settings and different farming techniques is shown by respondents' preference for a regional, holistic approach to government subsidies rather than focusing on single crops.

Table 27: Strategies to Optimize Government Subsidies and Schemes

Response	Count	Percentage (%)
Implement a combination of these strategies	36	24.00%
Increase financial support	53	35.33%
Simplify the application process	46	30.67%
Provide grants for agritech startups	47	31.33%
Subsidize modern farming tools	39	26.00%

Correlation Analysis

Pearson correlation coefficient is a tool that can be used to determine the linear connection that exists between two variables, namely the independent and dependent variables. A correlation that is completely negative is represented by a value of -1, whereas a correlation that is fully positive is represented by a number of 1. In the following table, you will find the Pearson correlation scales, which are used to measure the degree of association that exists between the variables that are dependent and those that are independent. For the purpose of providing evidence that the two variables are significantly related to one another, we provide a number of hypotheses. Utilising the Pearson correlation coefficient is one method that may be used to ascertain whether or not the relationship between the two variables is linear. If the variables do not have a linear link with one another, then the correlation coefficient will provide an erroneous image of the strength of the association between them. In the case of nonlinear variables, it is essential to keep in mind that the correlation coefficient could not provide a true representation of the degree of connection between the variables.

Table 28: Pearson's Correlation Scale among each of the dependent and independent variables

Variable	Financial Support	Technical Support	Supply Chain	Marketing Mix Support	Direct Marketing
Financial Support	1				
Technical Support	0.282**	1			
Supply Chain	0.621**	0.435**	1		
Marketing Mix Support	0.710**	0.270**	0.606**	1	
Direct Marketing	0.600**	0.209*	0.492**	0.679**	1

**. The significance level for the correlation is 0.01. (2-tailed).

*. Significance of a correlation at the 5% level (2-tailed).

The Pearson Coefficient (r) values for each variable pair are positive, indicating a positive association between all variables. Supply Chain (SC), Financial Support (FS), Technical Support (TS), and Marketing Mix Support (FP) favourably affect farmers' direct marketing involvement (DM). All these variables are "support." The strongest association was between financial aid and marketing mix support. Pair correlation was 0.710. Other possibilities are FP and SC (0.601), SC and FS (0.621), and TS and FS (0.282). DM and TS have the smallest correlation, 0.322.

Regression Analysis

SPSS regression analysis tested independent-dependent variable connections. More standardised and unstandardised regression analysis is being used to study the independent-dependent relationship.

Table 29: ANOVA Table for Regression:

Source	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Regression	878.49	4	219.62	27.81	
Residual	908.30	115	7.90		
Total	1786.79	119			

a. Dependent Variable: Direct Marketing

b. Predictors: (Constant), Marketing Mix Support, Technical Support, Supply Chain, Financial Support

Table 30: Coefficients

Predictor	**Unstandardized Coefficients (B)**	**Std. Error**	**Standardized Coefficients (Beta)**	**t-value**	**Sig. (p-value)**
(Constant)	16.06	1.57		10.20	0.00
Financial Support	0.21	0.10	0.22	2.14	0.04
Technical Support	-0.02	0.10	-0.01	-0.17	0.87
Supply Chain	0.07	0.10	0.07	0.71	0.48
Marketing Mix Support	0.42	0.09	0.49	4.95	0.00

a. Dependent Variable: Direct Marketing

H1: (Financial support on direct marketing): The table of regression analysis indicates that financial aid has a favourable impact on farmers' participation in direct marketing (DV), with a coefficient value of 0.215. However, the p-value of 0.035 indicates that this effect is not as significant as it might be.

H2: (Technical support on direct marketing): quantitative study of the coefficient's regression as can be seen in the table, there is a significant positive connection between the participation of farmers in direct marketing and the assistance provided by technology. Given that the value of p(0.865) is more than 0.05, we are able to draw the conclusion that the two variables have a positive correlation with one another.

H3: (Supply chain management support on direct marketing): We may conclude that the result is statistically significant due to the fact that the value of the standardised coefficient, which is 0.067, is more than 0.05 (p =.479). There is a less positive correlation between the support of supply chain management and the direct marketing participation of farmers, according to the third hypothesis.

H4: (Marketing mix support on direct marketing): An analysis of the regression coefficients suggests that there is a connection between the support of the marketing mix and the engagement of farmers in direct sales. There is a positive influence brought about by marketing mix aid. Both the standardised coefficient and the p-value are more than 0.05, with the former being 0.490 and the latter being 0.00. Support from the marketing mix has a somewhat positive impact on the DV (H4 hypothesis), but it is not a significant one.

Table: Hypothesis Test Result

Financial Support (FS)	H1=0.215, P=0.035	Direct Marketing (DM)
Technical Support (TS)	H2=-0.013, P=0.865	
Supply Chain Management Support (SCMS)	H3=0.067, P=0.479	
Marketing Mix Support (FP)	H4=0.490, P=0.000	

SIGNIFICANCE

This study on increasing farmers' autonomy via direct sales strategies is crucial since it will help farmers become more self-sufficient, reduce their dependence on intermediaries, and enable them to raise their profit margins. Not only does it benefit local economies and the environment, but it also encourages sustainability, improved communication between producers and customers, and openness towards all of the parties involved. Through the use of insights, it is possible to build a more sustainable and equitable agricultural system. This may be accomplished by convincing legislators and cooperatives to support direct sales models. The implementation of these models ensures financial stability, access to the market, and resilience in the face of fluctuations in the market.

CONCLUSION

The sector's fast decline is due to outdated agricultural practices, land subdivision, and fragmentation. Credit, land ownership disparity, pesticide usage, limited seeds and fertilisers, irrigation facilities, natural catastrophes, poor rural infrastructure, insufficient marketing, and an incoherent strategy may all inhibit agricultural growth. This study found that direct marketing requires significant financial and technological resources. To launch new direct-to-consumer sales channels, target a youthful, unsophisticated demographic.

Younger farmers think social media marketing is a cheap and efficient way to reach a large audience. WhatsApp, Facebook, and instagram with videos on youtube , opening a separate website to showcase their products and making it feasible for customers to buy directly placing orders on the website allow them to connect with agricultural customers and colleagues, giving them great opportunities. E-agriculture should be promoted to attract younger workers. Farmers require a lot of technical help for land-to-home. Businesses may close dealerships to increase earnings. Farmers need ample cold storage, reliable

transportation, and easy client communication now. Farmers need ongoing customer service and product training. This training should happen regularly. Researchers may learn more about farmers' direct marketing from larger studies.

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