



REVIEW ARTICLE

The paradox of market participation: Why some farmers exit despite higher market access?

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Abstract

Smallholder farmers' involvement in agricultural markets is represented as one of the main agents of agricultural transformation, poverty alleviation and rural development. However, many farmers opt out of the market even if access is improved. This review analyses the determinants, as well as the positive and the negative aspects of market engagement, using evidence from developing nations (Asia and Africa). Through the analysis, it is suggested that certain important driving factors are household and farm attributes, the institutional set-up, land tenure, price risks and climate vulnerabilities. Market participation is often linked with increased incomes, food security and the adoption of technologies. However, the long-term involvement may become unpredictable, though prices are unstable, risk management instruments are lacking and land titles and institutional trust are unreliable. The exit choices of farmers should not be viewed as a failure, but may be seen as a rational livelihood plan to reduce vulnerability and protect the household welfare. Enhancing physical access alone may be insufficient; the policies must also support market stability by providing storage, insurance, credit and transparent contracts and producer organisations. By acknowledging that exit is not a singular developmental concern, but a component of a larger array of livelihood approaches, commercialisation is not linearly depicted, but a pattern of one of the available interventions in rural development.

Keywords: climate and price risks; exit behaviour; institutional trust; market access; market participation; smallholder farmers; transaction costs

JEL classification: Q13, Q18, D23, O13

Introduction

Agriculture has long been a cornerstone of the world economy. It contributes around 4 % of the total economic production and employs almost 1 billion people across the globe (1). Agriculture is the main means of livelihood in developing countries, directly or indirectly, which is mostly sustained by small-scale farmers (2). In addition to providing food, agriculture has been identified as a source of raw materials for industries and is important for sustaining the global environment (3). Therefore, it is considered that the performance of smallholder farmers should be enhanced to reduce poverty and promote economic growth.

The involvement of the farmers in the markets is one of the main factors of agricultural transformation and rural economic growth (4, 5). The participation in market transactions has been associated with higher efficiency of the versatility of inputs used by farmers, higher supply of agricultural output, higher food security, better nutrition intake, higher income of rural populations and improved household welfare (4, 5–10). It often raises the spending on the essentials like food, education, housing, durable goods and clothing (11).

The classical economic thought has been the ground upon which the increased participation advocacy has been based. Previous researchers pointed out the advantages of market-oriented production compared with the self-sustainable (autarkic) situations in enhancing welfare (12). Modern theories further suggest that the involvement in the marketplace may support farmers to shift to crop diversification (especially cash crops), technology adoption and improved productivity (13–15). The growth in the market sales and agricultural productivity may contribute to improvements in the income of farmers and food security by improving access and affordability of food.

Several policies that exist to enhance market access have been shown to positively impact the welfare of farmers, especially in remote areas and in areas with poor economic situations (16). The interventions may enable farmers to become a more integral part of market systems. This could be done by lowering transaction costs, making better farming activities possible, boosting sales and enhancing production returns (17). As an example, Producer Marketing Group has been observed to raise the market access and selling price by 20–25 %, compared to other buyers, which is beneficial to both the farmers and stakeholders (18, 19).

Nevertheless, farmers still do not participate in the market in large numbers despite these potential benefits. Informal and formal supply chains comprise very few farmers in the world (20). Several obstacles limit their ability to access and engage in output markets. Existing literature puts a great emphasis on physical barriers such as time and distance to markets (21). Along with these, there are other barriers such as weak connections to existing market actors, insecure land claims, exposure to market risks, adverse market structure, low bargaining power of market actors and poor access to financial, human, social and natural resources (22, 23).

Although the literature on the determinants and benefits of the farmers' market participation has already had a substantial amount of information available, not enough attention has been given to farmer exit despite improved market access. This review addresses these gaps by critically examining the enabling factors and constraining factors that have influenced the market participation of smallholder farmers. It synthesises the theoretical and empirical views on market participation and exit of smallholder farmers, essential to critically analyse the conundrum of farmer exit after gaining market access.

Materials and Methods

This study adopted a narrative review approach to synthesise theoretical and empirical literature on smallholder farmers' market participation and exit behaviour in developing countries, with a particular focus on Asia and Africa. Peer-reviewed journal articles published between 2005 and 2025 were considered.

A combination of keywords related to farmers' market participation, determinants of participation and exit behaviour was used to identify relevant studies across databases such as Google Scholar, ScienceDirect and JSTOR. Initially, titles and abstracts were screened for relevance, followed by a full-text assessment of selected papers.

The included literature was analysed using a thematic synthesis approach, in which findings were organised into key themes such as theoretical foundations, determinants of participation, benefits of market access and cases of farmers' exit. This process enabled the identification of recurrent patterns and conceptual insights, particularly regarding the paradox of farmers' behaviour despite improved market access.

The conceptual framework explaining the access-participation-exit dynamics among smallholder farmers is depicted in Fig. 1.

Theoretical framework

The interdisciplinary approach that is based on the application of economic, institutional, psychological and sociological theories is needed to comprehend the market participation of smallholder farmers. This section describes the most pertinent theoretical models, their basic assumptions and their uses in the agricultural markets of developing nations. A summary of the theoretical frameworks and their applications is presented in Table 1 for better understanding.

Transaction cost theory

One of the most notable frameworks for understanding market participation is transaction cost theory, which is applied to study the participation of smallholder farmers. This is a theory that concentrates on the cost of the exchange, where it evaluates search costs, negotiation costs, enforcement costs and monitoring costs (24). The market acquisition, transportation, information and bargaining are part of the transaction costs and thus, they affect the decision of farmers to engage in the markets. In cases where the expected gains of selling are less than the transaction costs, farmers will not participate (25). To take just one example, a study in Mozambique discovered that distance to markets and access to credit were found to be important in enabling smallholders to participate in the pigeon pea market, an aspect that reinforces the reduction of transaction costs (26). On the same note, transaction costs in Ghana also affected the location of selling (farmgate or market centres), where greater yields and market information made farmers incur these costs to reap greater prices (27).

Theory of planned behaviour

The theory of planned behaviour (TPB) is an attempt to connect human behaviour with beliefs. The TPB believes that decisions are influenced by three factors, including attitude (perceptions of consequences of the behaviour), subjective norms (perception of social pressure) and perceived behavioural control (ease or difficulty of performing the behaviour) (28). The TPB has proved to be the most popular model of explaining the decision to participate in the market and technology adoption among farmers (16). There are several factors in the agricultural context: a farmer may think that it is

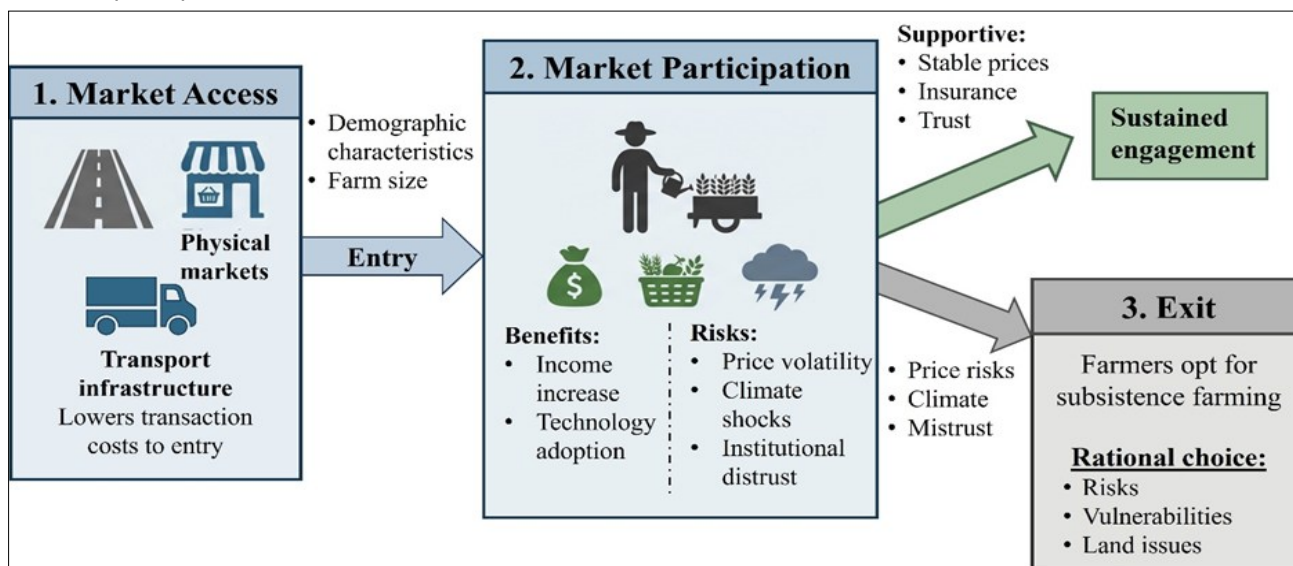


Fig. 1. Conceptual framework explaining the access-participation-exit dynamics among smallholder farmers (Source: Author's compilation).

worth marketing or it may be risky, a norm may be an opinion among peers or family members about whether to market at all or not and perceived control would mean confidence over available resources (e.g., knowledge, credit) to sell the product (29–32). Agro met advisory service adoption has been examined with the help of TPB, which encourages attitudes, subjective norms and perceived behavioural control. The model was further developed to incorporate the perceived usefulness and the significance of psychology in decision-making (33). Likewise, the latest research that uses TPB in the agricultural sector reveals that the intention and behaviour of farmers (such as switching to new practices) is, in fact, affected by socio-psychological variables (34).

Psychological contracts theory

Psychological contracts theory explains the unwritten and unofficial expectations within a relationship. Even though it was initially developed in the context of the employer-employee relationship, it can be applied to the buyer-seller relationship in agriculture. This may have a great effect on farmers in agricultural supply chains in terms of their participation decision in the market, as well as their relationship with buyers. As an illustration, a farmer may anticipate the trader to pay a reasonable price and provide the promised inputs and the latter to provide quality produce (35, 36). These unspoken expectations strengthen the relationships and foster trust between parties. This theory explains how implicit expectations and obligations influence market participation. In a study carried out in Tanzania, transactional, relational and ideological contracts were found to affect the market engagement by smallholder farmers in a positive way, with trust and relations being paramount when dealing with the market (37).

Social network theory

Social network theory highlights how relationships influence the access to information and resources by an individual (38). Smallholder farmers in rural settings depend on the social networks (with relatives, neighbours, cooperatives, or local leaders) to help in knowledge sharing. These links allow farmers to access information on the new market opportunities, price patterns, or group marketing programs, as the farmers they are associating with are usually well connected (39). Another way networks promote collective action is by organising to deliver the produce or bargaining with buyers (40, 41). Research has revealed that without the established information systems, the strong local networks are indeed an important avenue through which market information is shared and innovation is encouraged. In a study conducted in Ethiopia, social networks (connections with relatives and extension agents) played an important role in the adoption of the seed producer cooperative by farmers. It also referred to social capital as a significant aspect in contributing to market participation (42).

Institutional theory

Institutional theory concentrates on how formal and informal institutions affect economic behaviour. An institution is formal when it incorporates laws, regulations, contracts and market infrastructure, whereas informal institutions are the social conventions, traditions and trust (43). Based on smallholder marketing, the institutional theory points out that with clear property rights, enforceable contracts and accessible markets, uncertainty and transaction costs are minimised. But it also points out that institutional weaknesses like insecure land tenure or lack of contract enforcement make the perceived risk of engaging in the markets higher (18, 44). According to a study conducted in Malawi,

market training, asset value and output were found to have a significant effect on the intensity of participation in the markets of sweet potatoes, which brings out the need to have organisational support (45).

Sustainable livelihoods framework

The sustainable livelihoods model considers households as possessing five forms of capital (human, social, natural, physical and financial) on a specified vulnerability environment basis (46, 47). It states that the livelihood strategies (e.g., selling crops) depend on their asset base and exposure to shock (47, 48). A farmer with greater access to financial (savings or access to credit) and physical capital (tools, transport) can more easily sell the produce compared to a farmer who does not have such resources (48, 49). Access to human (education, farming skills), social and natural capital (land quality) supports market participation by improving skills, information and resource availability (46, 50). The sustainable livelihood framework (SLF) highlights how broader institutional and environmental conditions shape livelihood decisions (51). Through the SLF viewpoint, the smallholders consider market participation as one of the several livelihood tools, often diversifying based on available resources and risk exposure (46, 52, 53). In this way, endowments of livelihood capital and the vulnerability to climatic shocks (exposure to climatic shocks) determine farmers' ability and willingness to participate in markets.

Self-determination theory

The self-determination theory (SDT) explains human motivation and it differentiates between intrinsic and extrinsic motivation. This theory emphasises three key needs: autonomy, competence and relatedness, the fulfilment of which, in turn, leads to internal motivation and engagement (54). The sense of competency of the farmers when making decisions relating to the market is influenced by education level, experience in the market and availability of information (55, 56). Availability of credit and secure property rights consequently enable farmers with greater autonomy, decision-making and control over their presence in the marketplace (57, 58).

Determinants of market participation

To grasp why improved access to the market may fail to translate to sustained participation by smallholder farmers, it is important to understand its determinants. In developing countries such as India, it has been observed that a combination of economic, infrastructural, institutional, socio-demographic and behavioural factors is a determinant of whether farmers participate in markets. These determinants are intertwined and work in complex ways and are influenced by structural inhibitions as well as personal decisions. Based on the empirical evidence, this part divides the major drivers to make them comprehensible in a systematic manner. The key empirical determinants of market participation are summarised in Table 2.

Demographic and household factors

Several studies have revealed that the socio-demographic factors are widely reported as a major factor that determines market participation by smallholder farmers. When it comes to gender, male-headed households are more likely to engage in markets as compared to female-headed households because of the cultural and societal norms that might disadvantage females in their capacity to access resources and market opportunities (62–65). Household size has mixed effects. Bigger families can provide more

Table 1. Summary of theoretical frameworks to be used in the participation of smallholders in markets in developing countries

Theoretical framework	Key focus	Application in developing countries	Citation
Transaction cost theory	Cost associated with market transactions	Analysed market participation in Mozambique and Ghana, emphasising the role of transaction costs.	(26, 27)
Theory of planned behaviour	Psychological factors influencing decision-making	Applied to study agromet advisory services in India and the marketing channel in Thailand.	(33)
Psychological contracts theory	Implicit expectations and obligations between farmers and market actors	Examined market participation in Tanzania, highlighting the role of trust and relationships.	(37)
Social network theory	Influence of social relationships and networks	Studied the role of social networks in Ethiopia, emphasising the importance of social capital.	(42)
Institutional theory	Role of formal and informal institutions	Applied to study sweet potato markets in Malawi, highlighting organizational support.	(45)
Sustainable livelihoods	Broader context and institutional environment	Understand the impact of market-led development initiatives.	(51)
Self-determination theory	Psychological drivers of motivation (autonomy, competence, relatedness); intrinsic vs. extrinsic motivation	Understand farmer participation in the market. Highlights how autonomy and competence encourage higher engagement (e.g., Ethiopia, Greece).	(59–61)

labour, thus increasing the marketable surplus, but may also shift a greater portion of production inwards, decreasing the market interaction (66, 67). Research has indicated that an increase in education is associated with better participation in the market. Progressive farmers have higher chances of adopting new agricultural techniques and awareness of the market forces, which may improve their likelihood of participation in the market (60, 68). Also, the farming experience improves farmers' ability to address market challenges effectively (69).

Farm-level factors

The size of landholding and the level of production are effective predictors of farmers' market participation. Many studies suggest that the larger the landholdings and the higher the yields, the higher the possibility and the higher the level of participation. As an example, farm size and total quantity produced were found to be positively and significantly influencing participation in the teff market (70). Previous researchers reported that the ownership of livestock and land to legumes played a central role in the determination of the level of market supply (64). Farm size is determined as one of the determining factors for smallholder farmers to be involved in market activities in Bangladesh (71). Conversely, it has been noted that ownership of productive assets, including transportation and mobile phones, improves market access by lowering the transaction costs. Previous studies pointed out that this may be because ownership of transportation means lowers transaction costs as well as facilitates superior access to

markets (72).

Institutional factors

The support systems that occur at the institutional level, like credit availability, extension facilities and memberships of co-operatives, are often considered central to shaping the market outcomes. Studies show that the availability of credit and frequent contacts on extensions are positively correlated with market participation and volumes sold (60, 73). It was also mentioned that the market efficiency and profitability among smallholders' wheat is directly linked to accessibility to roads and information services (63). Membership in farmer cooperatives may improve bargaining power, in addition to access to price information and the ability to enter deeper into markets (67).

Market and price-related factors

Price-related factors like perception of the prices in the market, price volatility and lagged prices may greatly affect the willingness of farmers to participate. The research found that perceptions about lagged prices were one of the most important determinants of participation decisions and quantities sold (60). Other market-related issues that may tend to discourage farmers include distance to markets, quantity of purchases and transaction costs, yet the farmers are physically near the market centres. Besides that, involvement in formal or marketing channels presents other complexities. Through informal channels, farmers find it more convenient to transact business, yet formal channels may have better prices along with delays of payment, quality, or contract

Table 2. Empirical determinants of market participation among smallholder farmers in developing countries

Determinant category	Key variables	Effect on market participation	Empirical source (s)
Demographic/ Household	Gender	Positive (+)	(72)
	Age	Mixed/ Not significant	(66, 73)
	Education level	Positive (+)	(60, 64)
	Household size	Positive (+)	(66, 67)
	Farm size	Positive (Strong)	(67, 73)
Farm-level/ Economic	Quantity produced/ Marketable surplus	Positive (+)	(60, 64)
	Livestock holding	Positive (+)	(64)
	Ownership of transport	Positive (+)	(72)
	Credit access	Positive (+) in most but Negative (-) in some	(60, 64, 73)
	Extension contact	Positive (+)	(60, 64)
Institutional	Membership in cooperatives/ farmer organisations	Positive (+)	(60, 67)
	Access to training	Positive (+)	(66, 72)
	Distance to market	Mixed	(72)
Infrastructure and market access	Road access	Positive (+)	(60)
	Access to ICT (phones, radios, etc.)	Positive (+)	(66, 72)
	Access to price/ market information	Positive (+)	(60, 64)
Price and risk perception	Lagged price perception	Positive (+)	(60)

enforcement problems (72).

Benefits of market access

Market access is widely reported to play a very significant role in the livelihoods and well-being of smallholder farmers in different agro-ecological, institutional and socio-economic environments. It enables not only big producers to sell their excess but also helps the smallholder farmers become more economically resilient, embrace more modern technologies and enter large value chains. Many studies highlight various advantages that are associated with access to markets by smallholders in developing countries. The major benefits of market access identified in the literature are summarised in Table 3.

Income enhancement and poverty reduction

Improved output market access has frequently been linked to an increase in household incomes and the reduction of rural poverty. By participating in the market, the smallholders are aided in shifting from subsistence to commercial agricultural production, by enabling the sale of surplus production for monetisation. Studies across Ethiopia, Rwanda, Nigeria, Zimbabwe, South Africa and Kenya reveal that as market integration is increased, the participating households show higher revenues, higher profit margins and increased accumulation of assets (62, 66, 73–76). This is often associated with improvements in household welfare that may be caused by this financial empowerment, which includes investments in productive assets, services and education.

Improved food security and nutritional outcomes

Market access has been associated with improvements in food security in terms of both availability and dietary diversity. Market-participating households often show better consumption trends, being able to buy diverse and nutritionally balanced foods and reducing vulnerability to food crises (64, 67, 77). Surpluses that are produced through market-oriented production are traded for other food groups, improving both caloric intake and micronutrient availability within rural households.

Increased productivity and technology adoption

Smallholders who are market-oriented are more likely to adopt improved technologies and, as a result, improved productivity and skills. Reliable markets encourage investments in the advanced seeds, inputs and after-harvest technologies. But when combined, they often increase yields and efficiency (60, 62, 63, 72, 78). Besides this, market access has often been positively related to more extension contacts and innovation exposure, thereby contributing to a progressive agricultural sector.

Risk management and livelihood diversification

The involvement of the market usually presents a solution to the smallholder farmers to deal with farm risks that relate to price changes, climate changes and agricultural shocks. The access to the

output markets often provides alternative sources of income and stimulates the diversification of livelihoods that insulates households during unfavourable production (or price) fluctuations (74, 76, 79). Reliable markets may also facilitate access to credit, input markets and critical information, further stabilising farm business operations.

Strengthened bargaining power and institutional linkages

The smallholder's bargaining and negotiation strength is frequently enhanced with the participation of organised markets. This is done particularly through collective action or cooperative membership, which may improve the smallholder's bargaining power as compared to traders and intermediaries. This, in turn, may prevent exploitation, improve pricing and increase the opportunities for contract farming arrangements and premium markets (62, 66, 67). The institutional assistance, such as linking with suppliers for inputs, buying and credit facilities, is often highly supported by collective market participation.

Social and community-level benefits

Market access has been widely reported to provide far-reaching impacts beyond individual households. Improved commercialisation may create jobs in the country, spur rural economic growth and contribute towards value chain and agribusiness creation (63, 80). A larger market connection can be associated with infrastructure development that benefits the broader rural community, including road networks, storage centres and communication facilities.

Case studies of exit despite market access

Although market access has been widely considered appropriate as a facilitator of the commercialisation of agriculture, in some situations, farmers may decide to move out of the formal marketing channels of the contracts, even though they had access to them. These cases reveal how access alone may be insufficient when there is a lack of trust, organisational support and structural equity.

Ghana: Contract farming dissatisfaction and exit

Research in Ghana established that smallholder farmers under the oil palm contract schemes, although they benefited economically in terms of increased yields and incomes, were not satisfied and wanted to leave. The major cause comprised lack of trust in contracting company. Farmers were not completely aware of what the contract entailed, which gave rise to doubts of being exploited by the company, especially when it was time to weigh their output and get paid. This distrust appeared to be a major cause of unilateral exit behaviour (81).

Livelihood transition in Sindh, Pakistan

In Sindh Province, Pakistan, several farming households shifted to off-farm activities as a part of a broader livelihood strategy. Some of the factors involved in this shift were the problems of crop input credit and socioeconomic changes, such as urbanisation, as well as exogenous shocks. Stimulus incentives like subsidies promoted

Table 3. Summary of reported benefits of market access

Dimension	Key benefits	Empirical evidence
Income enhancement and poverty reduction	Higher income; asset accumulation	(62, 66, 73–76)
Food security and nutritional outcomes	Improved dietary diversity; reduced food insecurity	(64, 67, 77)
Productivity and technology adoption	Technology adoption; higher yields	(60, 62, 63, 72, 78)
Risk management and livelihood diversification	Income diversification; resilience to shocks	(74, 76, 79)
Bargaining power and institutional linkages	Stronger price negotiation; market integration	(62, 66, 67)
Social and community-level benefits	Employment generation; rural development	(63, 80)

survival in the agricultural sector, yet the problem of crop input credit appeared to be a major issue (82).

Emerging farmers in South Africa

Ineffective physical infrastructure, limited access to transportation, excessive transaction costs, insufficient marketing information and skills were some of the barriers that was faced by the emerging farmers in the Eastern Cape of South Africa. These difficulties appeared to have hampered their transformation to commercial agricultural activities, hence reducing their ability to engage in a market (83).

Contract farming schemes in southern India

A detailed examination of five models of contract farming was conducted in southern India, including cotton, gherkins, marigolds and broiler chickens in an area of 822 farmers. The results proved to have high attrition rates in all schemes with high exit behaviour. When implemented, the cotton contract scheme developed on a three-part model, involving the Government of Tamil Nadu, cotton mills and the Cotton Corporation of India, which was initially promising. Nonetheless, the company had stopped all its activity in traditional cotton contracting in 2008–09. Although farmers were encouraged to keep farming by the institution and market access, various forces motivated farmers to exit the industry, such as late payments, quality deductions, high transaction costs, side sales and a mismatch between government policies (e.g., waivers of loan repayment to non-compliant farmers). Under the gherkin scheme, the contracting firm had over 5000 farmers by 2008, but the volume per firm was decreasing, suggesting less intensity of participation or voluntary drop-outs. Regression also revealed that farmers who were poorer, risk-averse and especially within marginalised social groups, were more likely to exit. Interestingly, 46 % of farmers had some history of a break in contracting, indicating the intermittence of market activity in such situations (84).

Smallholder exit from out-grower schemers in Timor-Leste

Another account of exit contrary to the favourable income gains can be seen in an ILO-sponsored review of out-grower programmes in Timor-Leste. In as much as 30 % of all the participating farmers became better off by at least 14 % or more after joining the schemes,

approximately half of the farmers withdrew from the schemes after some time. Other reasons were stretched company resources, the decline of the quality of second harvests, the switch to traditional varieties and side-selling was also common. The research revealed that there was no strong relation between profitability and exit decisions and the monetary returns alone were not strong enough to participate in the long run. The third season of cropping was testing a 47 % attrition rate, which points to the difficulty in keeping the farmer engaged in donor-initiated market connections in the absence of institutional and technical support (85).

Landholding constraints and tenure insecurity in Nepal

In Nepal, smallholder farmers who had small lands under cultivation and tenure arrangements that were not secure were observed to be more likely to withdraw from farming. A Bayesian logistic regression indicated that market access was not effective enough to ensure further participation in a situation where farmers did not have access to sufficient production factors. Such results indicate that, despite the presence of physical marketplaces or cooperatives, constrained assets and especially lands that a farmer owns and land tenure play a crucial role in determining the sustainability of market participation (86).

The key case studies highlighting farmer exit despite market access are presented in Table 4. A comparison of these cases suggests that exit behaviour occurs in varied institutional and agro-ecological settings. Although the crops, regions and institutional setup vary, recurring drivers include poor enforcement of contracts, volatility of prices, structural land constraints and institutional mistrust. These trends imply that farmer exit is not just a new phenomenon but a repetition of the characteristic behaviour of small holder market participation in developing nations.

Exploring the paradox: Why farmers exit?

The market access and the resulting market participation among the smallholder farmers of developing nations present a significant paradox that challenges conventional agricultural thinking. Although enhanced access to the market is generally regarded as the key factor to agricultural transformation, more evidence tends to indicate that access is no longer sufficient to guarantee sustained market participation. This section discusses the analysis of smallholder farmers leaving the market critically, with complex

Table 4. Cases of farmers exiting the market despite access

Case study	Context	Access type	Reason(s) for exit	Key insights
Ghana (81)	Oil palm contract farming	Formal contract with buyers	Mistrust, unclear contracts, weighing/payment issues	Lack of transparency undermines trust and leads to exit despite economic benefits.
Pakistan (82)	Livelihood shifts in Sindh	Access to land and local markets	Input credit constraints, urbanisation and exogenous shocks	Economic and social shifts drive livelihood transition, even with market access.
South Africa (83)	Emerging commercial farmers	Access to output markets	Poor infrastructure, high transaction costs, lack of marketing skills	Market access is insufficient without complementary rural services and skills.
Southern India (84)	Cotton, gherkin, broiler contract farming	Institutional (contract + govt. backed)	Delayed payments, side-selling, high transaction costs, inconsistent enforcement	Access is undermined by weak institutional design and policy contradictions.
Timor-Leste (85)	Donor-supported out-grower schemes	Forward contracts	Overstretched firms, declining product quality, side-selling and no correlation between profit and retention	Economic incentives alone cannot ensure participation; institutional capacity matters.
Nepal (86)	Mixed farming	Access to cooperatives and local markets	Small landholding size, insecure tenure and limited production resources	Asset-related constraints limit market retention despite physical access.

Source: Author's compilation

factors influencing the decision to leave markets, even with better access. The key factors explaining farmer exit despite market access are illustrated in Fig. 2.

Market access versus market stability

The difference between market access and market stability emerges as a key parameter in the analysis of the farmers' exit decisions. Market reach is normally gauged by road quality, distance to market and road infrastructure. It facilitates access to markets through technical capability on the part of the farmers. Price predictability, demand stability and risk management processes that enable participation to be feasible over time are the keys to market stability (87).

Research from Madagascar can shed more light on this difference, with smallholder farmers often being affected by extreme weather and, despite having adequate physical access to markets in many cases, suffering major losses in both crops and income. The article discovered that 95 % of farmers were experiencing more changing rainfall and hurricanes, though few of them had been in a position to adapt their agricultural techniques owing to limited facilities and abilities. This vulnerability to climate shocks, coupled with poor formal safety nets, may lead to conditions where market participation may no longer be economically viable (87).

Price volatility discourages sustained participation in the market of Sub-Saharan Africa, especially due to a lack of storage facilities or financial support. Smallholder farmers are faced with seasonal price fluctuations where the price is low during the harvest season, followed by the high season price and this creates cash flow limitations where farmers are forced to sell at unfavourable prices, which nullify the economic justification of continuing to operate in the market (88, 89).

In unstable markets, farmers often rely on subsistence farming to reduce risk. Due to augmented climate changeability in Bangladesh and East Africa, farmers tend to resort to diversified production frameworks to meet household needs. This shows that unstable market access may increase the likelihood of farmer exit (90).

Structural constraints and farm characteristics

Land size and tenure arrangements are considered as some of the basic structural constraints that mediate the relationship between market access and long-term participation. Studies in various African settings indicate that land tenure insecurity greatly decreases the incentive of the farmers to invest in market-oriented production systems, despite physical access to the market being enhanced (91, 92).

The properties of smallholders in Ghana reveal that the size of landholding is highly related to the levels of market participation. Several farmers have small and fragmented pieces of land, which in many cases fall short of the mark needed to reach economies of scale in commercial activities. This organisational weakness limits their capacity to embrace productivity-enhancing technologies and endure being in the market when even physical reach is made easier (92).

The non-linear behaviour existing between the size of the farm and market participation will be a positive factor in the case of exit behaviour. Indian research studies show that as market accessibility increases, production portfolios initially bifurcate to cash crops, but beyond a stage, this becomes slowed as food

security considerations and the short supply of resources come into play. The high labour and supervision expenses that small farmers must deal with limit their growth (93).

The size-related issues are further aggravated by land tenure insecurity since farmers are less likely to make long-term investments in land to improve the soil, irrigate, or produce a perennial crop. Lack of protection of property rights breeds environments that motivate farmers to focus on the ability to maximise profits in the short term rather than sustainable management of land. This, in turn, is causing a fall in productivity levels that ultimately makes market entry uneconomical (94).

Institutional challenges and trust deficits

Institutional challenges may enhance the likelihood of farmer exit, a tendency promoted through contract farming arrangements, which are promoted as alternatives to market access issues, are ironic because they create an institutional challenge. The data of the Ghana oil palm industry had shown that 57 % of contracted farmers now regretted their choice to enroll in the program despite having made 140 % and 70 % growth in profits and household incomes, respectively (81, 95).

The main problem is the flaws in information and a lack of trust in the relations between farmers and companies. In the Ghana case, one-third of the farmers indicated that they had read their contracts before signing, whereas 72 % were illiterate to read the agreements written in English. Such transparency may shape the perception of farmers that the actions of the company are exploitative, although no exploitation is really practiced (81).

The most widespread institutional issue in contract farming is related to delayed payments, which was mentioned by 43 % of farmers in numerous schemes of developing countries. Such delays in payments may create cash flow issues, which may compel farmers to use other means of marketing or simply leave the commercial production altogether. There is structural tension between the liquidity demands of the farmers and the schedules of the payments to the company that results in disruption of the long-term participation (96).

The trust relationships are also very important in situations where the formal law is weak. The Iranian studies show that trust has become the key factor that could positively determine farmers' acceptance of contract farming and its causal influence coefficient has proved to be 0.528. The loss of trust through the breach of contracts, disagreements and misunderstandings of the quality standards, or even a feeling of price manipulations, will cause the exiting of arrangements by farmers based on their rationality (81, 95, 97).

Commercial risk and vulnerabilities in the climate

The ability of commercial risk management is a major factor that drives the decision of farmers to continue or terminate market participation. Compared to developed countries, developing countries have a combination of individual, overlapping risks such as price volatility, climate shocks, pest and disease outbreaks and policy changes (87, 90).

The effects of climate change are also highly disruptive to market-based production systems. The evidence from Ethiopia and Mozambique shows that by 2030, Ethiopian wheat farmers will have an 11 % higher likelihood of experiencing 10 % annual yield falls and Mozambique corn farmers will have 25 % yield losses becoming

100-year events, instead of very improbable events. An increase in the climate risks may make specialised, market-oriented production systems increasingly unfeasible as compared to diversified subsistence methods (90).

These are augmented by a lack of proper risk management tools. Most of the smallholder farmers do not have chances of accessing crop insurance, weather-linked products, or official credit schemes, which may help them address commercial risks. In the absence of this safeguard, farmers will tend to incur losses that could be devastating without the compensation of subsistence production systems.

The interaction between commercial risks and structural constraints is evidenced by the case of Timor-Leste, where farmers often exit the market. Despite the existing prospects of reaching niche export markets for coffee and vanilla, more than half of agricultural households do not participate in the output markets due to weak marketing channels, a lack of value-added activity and poor infrastructures of storage and processing. With such a high level of commercial risks and risk-reducing abilities, subsistence production turns out to be a rational decision for many farmers (98).

Rational exit and decision-making of the farmer

External decision-making usually involves a rational choice of farmer exit decisions that seem suboptimal. With minor options available, risk avoidance and a lack of separation between production and consumption options, subsistence agriculture is often a rational livelihood strategy choice (12, 99).

Rational inefficiency is another idea that allows us to understand why farmers could intentionally adopt production policies that seem to be economically inefficient. Research in Swedish dairy farming has shown how seemingly technical inefficiencies can be a normal outcome of rational production choices made by farmers where they may prioritise risk reduction, labour preferences and lifestyle benefits, in addition to maximisation of pure profits (99).

Decisions to participate in the market are very heterogeneous, depending on the features of farmers and the situation of the place. Empirical studies of European agriculture have shown that when making decisions to exit, younger farmers with smaller farms are more prone to economic performance and the influence of neighbourhood effects. It implies that exit behaviour is patterned according to observable qualities and not irrational decision-making practice, even in the developed countries (100).

It is the participation paradox itself that there are underlying structural factors affecting the nature of agricultural markets in the context of developing countries. Under the conditions of high fixed costs involved in market participation and unpredictable returns, a lot of farmers may be monetarily unable to stay in semi-subsistence systems, which assure them of livelihood security. This is an especially reasonable choice as a limited amount of social safety nets and alternative livelihood opportunities is an aspect that can be discussed in rural areas (12).

Regional variations

The expression of exit behaviour is vastly diverse in different geographical and crop environments, as they demonstrate local institutional practices, agro-ecological and market structures.

In India, policy distortions are major issues affecting the participation choice of the farmers. Studies have shown that even with an improvement in access to other food markets, government intervention in the foodgrain, along with the use of minimum support prices and procurement systems, discourages diversification into high-value crops. This leads to the scenario in which rational farmers can drop out of high-value crop markets despite accessing them due to incentives of traditional cereal production (93).

Kenya is an illustration of the issues of opening the market to create lasting engagement. Although the traditional physical market has been enhanced to enable access by many farmers, most of them have not achieved the projected gains because of the lack of supportive institutions and infrastructure. The opening of the market access concept in Kenyan settings shows that the situation of

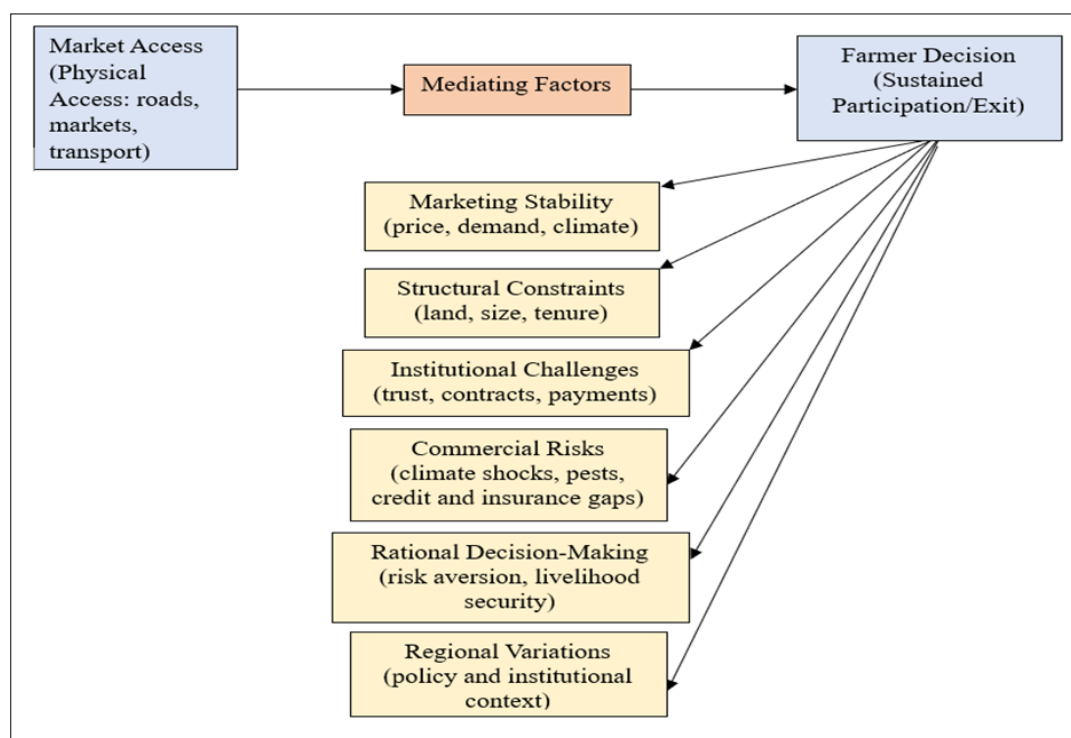


Fig. 2. Understanding the reasons why farmers exit despite market access.

infrastructure enhancements cannot attain its full potential unless its enhancement is accompanied by further investment in the market information systems, quality standards and the coordination of the value chains (14).

Results and Discussion

As it has been demonstrated in the paper, market access, though a requirement, may not be sufficient to ensure continued participation in the market by the smallholder farmers. In a variety of circumstances, the withdrawal of farmers from marketplaces is a complicated relation of structural confinement, institutional failures and livelihood logic. The paradox is that these measures, which are meant to incorporate farmers into markets, i.e., better infrastructure, contract farming system and the liberalisation of policies, often lead to unintended outcomes due to inherent weaknesses, thus rendering participation unsustainable. This implies that access must be construed not only as a physical or transactional state but also as an inbuilt process consisting of stability, trust and resilience.

The problem of risk management dominance in the decision-making of farmers stands out as a common theme. Smallholders often rationally shift towards a semi-subsistence form of response in situations of climate shocks, price volatility, or price uncertainty surrounding the contract that focuses more on domestic security than on making commercial gains. This practice is usually referred to as inefficiency when it is, in fact, just a rational adaptation to an uncertain environment. Although longitudinal evidence remains limited, the existing insights indicate that market participation is dynamic rather than stable, with farmers moving in and out of markets over time in response to changing risks, prices and resource constraints. On the same note, without economies of scale and under conditions of land fragmentation and tenure insecurity, farmers are less able to invest in long-run productivity, which in turn increases the likelihood of market exit. This is because the choices of smallholders may not only be indicators of market failure but also indicators of livelihood logic, as demonstrated in these lessons.

Lastly, exit behaviour varies across the regions and contexts. Policy distortion, institutional distrust and liberalisation problems all reveal that the road to participation and exit may often be dictated by local agro-ecological, social and political reality. Combined, these results challenge the conventional view that increased market access leads to sustained participation. They, instead, may highlight the need for multidimensional approaches that strengthen institutions, stabilise markets and encourage resilience at the household level. However, there is limited longitudinal evidence that tracks welfare outcomes before and after market exit, making it difficult to fully assess whether exit improves or protects household well-being.

Policy implications

The paradox of farmer exit despite market access highlights the importance of policies that transcend the issues of physical access and tackle the underlying systemic weaknesses of the smallholders in developing nations. First, market stabilisation programs need to be used in addition to access programs. Commercialisation may be affected by price volatility, shifts in seasonal demand and exposure to climatic shocks. Increased investment in rural storage facilities, warehouse and receipt systems and weather-based insurance programs can also improve the stability that farmers need to support continued participation.

Second, land tenure reforms and structural support are

essential. Insecure land tenure reduces incentives to invest long-term. This can be assisted by the policy measures to strengthen land rights, promote cooperative agricultural production and increase access to services of mechanisation to get the benefits of scale needed to commercially grow their activities. Unless these measures are put in place, market access may reinforce marginalisation instead of mitigating it.

Third, institutional trust and governance will be required to ensure that the market linkages are appealing to farmers. Mistrust needs to be minimised by ensuring there are transparent and enforceable contract farming arrangements, payment in time and inclusive decision-making. Enhancing the bargaining power may also be accomplished by strengthening the farmer-producer organisations (FPOs) and cooperatives and reducing their information asymmetry and transaction costs.

Lastly, policies need to recognise exit as a viable approach to livelihood and not failure by smallholders. By enabling diversified rural economies by means of off-farm work, development of skills and providing social security, so that exit does not make people more vulnerable, but rather improves their household well-being. This transformation demands the inclusion of agricultural policy into a wider rural development strategy, by placing markets as one option among several possible livelihood strategies.

Limitations

This study is based on secondary literature and a synthesis of evidence in different contexts of developing countries. Although the analysis reflects the general trends and patterns, it may not fully capture the local or community-level variations. The availability of published studies may bias the analysis, as some of the areas or commodities are largely represented compared to others. Also, the review may be subject to publication bias, as the studies noted that successful market participation is more likely to be published compared to those that report farmer exit or disengagement from markets. Consequently, exit behaviour may be underrepresented in the existing literature. Some evidence is drawn from grey literature, including reports from development agencies and NGOs, which may not always undergo formal peer review. Further, the inferences derived are context-specific and one should be careful when trying to apply them in all other agricultural systems. These drawbacks bring out the fact that additional empirical research is needed, which focuses more specifically on the context and can affirm and deepen the understanding in the present study.

Conclusion

The evidence that has been studied in the present study suggests that an increase in accessing the market, although significant, is not alone in itself to guarantee the continued entry into the market of the smallholder farmers in the developing countries. The paradox of market participation reflects more structural, institutional and environmental concerns that govern the decision of the farmers. Smallholder farmers are the ones who balance between risks, constraints and livelihood security and usually find semi-subsistence production or diversified livelihoods a more rational choice than remaining in the market.

It is not merely the roads, infrastructure and contracts that provide lasting presence; it is stable markets, effective institutional arrangements, securing land tenure, as well as commercial and climate risk management mechanisms. Similarly, the participation

may depend on the trust of farmers towards the market participants and governance structures, where the fast decay of the incentives towards commercialisation is often associated with mistrust, late payments, policy contradictions, etc.

Significantly, exit need not be perceived in absolute terms of agricultural transformation failure. Disengagement with markets by many farmers may be considered a rational adaptive response to dealing with vulnerability and maximising household welfare. By taking into consideration this way of thinking, policymakers and researchers can reframe agricultural development: not as a ladder to full and universal commercialisation, but as a more multidimensional environment, in which smallholders can choose among various livelihood options.

The future research should then focus more on longitudinal research, which will bring out the dynamics of farmer participation and exit and comparative evidence on crops, regions and institutional environments. The problem policymakers face lies in their need to go to the next stage and create holistic interventions that combine market development and social protection, as well as rural employment and climate resilience. It is only under such integrated strategies that the agricultural markets can help lead to inclusive and sustainable rural transformation.

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Authors' contributions

KS¹ conceptualised the study, conducted the literature review, synthesised the evidence and drafted the original manuscript. RC and YJ provided academic supervision, critically reviewed the manuscript and offered constructive suggestions to enhance its quality and coherence. ST and YS contributed academic guidance and intellectual inputs that helped refine selected arguments. KS² assisted with manuscript development, revisions and overall coordination. All authors read and approved the final manuscript [KS¹- stands for Kajal Sharma and KS²- Kartike Sharma].

Compliance with ethical standards

Conflict of interest: Authors do not have any conflicts of interests to declare.

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