



## Review Article

### Empowering Smallholders: A Review of Market Channel Strategies for Profitability in Nigerian Rice Farming

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#### ABSTRACT

The many market channels that Nigerian smallholder rice farmers have access to are examined in this review paper, along with the major determinants that affect their choices. This study summarises the body of research to give a general overview of traditional or local markets, farmer cooperatives, direct marketing, contract farming, and agricultural value chains as possible marketing channels. This is done in recognition of the important role that smallholder rice farming plays in rural livelihoods, food security, and poverty reduction in Nigeria. The research also identifies and examines important elements that influence farmers' choices of market channels, such as buyer access, pricing transparency, bargaining leverage, quality standards, infrastructural limits, financial constraints, and market knowledge. This paper intends to assist smallholder farmers, policymakers, and development practitioners in optimising market channel selection strategies for improved income generation, market access, and sustainable rice cultivation in Nigeria by providing insights into the opportunities and challenges related to each channel.

**Keywords:** Market Channels; Nigeria; Profitability; Selection of Marketing Channels; Smallholder Rice Farmers

**Citation:** Ibrahim, U.G., Barau, S.S. & Abdullah, A.N. (2025). Empowering Smallholders: A Review of Market Channel Strategies for Profitability in Nigerian Rice Farming. *Sahel Journal of Life Sciences FUDMA*, 3(2): 24-39. DOI: <https://doi.org/10.33003/sajols-2025-0302-04>

#### INTRODUCTION

##### Background and Significance of Smallholder Rice Farming

Many e-commerce platforms have emerged in recent years, and some of them—like Amazon.com, Bestbuy.com, Taobao.com, and JD.com—have progressively taken over retail marketplaces. For example, the biggest online retailer in the United States is Amazon.com.

(Cao *et al.*, 2021). The welfare and profitability of farmers are greatly impacted by the marketing channel selection. Effective channels can maximise price realisation and reduce post-harvest losses thus increasing farm income. There are advantages and disadvantages to both platform and direct channels. Since sellers frequently own direct channels, digital

product merchants are able to keep all of the money made through them (Li *et al.*, 2023).

Smallholder rice farming plays a vital role in rural economies and food security, particularly in developing countries where rice is a staple crop (Kumar & Kalita, 2017). For the majority of developing nations that depend on the agricultural sector, commercialising smallholder agriculture is an essential road to economic growth and development (Ethiopian Coffee Science Society, 2019). Farmers that cultivate relatively small land areas utilising limited resources and family labour are referred to as smallholders (Sperling *et al.*, 2021). Majority of the farming households in these two regions are smallholders, typically running modest family farms (Kangile *et al.*, 2020). Majority of Ghana's smallholder farmers are thought to be among the poor and can be found in rural locations (Dzanku *et al.*, 2021). These

farmers provide a sizable amount of the world's rice supply, making them important contributors to global rice production (Jayne *et al.*, 2018).

This review paper's objective is to look at the various market channels available to smallholder rice producers and analyse the variables affecting their decision. The study intends to give insights and assistance for smallholder farmers, policymakers, and development practitioners in optimising market channel selection techniques for sustainable and profitable rice cultivation by completing a thorough analysis of the existing literature.

The specific objectives of the review paper are as follows:

**Provide an Overview:** The purpose of this paper is to give smallholder rice farmers and overview of the different marketing options they might use to sell their products. As prospective market channel possibilities, it will investigate traditional or local markets, farmer cooperatives, direct marketing and farm-to-table strategies, contract farming, and agricultural value chains.

**Analyze Factors Influencing Market Channel Selection:** The review article will look at the elements that affect smallholder farmers' decision regarding the market channels. These elements could consist of Literature Review.

**Contribution to Rural Livelihoods:** For millions of rural households, smallholder rice growing is a vital source of income (Kyaw *et al.*, 2018). Farmers and their families may rely on it for money, employment, and food, which helps to lessen poverty and prevent rural-urban migration (Vos & Cattaneo, 2021). The money made from rice farming is used to meet a variety of household expenses, including those for healthcare, education, and other investments in the economy (Baker *et al.*, 2020).

**Food Security:** Rice is a staple diet for billions of people all over the world, especially in Asia and Africa (Gadal *et al.*, 2019). By growing rice for domestic consumption, smallholder rice farmers play a critical part in maintaining regional and broader food security (Kruseman *et al.*, 2020). Their contributions are particularly substantial in areas with little to no large-scale commercial farming (Naylor *et al.*, 2021).

**Social and Cultural Importance:** Within local communities, rice growing frequently holds profound social and cultural value (Nguyen *et al.*, 2020). It contributes to the preservation of cultural heritage since it is entwined with customs, rituals, and indigenous knowledge systems (Bisai *et al.*, 2023). Rice farming by smallholders improves community resilience and social cohesiveness (Wilson *et al.*, 2018).

**Environmental Sustainability:** Sustainable methods used in smallholder rice farming can advance environmental protection and improve ecosystem services (Aryal *et al.*, 2020). Traditional agricultural practices including agroforestry, integrated pest control, and System of Rice Intensification (SRI) help maintain soil fertility, protect biodiversity, and reduce environmental degradation (Daum *et al.*, 2023).

**Poverty Reduction:** By creating jobs and revenue for farmers, smallholder rice cultivation has the potential to lessen rural poverty (Nakano *et al.*, 2018). Farmers can raise their living standards and end the cycle of poverty (Gudiño León *et al.*, 2021).

Understanding market channel selection is important for smallholder rice farmers because it has the potential to increase their revenue, market access, and sustainability as a whole (Kyaw *et al.*, 2018). Smallholders can overcome obstacles such post-harvest losses, a lack of market information, and weak bargaining power with the support of effective market channel selection (Tey *et al.*, 2020). It enables them to interact with the right buyers, gain access to fair prices, and profit from supply chain value addition operations (Alice *et al.*, 2021).

This research study intends to offer insights into optimising market channel selection strategies by examining the various market channels available to smallholder rice farmers and the factors influencing their choice. Policymakers, development professionals, and farmers themselves can design interventions and policies that improve smallholders' access to profitable markets, better their livelihoods, and contribute to sustainable rural development by understanding the dynamics of market channels.

### **Importance of Market Channel Selection for Smallholder Farmers**

The market should give farmers the incentives they need to expand their production since marketing is crucial in converting smallholder farmers into commercial producers (Nageswara & Anuradha, 2019). For smallholder farmers, choosing a market channel is an important choice because it has a direct impact on their revenue, access to markets, and profitability as a whole (Fatah & Zaman, 2020). The success and sustainability of smallholder rice farming operations can be greatly impacted by selecting the best market channel (Fatah & Zaman, 2020). Finding these indicators is crucial for determining potential intervention areas that could assist farmers in getting the most out of their production and marketing efforts (Baker *et al.*, 2020). It has been said that the local rice market is oligopolistic, with numerous farmers and a small number of

influential itinerant traders who frequently set pricing (Bannor, 2019).

**Income Generation:** The prices farmers are paid for their rice products depend on the market channels they choose (Mgale, 2020). Different market channels have different price structures and profitability margins (Garnevskia *et al.*, 2021). Smallholder farmers might attempt to maximise their income and returns on investment by carefully choosing which market channels to use (Abate *et al.*, 2019).

**Market Access:** The choice of market channel has a significant impact on the accessibility and reach of markets for smallholder farmers (Adams *et al.*, 2022). It determines how successfully farmers can reach out to potential customers in nearby and far-off markets (Mukarumbwa *et al.*, 2018). Smallholders can access larger consumer bases by choosing the best market channels, which increases their market exposure and potential sales volume (Mwangi *et al.*, 2021).

**Value Addition:** Smallholder farmers have the chance to participate in value-added activities, including processing, packaging, and branding through some market channels (Widadie *et al.*, 2021). Farmers' profitability and market competitiveness are increased by value addition since it allows them to take home a higher portion of the consumer price (Nambafu *et al.*, 2023).

**Risk Mitigation:** The choice of a market channel can assist smallholder farmers in reducing the risks brought on by price fluctuation and market uncertainty (Hao *et al.*, 2018). Farmers can spread their market risks by diversifying their sales channels to lessen their reliance on a single market outlet (Bongiwe, 2020). Smallholders can take advantage of shifting price trends and demand patterns by interacting with various market channels, which stabilises their income (Tey *et al.*, 2020).

**Market Information and Knowledge:** Smallholder farmers have access to diverse amounts of market information and knowledge through various market channels (Dessie *et al.*, 2018). For farmers to make informed judgements and adjust their production, they must have access to market information, including pricing trends, quality standards, and consumer preferences (Asioli *et al.*, 2017). Insights into the market and connections to potential customers can be given to smallholders through the appropriate market channel (Sperling *et al.*, 2021).

**Post-Harvest Loss Reduction:** Selection of the market channel impacts the effectiveness of the supply chain, which has an impact on post-harvest losses (Naseer *et al.*, 2019). As a result of timely, dependable transportation, storage, and processing made possible by effective market channels, post-harvest losses are

decreased and farmers' profitability is increased (Adu, 2018). Smallholder farmers can reduce losses and improve the quality of their products by choosing distribution channels that put an emphasis on effective logistics and value chain coordination (Changalima & Ismail, 2022).

Understanding the significance of choosing the right market channel equips smallholder rice farmers to take well-informed decisions that are in line with their unique objectives and circumstances. Smallholders can optimise their market channel selection strategies and raise their overall competitiveness in the rice value chain by taking into account aspects including market access, price realisation, and potential for value addition, risk mitigation, and access to market information.

This review paper advances knowledge as it delves into the vital realm of market channels for smallholder rice growers. Particular Attention to Smallholder Rice Growers: Although marketing channels and e-commerce are frequently mentioned, this evaluation focuses only on the opportunities and difficulties faced by smallholder rice producers. This focused strategy enables more profound and pertinent findings. A thorough rundown of marketing options beyond platform vs. direct, the article attempts to give a structured review of the different market channels that are pertinent to these farmers. It offers a wide range of opportunities and comprises conventional marketplaces, cooperatives, direct marketing, contract farming, and agricultural value chains. Comprehensive Examination of Influential Elements: The review aims to analyse the particular elements that influence a smallholder farmer's choice of market channel. Along with more subtle characteristics like bargaining power, quality needs, financial limits, and infrastructure, these also include more visible elements like price and access. The secret to comprehending the intricacies of their decisions is this multifaceted examination. Linking the Choice of Market Channel to Wider Effects: Effective market channel selection, particularly for smallholder rice farmers, is directly linked in the introduction to important outcomes including income generation, market access, value addition, risk mitigation, market intelligence, and a decrease in post-harvest losses. This emphasises how useful the research is in real life. Focus on Offering Insights and Support: The stated goal is to offer farmers, legislators, and development professionals' practical insights and advice in addition to conducting analysis. This pragmatic approach implies that the review seeks to be more than a scholarly endeavour. Methodology for Systematic Literature Reviews: A

rigorous and open approach to gathering and evaluating the body of existing information is shown by the thorough methodology described, which includes precise inclusion/exclusion criteria as well as a systematic data extraction and synthesis procedure. This increases the validity of the review's conclusions. Comparative Analysis and Identification of possibilities and Challenges: The review makes it clear that it aims to identify the particular possibilities and challenges faced by smallholder rice farmers in this environment, as well as to evaluate the advantages and disadvantages of various market channels. This problem-focused and comparative method guarantees insightful results. Creation of Best Practices and Recommendations: The review's ultimate goal is to combine its results into specific best practices and suggestions for enhancing smallholder rice farmers' market channel selection tactics. This emphasis on real-world applicability is a noteworthy innovation. The main innovation is the particular emphasis on smallholder rice farming in the context of various market channels, along with a thorough examination of the variables affecting channel choice and a distinct goal of offering helpful advice for enhancing their standard of living and market results. It involves taking a broad subject (marketing channels) and examining a crucial, specialised area of the agriculture industry via a close, analytical lens.

## **METHODOLOGY**

To investigate the many market channels accessible to smallholder rice farmers and analyse the factors impacting their choice of market channel, this study used a comprehensive literature review methodology. Because the study intends to synthesise existing knowledge, identify major themes, compare data from various studies, and eventually provide insights and suggestions based on the present body of literature, this technique is considered appropriate.

The methodology involves the following key steps: Defining the Scope and Research Questions: The study aims to comprehend the range of market channels available to smallholder rice producers as well as the factors that influence their decisions. The stated objectives serve as the basis for the particular research topics that direct this review, including- Literature Search Strategy: A thorough and methodical search for pertinent literature was carried out using a variety of scholarly databases, such as Scopus, Web of Science, Google Scholar, and databases that are specifically related to agriculture (where appropriate). To guarantee a comprehensive yet targeted retrieval of pertinent studies, the search method combined keywords with Boolean operators. "Agricultural

marketing," "smallholder farmers," "rice farming," "market channels," "marketing channels," "channel selection," "market access," "developing countries," and variations and combinations of these terms were the main keywords employed. In order to find further pertinent publications, the reference lists of the discovered articles were also searched.

Inclusion and Exclusion Criteria: Particular inclusion and exclusion criteria were used to guarantee the quality and applicability of the evaluated literature. Criteria for Inclusion: Which kinds of market channels are used by smallholder rice producers? What aspects of choosing a market channel have a major impact on smallholder rice producers' decisions? For smallholder rice producers, what are the relative benefits and drawbacks of these various market channels? In terms of choosing a market channel, what are the typical obstacles and new prospects faced by smallholder rice farmers? What guidelines and best practices can be developed to help smallholder rice farmers choose the best sales channels? The analysis of the research carried out with a particular focus on smallholder rice producers. studies looking at smallholder rice farmers' access, performance, drivers, and market channel preferences. relevant reports, case studies, review articles, and empirical research that has been published in books, respectable organisational publications, and peer-reviewed journals. studies that were released in a timely manner (to reflect current trends, however important earlier research were also taken into account). English-language studies (because to budget restrictions). Studies concentrating on large-scale commercial rice farming are excluded unless they include comparative analysis pertinent to smallholders. Studies on other crops unless the results directly and clearly affected the sale of rice by smallholder farmers. Articles that are purely conceptual or theoretical and lack empirical support. Grey literature with dubious dependability or quality.

Data Extraction and Synthesis: A systematic data extraction procedure was used after the pertinent literature had been located and chosen. Important details taken from every study were as follows: The year of publication and the author(s) Examine the setting and circumstances, goals and enquiries of the research, methodology used (for empirical investigations, if applicable), Market channel types analysed, variables found to affect the choice of market channels, Important discoveries and conclusions pertaining to the review's study goals.

In accordance with the goals of the study, the gathered data was subsequently thematically synthesised. This entailed classifying related results, spotting recurrent

themes and trends, and contrasting and comparing the viewpoints and conclusions from various investigations. This synthesis approach benefited greatly from the table in the original paper that listed the variables impacting market channel selection from different writers.

**Analysis and Interpretation:** To find important trends, gaps in the body of literature, and points of agreement and disagreement, the synthesised data was subjected to a critical analysis. Understanding how multiple factors interact to influence market channel selection, how well various channels function and what effects they have on smallholder farmers, and the general potential and problems in this area were the main goals of the investigation.

**Creation of Best Practices and Recommendations:** Best practices and practical suggestions were developed based on the thorough examination and analysis of the literature. These suggestions are meant to give policymakers, development professionals, and smallholder rice farmers' useful advice on how to best choose market channels in order to improve farmers' lives and advance sustainable rural development.

This study intends to contribute to a better understanding of the opportunities and complexities in this crucial area by using a systematic literature review methodology to present a solid and perceptive overview of the current state of knowledge regarding market channel selection by smallholder rice farmers.

**Comparative Analysis of Market Channels:** The various market channels that smallholder rice farmers have access to will be compared in this essay. Using case studies, empirical data, and pertinent research studies, it will analyse the benefits and drawbacks of each market channel. The analysis will shed light on the potential advantages and difficulties connected with each possible market channel.

**Identify Challenges and Opportunities:** The review article will highlight typical difficulties smallholder rice farmers encounter when choosing a market channel. Limited market intelligence, weak negotiating position, infrastructure limitations, standards for quality and certification, and restricted access to financial services are a few examples of these difficulties. The report will also emphasise potential for smallholder farmers in terms of market connections, technology improvements, regulatory support, and information sharing.

**Best Practices and Recommendations:** The article will give best practises and recommendations for smallholder rice farmers in market channel selection based on the research of various market channels and the recognised difficulties and opportunities. These suggestions can include methods for expanding market accessibility, creating connections across markets, upgrading market

information systems, bolstering farmer cooperatives, utilising digital platforms, and promoting beneficial regulations.

By attaining these goals, the review paper aims to add to the body of information on smallholder rice farmers' choice of market channel. The article offers recommendations and insights that can help with developing policies, developing interventions, and building capacity for projects that aim to enhance the market outcomes and lives of smallholder rice farmers.

## **RESULTS**

### **Empirical Findings**

#### **Smallholder Rice Farming and Market Channels**

**Definition and Characteristics of Smallholder Rice Farming**

Rice farmers who practice smallholder agriculture cultivate the crop on relatively small plots of land with the help of their families and a limited amount of resources (Sperling *et al.*, 2020). It is a widespread subsistence farming method in rural areas of developing nations, especially in locations where rice is a major cash crop (Shedeed, 2020).

**Limited Land Size:** Smallholder rice farmers often cultivate rice on plots of land that are between one and a few hectares in size (Ward *et al.*, 2021). The little amount of land limits how much can be produced and how big things can get, which affects how farmers choose to farm and how they interact with the market (Wolfert *et al.*, 2017).

**Family-Based Labor:** Rice growing by smallholders is characterised by its reliance on family labour for agricultural tasks (Okello *et al.*, 2019). Family members actively participate in various farming duties, such as preparing the ground, planting, weeding, and harvesting (Kenedy *et al.*, 2022). This includes men, women, and children. Family labour helps to lower labour expenses but could restrict the size of businesses (Grekou & Watt, 2021).

**Low Levels of Mechanization:** Smallholder rice cultivation uses less technology and mechanisation than industrial-scale farms do (Strategy-II, 2020). Ploughing, transplanting, and harvesting are just a few of the farming tasks that farmers frequently perform by hand and with conventional implements (Paula & Soto-g, 2022). Mechanisation is typically constrained by financial limitations and the availability of equipment (Sengupta *et al.*, 2019).

**Orientation towards Subsistence:** Smallholder rice farmers cultivate rice largely for home consumption as a result of their requirement for subsistence (Luka *et al.*, 2021). The rice that is produced is a basic diet for

farming households, ensuring their self-sufficiency and security (Niu *et al.*, 2022).

**Diverse Farming Systems:** In terms of agroecological conditions, farming techniques, and socio-cultural contexts, smallholder rice farming displays substantial regional and international variation (Ojo & Baiyegunhi, 2020). Depending on the availability of water resources and agroclimatic conditions, the agricultural techniques might range from irrigated paddy farming to rain-fed upland rice agriculture (Philip *et al.*, 2011).

**Limited Resource Access:** Small-scale rice producers frequently experience difficulties getting access to resources like land, water, inputs, and loans (Abegunde *et al.*, 2019). Smallholders' productivity, efficiency, and market participation can be hampered by limited access to productive resources (Joko, 2019).

#### **Types of Market Channels Available to Smallholder Rice Farmers**

Small-scale rice growers can sell their products through a variety of market channels. These market channels have different structures, systems of management, and interactions between farmers and consumers. Smallholder farmers must have a thorough understanding of the different types of market channels to choose the right one.

##### **Traditional/Local Markets:**

Farmers sell their rice products directly to consumers or middlemen in traditional or local markets, which are unorganised, decentralised marketplaces (Mohammad, 2019). These markets contribute significantly to the local food economy and are frequently found in suburban or urban neighbourhoods (Si *et al.*, 2019). Farmers interact directly with customers in traditional markets, which can yield insightful feedback and foster trust. However, there might be certain limitations to market information and pricing transparency in these marketplaces (Macrae, 2011).

##### **Farmer Cooperatives:**

According to Shipton *et al.* (2018), smallholder farmers create farmer cooperatives to market and sell all of their agricultural products, including rice (Njie, 2018). Farmers who work in a cooperative pool their resources and divide the expenses and gains associated with marketing and selling their produce (Chagwiza *et al.*, 2016). Cooperatives can increase the negotiating power of smallholders, give them access to pooled market data, and help with group decision-making. However, difficulties with administration, maintaining constant product quality, and making sure that advantages are distributed fairly could appear (Adolph *et al.*, 2020).

##### **Direct Marketing and Farm-to-Table Approaches:**

Through specialised channels like farmers' markets, community-supported agriculture (CSA) programmes,

or online marketplaces, rice is sold directly from the farmer to the end customer as part of direct marketing and farm-to-table strategies (Ed *et al.*, 2022). These strategies offer the possibility of more price realisation, enhanced consumer-producer interactions, and marketing process control (Boğa & Topcu, 2020). Direct marketing does, however, need more marketing expertise and work from farmers, and expanding your customer base may provide difficulties (Horst & Gwin, 2018).

##### **Contract Farming:**

Rice production and supply are handled through contracts that farmers sign into with agribusiness companies or processors (Dong *et al.*, 2020). Farmers who practise contract farming are given access to inputs, technical support, and pricing that are predetermined (Anh *et al.*, 2019). Smallholder farmers may benefit from contract farming by getting better access to capital, decreased market risks, and guaranteed market access (Maertens & Vande Velde, 2017). The main issues with this market route, however, include power disparities, asymmetric information, and possible smallholder exploitation (Tadesse *et al.*, 2019a).

##### **Agricultural Value Chains:**

The network of operations involved in growing, processing, and distributing rice from farm to fork is a part of an agricultural value chain (Parashar *et al.*, 2020). Smallholder farmers have access to many opportunities along the value chain, including the ability to produce raw rice, take part in processing tasks, or provide to larger traders or processors (Trevor & Lewis, 2015). Smallholders who participate in the value chain may get access to higher-value markets, technical assistance, and improved quality control (Trevor & Lewis, 2015). For smallholder farmers, however, it might be difficult to meet quality requirements, access market data, and deal with power dynamics along the value chain (Hartmann *et al.*, 2021).

Smallholder rice farmers are better equipped to weigh their alternatives based on their unique circumstances, preferences, and market prospects when they are aware of the variety of market channels accessible to them. Every market channel has unique benefits and drawbacks, therefore smallholders must carefully consider these elements to choose the best market channel.

##### **Traditional/Local Markets**

Smallholder rice farmers can sell their produce to consumers or middlemen directly at traditional or local markets, which are unorganised, decentralised marketplaces (Mgale & Yunxian, 2020). These markets are frequently found in rural or urban neighbourhoods

and are important parts of the regional food economy (Proctor & Berdegué, 2020). It is crucial for smallholder rice farmers to comprehend the traits, benefits, and difficulties connected with traditional/local marketplaces before adopting this market channel (Abou, 2018).

**Advantages: Reduced Transaction Costs:** Farmers and consumers frequently interact directly in traditional/local markets, cutting out middlemen and related costs (Mukahhal, 2020). Smallholder farmers may benefit from lower transaction costs as a result of this (Tadesse *et al.*, 2019b).

**Direct Contact with Consumers:** Selling at conventional markets gives farmers the chance to interact directly with customers, giving them the chance to develop relationships, learn about customer preferences, and get rapid feedback (Olofsson *et al.*, 2021).

**Flexibility and Local Demand:** Rice varieties, sizes, and quantity changes are often accommodated by traditional markets, which are typically responsive to local demand patterns (Ragasa & Chapoto, 2017). Farmers can serve specialised markets and local tastes because to their flexibility (Mukahhal, 2020).

**Challenges: Limited Price Information:** Farmers may find it difficult to determine appropriate pricing for their rice in traditional markets due to a possible lack of price transparency (Ray *et al.*, 2021). Lack of proper price information may expose farmers to price exploitation or result in less than ideal price realization (Kremer *et al.*, 2019).

**Quality and Grading Issues:** Rice quality and grading standards may vary as a result of traditional marketplaces' possible lack of adequate quality control measures (Shamsudeen, 2021). This may have an impact on the production of smallholder farmers and their capacity to compete in standardised marketplaces (Marcus *et al.*, 2017).

**Market Logistics and Infrastructure:** Custom all marketplaces frequently lack adequate infrastructure and logistical support, in addition to dependable market access, storage spaces, and transportation networks (Mgale, 2020). Problems with product preservation and timely market transactions could result from this (Merem *et al.*, 2017).

For smallholder rice farmers, case studies and empirical data can shed light on the benefits and drawbacks of traditional/local markets. For instance, a research by (Doss & Quisumbing, 2020) revealed that traditional marketplaces gave smallholder rice farmers direct access to consumers and reduced transaction costs, but that the outcomes of farmers' markets were hampered by incomplete price information and problems with quality control. Similar to this, (Gupta *et al.*, 2021)

looked at traditional markets in India and emphasised how crucial it is to upgrade market infrastructure and information systems to improve the operation of traditional markets for smallholder farmers.

Smallholder rice farmers can choose the best market route by carefully weighing the benefits and drawbacks of this market channel and by understanding the dynamics of traditional/local marketplaces.

**Farmer Cooperatives:** In order to market and sell their agricultural products, especially rice, collectively, smallholder rice farmers create farmer cooperatives (Galvin *et al.*, 2020). These cooperatives are founded on the concepts of teamwork, mutual gain, and shared decision-making. It is essential for smallholder rice farmers to comprehend the traits, benefits, and difficulties connected with farmer cooperatives before adopting this marketing channel (He *et al.*, 2022).

**Advantages: Enhanced Bargaining Power:** By jointly negotiating prices and terms with purchasers, farmer cooperatives can increase the bargaining power of smallholder rice farmers (Barrett *et al.*, 2020). Farmers can take advantage of economies of scale and improve their market outcomes by working together (Mgale & Yunxian, 2020).

**Access to Market Information:** Smallholders have access to market data through cooperatives, including pricing trends, demand patterns, and quality standards (Pham *et al.*, 2019). Informed decisions can then be made by farmers, who can then modify their marketing and production plans accordingly (Zhai *et al.*, 2020).

**Shared Resources and Services:** Cooperatives give smallholders access to shared services including processing, storage, and transportation while also allowing them to pool their resources, split costs, and share costs (Chukkapalli *et al.*, 2020). This may result in increased effectiveness and lower transaction costs.

**Challenges: Management and Governance:** Successful management and governance are essential to farmer cooperatives' success. Decision-making, leadership, conflict resolution, and ensuring equal benefit distribution may all face difficulties (Moon & Lee, 2020). **Quality Control and Consistency:** Due to differences in agricultural techniques, post-harvest handling, and processing, farmer cooperatives may find it difficult to maintain uniform product quality (Pingali *et al.*, 2019). Maintaining market competitiveness depends on maintaining uniform quality standards (Vafaei *et al.*, 2019).

**Market Linkages and Market Expansion:** For farmer cooperatives to reach larger and farther-off markets, it can be difficult to establish and maintain market links (Barrett *et al.*, 2020). Strategic collaborations and effective supply chain management are required to

expand the cooperative's market reach beyond its immediate network (Gölgeci & Kuivalainen, 2020).

For smallholder rice farmers, case studies and empirical data can shed light on the benefits and drawbacks of farmer cooperatives (Candemir *et al.*, 2021). For instance, when Barrett *et al.* (2020) looked at farmer cooperatives in Uganda, they emphasised the advantages for smallholders in terms of improved market outcomes, expanded access to goods and services, and improved bargaining power (Liverpool-Tasie *et al.*, 2020). Similar to this, a 2019 study by Narrod *et al.* looked at farmer cooperatives in Kenya and emphasised the significance of successful governance, quality control, and market links (Gramzow *et al.*, 2018). Smallholder rice farmers can choose the best marketing channel by carefully weighing the benefits and drawbacks of each option. This can be done by understanding the dynamics of farmer cooperatives (Gramzow *et al.*, 2018).

Examining Table 1 below, it can be seen that what influences smallholder rice farmers' choices over how to market their crop. For factors, it resembles a popularity contest. Every author is voting "yes" for the elements that they believe are important in their investigation. The more "Y"s a component receives, the more frequently it appears in many research studies, indicating that it is a rather significant contributor. There are a few factors that stand out. Consider the following: farm size (4), educational attainment (5), price (6), quantity (7), mode of transportation (8), distance to market (9), and organisation membership (14). Many academics give these a lot of love. Doesn't it make sense? The amount of rice you have, your level of education, the price being provided, the quantity you are selling, the method you will use to transport it, the distance to the market, and group membership can all significantly alter your possibilities. A strong showing is also shown by other variables. Additional factors that show up relatively frequently include Age (1), Sex (2), Experience (3), Credit accessibility (10), Extension service (11), and Market information (20). These address the individual circumstances of the farmer, their availability of resources and assistance, and their level of market knowledge. Then there are the factors that aren't as frequently mentioned. Although they appear less frequently, bargaining power (12), road type (13), contract (15), selling method (16), family size (17), poverty line (18), and market accessibility (19) are all mentioned. This does not imply that they are not significant, but their impact may differ significantly based on the particular setting or study site. The overlap is what's truly amazing in this case. There are certain commonalities in the factors that influence

these farmers' decisions, despite the fact that these studies were conducted by various individuals in possibly disparate locations. It emphasises that although local elements are important, there are also very universal factors at work. Remember that a "Y" just indicates that the author thought that factor was important. It doesn't explain how it affects the decision (for example, bigger farms may sell straight to wholesalers). You would have to read through each document in order to gain that deeper comprehension. In summary, this table provides an excellent summary of the major elements that academics have found influence the market channels that smallholder rice producers select. There is a stronger signal that a factor is broadly significant when there are more "Y"s. There are different factors that affects the marketing selection of smallholder farmer has been studied by different researchers. The most mentioned from the research are the ones marked with 'Y', however, it does not mean that the researcher did not mention some other factors, only that these are the most mentioned. Age, formal education, the worth of agricultural production, association membership, financing availability, contractual arrangements, and distance from marketplaces are all important elements that influence farmers' decisions on which market to sell their products in (Kangile *et al.*, 2020). Determinants of organic farmers' market channel preference. It found that pricing discrepancies between organic and conventional markets during high and low seasons, as well as pineapple harvests and losses, had a substantial impact on farmers' market choice (Kyomugisha *et al.*, 2019). The likelihood of market participation and the level of commercialization behaviour in Ghana were strongly influenced by farmer characteristics, household characteristics, farm features, and institutional or policy factors (Bannor, 2019). The amount of area used for rice farming, the availability of transportation options, and whether rice was to be sold in bulk or separately all had an impact on a farmer's choice of marketing channel (Ouma *et al.*, 2020). Due to their failure, fear, or inability to step outside of the farm gate and into the marketplaces, the majority of farmers in rural areas still sell their rice to neighbourhood collectors. The results indicate that there is a need to strengthen collective action through well-organized farmer groups in the nation, as well as the rural infrastructure, market information systems, smallholder access to productive assets, wise use of finance, and smallholder access to productive assets (Mgale & Yunxian, 2020). Even while local wholesalers and collectors are still the most frequent consumers of farmers' goods in rural areas, farmers are increasingly choosing modern marketing



channels thanks to collective action (through specialised rice farmer associations) (Pham *et al.*, 2019). When Beninese pineapple growers have the knowledge and skills to deal with and adhere to quality issues, they choose market channels with high values (Arinloye *et al.*, 2015). In both seasons, distinct socioeconomic, institutional, and marketing characteristics had differing statistically significant effects on marketing channel decisions (Arinloye *et al.*, 2015). Due to their failure, fear, or inability to step outside of the farm gate and into the marketplaces, the majority of farmers in rural areas still sell their rice to neighbourhood collectors. The

results indicate that there is a need to strengthen collective action through well-organized farmer groups in the nation as well as the rural infrastructure, market information systems, smallholder access to productive assets, wise use of finance, and smallholder access to productive assets (Mgale & Yunxian, 2020). Farm size, price of rice produced per 85 kg bag, access to information about the market, and availability of finance all boosted farmers' involvement in direct marketing channels, but payment duration and bicycle ownership decreased it (Garnevskia *et al.*, 2021).

**Table 1. Factors that Influence Smallholders Market Channel Selection from different Authors**

Author	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
(Kangile <i>et al.</i> , 2020)	Y	Y			Y				Y					Y	Y					
(Kyomugisha <i>et al.</i> , 2019)	Y	Y	Y			Y	Y		Y						Y	Y				
(Bannor, 2019)		Y		Y	Y				Y							Y	Y	Y	Y	
(Ouma <i>et al.</i> , 2020)	Y	Y	Y	Y		Y	Y	Y	Y		Y			Y						Y
(Qiao <i>et al.</i> , 2016)	Y		Y	Y										Y						
(Mgale, 2020)	Y		Y	Y	Y	Y	Y	Y	Y	y	Y		Y	Y			Y			Y
(Pham <i>et al.</i> , 2019)	Y	Y	Y		Y	Y	Y	Y	Y	y	Y						Y			
(Arinloye <i>et al.</i> , 2015)	Y			Y	Y				Y			Y			Y					
(Chiv <i>et al.</i> , 2020)	Y		Y	Y	Y	Y			Y				Y				Y			Y
(Mgale & Yunxian, 2020)a	Y		Y	Y	Y	Y	Y	Y	Y	y	Y		Y	Y			Y			Y
(Mgale & Yunxian, 2020)b	y		Y	Y	Y	Y	Y	Y	Y		Y			Y						y
(Garnevskia <i>et al.</i> , 2021)	Y	Y	Y	Y	Y			Y		y	Y			Y			Y			
(Kyaw <i>et al.</i> , 2018)	Y				Y	Y	Y		Y		Y		Y	Y			Y			Y

- Age
- 2.Sex
- Experience
- Farm size
- Educational level
- Price
- Quantity
- Transportation means
- Distance to market

- Credit accessibility
- Extension service
- Bargaining power
- Nature of road
- Membership to organization
- Contractual agreement
- Mode of selling
- Family size
- Poverty line
- Access to market
- Market information

Table 2 shows a clear hierarchy of the criteria that academics have most commonly thought about when choosing a market channel for smallholder rice growers. Leading Influencers (Often Taken into Account): Age (10): This implies that the age of the farmer is continuously regarded as a crucial element. It's possible that elderly farmers have different tastes or access to markets than younger ones. Distance to market (10): It should come as no surprise that numerous studies seem to find that a farmer's distance from possible markets is an important factor. Time and the expense of transportation probably play a significant part in this. Size of farm (9): Another important consideration appears to be the size of a farmer's operation. Larger farmers may have more negotiating power or access to alternative markets.

Experience (8) & Price (8): The prices that are given in various markets as well as the farmer's farming experience are both very important. While pricing is a key economic motivator, seasoned farmers may have developed networks or knowledge of better markets.

Moderately Influential (Taken into Account by Several Authors): Quantity (7) & Educational level (7): The amount of rice that the farmer must sell and their degree of education are both significant factors. While quantity can affect which market channels are viable, education may have an impact on negotiation abilities or information access.

Membership in the organisation (6), extension service (6), and sex (6): Many studies have examined aspects such as gender, membership in farmer associations, and access to agricultural guidance. These may have an impact on information availability, collective bargaining power, and resource access.

Less often Taken Into Account (But Still May Be Significant): Family size (5) and transportation modes

(5): Fewer authors take into account the size of the household and the way farmers transport their rice, but these factors can still have real-world effects on decisions and market access. Market data (4): Surprisingly little research has been done on access to information about market prices and opportunities, despite the fact that it's probably a crucial component of choosing a market channel.

Contractual agreement (3) and credit accessibility (3): Formal agreements with buyers and financial access can be important, although they are less common in this group of studies. Road characteristics (2): Although not as extensively researched in this collection, road condition probably affects market access and transportation costs.

Least often Taken in to Account (Possibly Under-Examined): Poverty line (1), selling method (1), bargaining power (1), and market accessibility (1): These elements seem to have received the least attention from authors in this body of writing. This could point to places where more investigation could yield insightful information about the subtleties of smallholder market channel choosing. For example, it may be important to know how a farmer's level of poverty or negotiating skills influence their market decisions.

This table essentially shows that other potentially crucial factors like information access, financial resources, and even the farmer's socioeconomic status might merit more attention in future research, even though demographic and farm-level characteristics (age, distance, size, experience) and basic economic factors (price, quantity) are consistently recognised as important in influencing market channel selection for smallholder rice farmers.

**Table 2. Showing Number of times a factor had been used by Different Authors**

<b>Factors</b>	<b>Frequency Across Authors</b>
Age	10
Sex	6
Experience	8
Farm size	9
Educational level	7
Price	8
Quantity	7
Transportation means	5
Distance to market	10
Credit accessibility	3
Extension service	6
Bargaining power	1
Nature of road	2
Membership to organization	6
Contractual agreement	3
Mode of selling	1
Family size	5
Poverty line	1
Access to market	1
Market information	4

### IMPLICATIONS OF THE REVIEW

The foundation for a thorough investigation into the critical choices smallholder rice farmers in developing nations make about the sale of their crops is being laid by this review work. It seeks to truly understand why farmers select one route over another, rather than merely listing the various ways they might sell their rice. Consider it as creating a thorough map of these farmers' market environment. Firm Basis: The study is firmly establishing its analysis on the body of previous research by employing a comprehensive literature review. This implies that the conclusions and suggestions will be well-informed by existing knowledge. It's similar to beginning a construction project with a foundation that has been carefully examined.

Finding Key Themes and Gaps: Using this method, the researchers will be able to identify the significant elements and recurrent themes that frequently appear in the literature on market channel selection. More significantly, it will draw attention to areas with inconsistent findings or a lack of study. Future studies and treatments may then focus on filling in these gaps. All-encompassing Knowledge: The inclusion/exclusion criteria and a comprehensive search approach across several databases are intended to find a large number of pertinent papers. This makes it more likely that a comprehensive picture of the market channel possibilities and the variables affecting their choice will

be obtained. To collect as much pertinent information as you can, it's similar to casting a wide net. Contextual Nuances: The review recognises that these decisions aren't made in a vacuum by concentrating on smallholder rice farmers in poor nations and taking into account variables like farm size, resource access, and sociocultural circumstances. The results will probably be pertinent to the unique opportunities and difficulties that this group faces. Realistic Suggestions: This review's ultimate objective is not merely scholarly; it aims to offer practical insights for development organisations, policymakers, and farmers themselves. A focus on converting research findings into practical solutions is recommended under the "Best Practices and Recommendations" section. Emphasising Opportunities and Challenges: The evaluation specifically attempts to pinpoint the barriers farmers encounter (such as inadequate infrastructure and market knowledge) as well as the possible paths for advancement (such as technology and farmer collaboration). This well-rounded viewpoint is essential for creating successful assistance plans. This approach essentially promises a thorough and perceptive examination of a crucial component of smallholder rice growing. This review's synthesis of the body of research can help to improve these farmers' lives by giving a clearer perspective of the market dynamics. A strong visual picture of the intricacy and the areas of agreement and disagreement in the current study is

provided by the table that summarises the variables influencing market channel selection from various authors. It's an excellent method for rapidly understanding the main factors that have been found by numerous investigations.

Age, distance, and farm size are the Big Three: Age, farm size, and market distance appear most frequently, indicating that these factors are viewed as essential limitations or traits influencing a farmer's market choices. It draws attention to the practical aspects of farming, such as the identity of the farmer, their location, and the size of their business. Price and Experience as Important Factors: The combination of learnt behaviour and economic rationality in market decisions is highlighted by the careful evaluation of pricing and experience. Farmers probably compare their knowledge and existing networks with the prospective profits. Capacity and Capability: Quantity and Education A farmer's capacity to navigate the market and what they have to offer are intertwined, as evidenced by the constant inclusion of quantity and education. Education may have to do with negotiating skills or information availability.

The "Social Capital" Elements (Sex, Extension, and Membership): The mid-range frequency of these characteristics suggests that market access is likely significantly influenced by social structures, support systems, and gender roles, albeit these influences may not be universally dominating. Information Vacuum (Market Information): The lack of research on market information is quite astonishing! It should go without saying that understanding prices, demand, and opportunity is essential to making wise choices. Future study in this area may be highly promising. The Legal and Financial Environment (Credit, Contracts): These formal components of market interaction may be less prevalent or less researched in the context of smallholder farmers, as indicated by the reduced frequency of credit accessibility and contractual agreements. Knowing this could help identify obstacles to more reliable or profitable market channels. The specifics of logistics (road conditions, transportation): Although it makes sense, the comparatively little attention paid to road conditions and transport may be a sign of an emphasis on other farmer-level traits or an assumption of basic infrastructure. These elements, however, have the potential to significantly affect profitability and market access. The least taken into account elements—poverty line, selling strategy, bargaining strength, and market accessibility—indicate a possible knowledge gap regarding the more complex socioeconomic realities that influence a farmer's decisions. A farmer who is below the poverty line may

have quite different objectives and choices than one who is more financially stable. Likewise, their ability to negotiate and their sales tactics may be important factors in determining their profits.

A Call for Broader Perspectives: This table makes it clear that, although the literature has established basic demographic and farm-level factors, the lens needs to be expanded to include market-level dynamics (information access), institutional factors (credit, contracts), logistical constraints (transport, roads), and deeper socioeconomic considerations (poverty, bargaining power). Uncovering Hidden Influences: Important information about the opportunities and challenges faced by smallholder farmers may be found in the less researched factors. Examining these areas could lead to more successful interventions to enhance livelihoods and market access. Context Is Important: The particular situations in which these research were carried out may also be reflected in the consistency of some aspects. Explicitly taking into account and comparing results across various areas and agricultural systems could be beneficial for future research.

This table provides a roadmap of what we know and, perhaps more significantly, what we still need to learn about the intricate choices smallholder rice farmers make when deciding where to sell their labour-intensive product. In other words, it is more than simply a list of statistics. It is a request to delve farther.

## RECOMMENDATIONS

These suggestions are aimed at various stakeholders and are based on the findings of this review work, which emphasises the many market channels accessible to smallholder rice producers and the variables influencing their decisions:

Boost Market Literacy: Make an effort to become knowledgeable about the many market channels that are accessible (conventional, cooperative, direct, contract, value chains, etc.). Recognise each's advantages and disadvantages in your particular situation (e.g., your location, scale of production, access to resources). Consider starting or joining agricultural cooperatives as a way to investigate collective action. In addition to giving you access to common resources (storage, processing, and transportation), this can increase your bargaining power and possibly connect you with larger buyers and better market intelligence. Examine Direct Marketing Opportunities: If possible, look into direct marketing opportunities such as community-supported agriculture (CSA) or local farmers' markets. Although it takes more work in marketing and logistics, this might result in a better price realisation and direct consumer feedback.

**Examine Contract Farming Carefully:** If you're thinking about contract farming, make sure you fully comprehend all of the details of the agreement, including the quality standards, price structures, and possible hazards. If necessary, seek legal or advisory assistance to guarantee equitable accords. **Investigate Value Addition:** Seek for ways to enhance your rice's value, such as through simple processing or packaging. Your profitability and access to higher-value markets may both rise as a result. **Look for Market Data:** proactively look for market data about costs, demand, and standards of quality. Extension services, farmer networks, and, if available, mobile phone-based platforms can all be used for this. **Boost the calibre of the product:** Make an effort to raise the quality of your rice by using improved post-harvest management and farming techniques. Gaining access to more lucrative market channels requires meeting quality requirements.

**Invest in Rural Infrastructure:** To make it easier to access markets and lower post-harvest losses, upgrade storage facilities, market infrastructure, and transportation networks (roads) in rural areas. **Enhance Market Data Systems:** Create and distribute accurate and timely market data, such as price information, demand patterns, and quality standards, to farmers. Make use of easily accessible outlets, such as community radio and mobile devices. **Encourage the Growth of Farmer Cooperatives:** Give farmers the tools and knowledge they need to create and run successful cooperatives. This covers market connections, financial management, and governance. **Encourage Equitable Contract Farming Methods:** Create and implement laws that guarantee equitable contract farming arrangements between agribusinesses and farmers, tackling problems such as power disparities and price transparency.

**Facilitate Access to Finance:** Increase smallholder farmers' availability of reasonably priced loans and financial services so they may make investments in improved post-harvest technologies, market involvement, and farming methods. **Assistance with Extension Services:** To give farmers training and guidance on market opportunities, quality enhancement, and business management techniques, agricultural extension services should be strengthened. **Establish Policies That Facilitate Direct Marketing:** Lower regulatory obstacles and encourage the growth of direct marketing avenues, such as farmers' markets. **Invest in Quality Standards and Certification:** To improve market access and competitiveness, encourage the creation and application of precise quality standards and certification procedures for rice.

**Promote Market Links:** Make an effort to put smallholder farmers in touch with dependable

consumers and more lucrative distribution channels. This could entail setting up trade shows, assisting with contract negotiations, or promoting value chain development. **Build Capacity:** Provide farmers with technical support and training in value addition, cooperative management, business planning, and market analysis. **Encourage Technology Access:** Encourage the use of technology like digital marketplaces and mobile-based information platforms that can increase market efficiency and accessibility. **Invest in Programs to Reduce Post-Harvest Losses:** Encourage initiatives that use better handling, processing, and storage methods to help farmers' lower post-harvest losses.

**Encourage gender-sensitive methods:** Recognise how male and female smallholder farmers participate in the market differently and adjust solutions accordingly. Stakeholders may cooperate to enable smallholder rice farmers to make knowledgeable decisions about market channels, enhance their standard of living, and support sustainable agricultural growth in Nigeria and other developing nations by putting these suggestions into practice.

## CONCLUSION

This analysis has shed light on the wide range of market channels available to Nigerian smallholder rice producers as well as the complex variables influencing their important choices. We have highlighted the critical role that good market channel selection plays in boosting farm incomes, expanding market access, and ultimately enhancing the livelihoods and food security of rural populations across the country by synthesising the body of available literature. The possibility of farmer cooperatives, direct marketing programs, contract farming agreements, and involvement in agricultural value chains offers avenues for increased profitability and sustainability, even though traditional markets continue to be an important outlet.

The review does, however, also point up enduring difficulties. Smallholder farmers' capacity to take full advantage of market opportunities is, nevertheless hampered by a lack of market knowledge, insufficient negotiating power, inadequate infrastructure, strict quality and grading standards, and limited access to financial services. All parties involved must work together to overcome these obstacles.

Targeted measures are essential going forward. In addition to creating an atmosphere that supports the growth of strong farmer organisations, policymakers must give priority to investments in market information systems and rural infrastructure. Facilitating market connections, offering capacity training in areas like business management and quality control, and

encouraging the adoption of technologies that improve market access are all critical tasks for development practitioners.

In the end, enabling Nigerian smallholder rice farmers to make knowledgeable decisions about market channels that are suited to their unique situation and the changing market dynamics is crucial to maximising their potential and guaranteeing a more prosperous and food-secure future for the country. Context-specific evaluations of market channel performance and the long-term effects of various selection techniques on smallholder livelihoods and the larger Nigerian agricultural industry should be the main areas of future study.

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