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INFLUENCE OF GOVERNMENT POLICY ON THE CHOICE OF MARKETING CHANNEL FOR UNPROCESSED RICE IN KENYA

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ABSTRACT

Rice is a key staple food in Kenya, contributing significantly to food security, rural livelihoods, and national economic growth. However, domestic production remains insufficient to meet rising demand, creating dependence on imports and highlighting the need to understand factors influencing farmers' marketing decisions. This study examined the influence of government policy on the choice of marketing channels for unprocessed rice in Kenya, emphasizing access to marketing information and membership in cooperatives or marketing boards as major policy interventions. Guided by a positivist paradigm, the study employed descriptive, survey, and correlational research designs. The target population comprised 14,200 rice farmers across six counties, from which a sample of 389 was drawn using Yamane's formula at a 95% confidence level. Data were collected through structured questionnaires and face-to-face interviews, and analyzed using descriptive statistics, correlation analysis, and binary logistic regression. Results revealed that government policy significantly influenced the choice of marketing channels. The binary logistic regression model achieved a log likelihood of –172.489, chi-square of 48.23, and p-value of 0.000, confirming strong model significance. Access to marketing information was negatively and significantly associated with the use of brokers (coef. = –1.100, p = 0.004; OR = 0.33), indicating that farmers with better market information were 67% less likely to rely on intermediaries. Similarly, membership in marketing organizations was negatively related to broker use (coef. = –0.960, p = 0.023; OR = 0.38), showing that cooperative members were 62% less likely to depend on brokers. The positive and significant constant (coef. = 1.864, p = 0.000; OR = 6.45) suggested a baseline tendency to use brokers without supportive policy factors. Overall, the study concludes that effective government policies promoting access to market information and cooperative membership enhance farmers' capacity to choose efficient marketing channels, reduce reliance on intermediaries, and improve income and market participation in Kenya's rice sector.

Keywords: *Government policy, Rice marketing, Marketing channels, Smallholder farmers, Co-operatives*

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BACKGROUND

Rice is one of the most widely consumed staple foods globally, with China and India leading both in production and consumption. China, with its vast population, consumed approximately 155 million metric tons of rice in 2022/2023, while India consumed 108.5 million metric tons during the same period (Shahbandeh, 2023). The success of these nations in rice production is attributed to government policies that prioritize agricultural innovation, technology adoption, and large-scale farming initiatives. China has leveraged precision farming techniques, including drone technology, remote sensing, and artificial intelligence, to enhance rice yields while optimizing resource use (Li & Zhang, 2021).

China is the world's largest producer and consumer of rice, where government policy strongly shapes rice marketing channels. The Chinese government has historically implemented subsidies, price controls, and strategic stockpiling, which influence how rice is distributed from farmers to consumers. Policies aimed at modernizing agricultural marketing infrastructure and promoting e-commerce platforms have also affected marketing channel structures, improving market access for smallholder farmers (Chen & Zhao 2023). India, being a major rice-producing country, has a complex system of government policies affecting the marketing of rice. The government regulates rice marketing through institutions such as the Food Corporation of India (FCI), which maintains buffer stocks and enforces minimum support prices (MSP). These policies directly influence farmers' choices of marketing channels by ensuring price stability and mandating procurement avenues, but also pose challenges due to bureaucratic inefficiencies and regional disparities (Kiminami et al., 2022).

In Indonesia, rice marketing is heavily influenced by government policies that aim to maintain rice self-sufficiency and stabilize prices. The government's role includes controlling imports, setting procurement prices, and investing in marketing infrastructure. However, fragmented market channels and the dominance of middlemen complicate farmers' direct access to markets, highlighting the critical role of policy in shaping channel options (Mujihartono et al.). The West African region, particularly Nigeria, faces significant challenges in rice marketing due to underdeveloped infrastructure and market information gaps. Nigerian government policies focus on rice import restrictions and local production incentives to promote self-sufficiency. However, inconsistent enforcement and lack of coherent market regulation often hinder the development of efficient marketing channels for unprocessed rice (Jacob 2024).

Madagascar's rice sector is influenced by government efforts to improve food security through pro-agriculture policies, including subsidies and investment in rural market infrastructure. Despite these efforts, marketing channels remain largely informal and fragmented, limiting producers' access to broader markets and reducing profitability (Ashtakala, et al.,2025). In Kenya, rice production is increasingly important for rural livelihoods and food security, yet government policies influencing rice marketing channels remain underdeveloped. Existing policies focus more on production inputs and less on market infrastructure or regulation, resulting in farmers relying heavily on informal and less profitable marketing channels. This gap negatively affects market efficiency and farmer incomes (Yılmaz & Njora (2021).

Statement of the Problem

Rice is increasingly becoming a key staple food in Kenya, with demand rising faster than local production capacity. Current estimates indicate that annual rice consumption stands at 1.2 million metric tonnes (MT), whereas domestic production is only about 192,299 MT, forcing the country to rely heavily on imports to bridge the gap (Kenya News Agency, 2023). The government, through the National Rice Development Strategy II (2019–2030), aims to expand domestic production from about 128,000 MT to 846,000 MT by 2030 (Milling Middle

East, 2023). However, despite these ambitious policies, the domestic supply remains far below demand, raising concerns about how government interventions, particularly around import tariffs, subsidies, seed policies, and market regulation, shape farmers' marketing decisions.

Government interventions are designed to stabilize supply and protect consumers, but they sometimes generate unintended consequences. For instance, the 2025 government directive authorizing duty-free importation of 500,000 MT of rice coincided with the peak harvest season, which farmers argue depressed local prices and undermined their market share (Top News Kenya, 2025). At the same time, studies in major rice-producing areas, such as the Mwea Irrigation Scheme, show that farmers use diverse marketing channels including direct-to-consumer, broker-led, and miller-retailer pathways, with the majority relying on intermediaries such as brokers and millers (Wanjiku, 2020). While direct-to-consumer sales are more profitable, they remain underutilized due to infrastructural and policy-related barriers (Wanjiku, 2020). This reflects a mismatch between policy intentions and actual outcomes in farmer marketing behavior.

Emerging evidence suggests that government policies, such as duty-free rice imports, intended to protect consumers, may unintentionally harm local producers by reducing incentives to use profitable marketing channels (Wachira et al., 2023). While initiatives with agencies like Kenya Agricultural Livestock Research Organisation (KALRO) have improved seed systems, adoption remains uneven (Kireger, 2025). Broker dominance further limits farmers' bargaining power and channel choices (Kamau, 2025). Despite studies describing channel usage, little research has examined how policy instruments, including cooperative development and digital exchanges, directly influence farmers' marketing decisions, efficiency, and equity. This study addresses these gaps by analyzing policy effects on rice marketing channel choice in Kenya.

Objectives of the study

The general objective was to investigate the determinant of choice of marketing channels for unprocessed rice in Kenya. Specifically, the study sought to address the following objective:

- To determine the influences government policy on the choice of marketing channel for unprocessed rice in Kenya.

Research Hypotheses

- HO_1: Government policy (taxes on inputs and subsidies) have no statistically significant effect on the choice of marketing channels for unprocessed rice in Kenya.

LITERATURE REVIEW

This study is grounded on Rational Choice Theory (RCT), introduced by Adam Smith in 1776, which explains how rice farmers in Kenya make marketing decisions by weighing costs, benefits, risks, and constraints to maximize returns. Farmers' choice of marketing channels whether direct sales, wholesalers, cooperatives, or brokers is shaped by government policies, demographic factors, production scale, and access to technology. Supportive policies such as subsidies, infrastructure, and digital platforms promote efficient and profitable channels, while restrictive regulations, poor infrastructure, and limited financial capacity often push farmers toward intermediaries. Thus, RCT provides a framework for understanding how coherent government policies can influence farmers' rational decisions toward sustainable and profitable marketing.

Empirical Literature

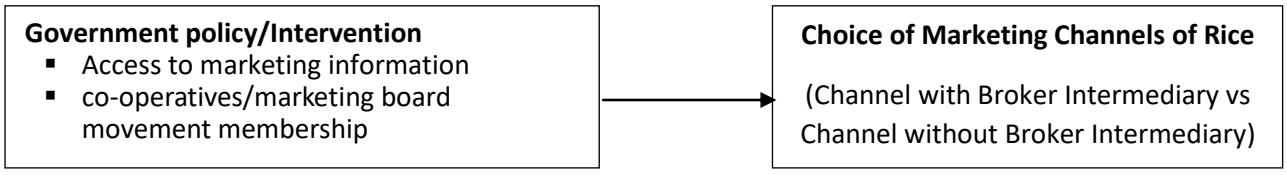
Ma, Sonobe, and Gong (2024) review 15 studies on linking farmers to markets, emphasizing the impacts of market participation on income, well-being, poverty reduction, dietary diversity, and rural economic growth. Findings show that marketing channel choice, particularly online platforms, significantly influences earnings and market visibility. E-commerce facilitates broader market access, enhancing income and integration. Addressing farmers' preferences through

interventions like systematization policies and joint ventures improves participation and supports inclusive business models. Analysis of market power reveals rising markups in low-income countries. Overall, policies promoting market access, e-commerce, and preference-sensitive interventions can substantially enhance farmers' livelihoods and rural economies.

In a study by Li and Zhang (2024) investigate how e-commerce logistics enhance market access for rice farmers in rural China. Findings indicate that digital platforms reduce time to market, expand reach to regional and national buyers, and increase income opportunities for smallholder rice producers. Despite these benefits, challenges persist, including inadequate rural infrastructure, limited digital literacy, and regulatory constraints, which restrict full adoption. The study highlights gaps in research on the long-term sustainability and socio-economic impacts of e-commerce on rice farming communities. Policy recommendations emphasize improving logistics, digital inclusion, and sustainable practices to maximize benefits for rural rice farmers.

Mwangi, W., & Kariuki, D. (2019) assessed the impact of government-supported market information systems on farmers' marketing decisions. The study established that cooperatives strengthened through policy interventions provided smallholders with better bargaining power and access to price data. Farmers used this information to make informed decisions, reducing dependence on brokers. Additionally, investments in rural infrastructure such as roads and storage facilities improved farmers' access to markets, especially in remote areas. The combined effect of information systems and infrastructure development increased profitability and enhanced farmer participation in formal marketing channels. Omamo (2020) analyzed agricultural policies in Sub-Saharan Africa and found that well-designed interventions addressing monopolistic practices and rural infrastructure were crucial in reducing intermediaries' dominance. In Kenya, government actions aimed at minimizing market fragmentation and correcting information asymmetries enabled rice farmers to access direct and more profitable marketing channels. The study emphasized that coherent and effectively implemented policies were essential for enhancing smallholder market participation. Without such interventions, intermediaries maintained control, limiting farmers' autonomy and bargaining power within the rice value chain.

Conceptual Framework



Independent variable **Dependent Variable**

Figure 1: Conceptual Framework

METHOLOGY

The study applied a positivist paradigm emphasizing objectivity and empirical validation, guided by quantitative methods. It employed descriptive, exploratory, survey, and correlational designs to analyze demographics, trends, and relationships among variables. The target population was 14,200 rice farmers from six counties, with a sample of 389 selected using Yamane's formula at 95% confidence. Proportionate stratified and simple random sampling ensured fair representation. Data were collected from secondary sources and structured

questionnaires. Analysis used descriptive statistics for profiles and binary logistic regression to test five hypotheses on marketing channel choice, with model fit and predictor significance evaluated at the 5% level

RESULTS

Table 1: Access to Unprocessed Rice Marketing Information

Response	Frequency	Percent
Do not have it at all	31	8.2
Moderately have	86	22.8
Slightly have	78	20.6
I have	89	23.5
Totally have	94	24.9
Total	**378**	**100**

Table 1 presents the descriptive analysis of farmers' perspectives on government policy and intervention in the marketing of unprocessed rice. The findings above provide descriptive analysis of farmers' perspectives on government policy and intervention in the marketing of unprocessed rice. The analysis covers farmers' self-rated access to rice marketing information, their views on the seriousness of government efforts in facilitating access to such information, and their awareness of, and membership in, government-mandated rice marketing organizations. The results show that 94 (24.9%) of the respondents reported having total access, while a further 89 (23.5%) indicated that they had access to marketing information. Together, these categories account for nearly half of the farmers, suggesting that government initiatives such as extension services, agricultural information centers, and digital platforms have had a noticeable impact in enhancing market transparency and accessibility. However, 86 (22.8%) of the farmers indicated only moderate access, while 78 (20.6%) reported having slight access, pointing to a significant portion of farmers experiencing inconsistent or limited exposure to marketing information. This highlights potential disparities in the effectiveness of information dissemination channels and may suggest partial implementation of government programs or limited reach of interventions, especially in remote, rural, or underserved areas where infrastructural and technological constraints are prevalent. Notably, 31 (8.2%) of the respondents reported having no access at all, reflecting deeper gaps in policy execution, inadequate stakeholder engagement, or a lack of targeted support mechanisms specifically designed to address the unique needs of smallholder rice farmers.

Table 2: Feelings Towards Government Making Marketing Info Accessible

Responses	Frequency	Percent
Not serious at all	42	11.1
Moderately serious	105	27.8
Slightly serious	74	19.6
Serious	80	21.2
Very serious	77	20.4
Total	**378**	**100**

Rice farmers were asked to share their perceptions of the government's seriousness in making marketing information accessible. As shown in Table 2 above, the most common response was moderately serious, reported by 105 (27.8%) of respondents. This indicates that while many farmers acknowledge some level of government effort, they perceive these initiatives as inconsistent, limited, or insufficient in addressing their practical needs. Such perceptions highlight

potential weaknesses in outreach strategies, the visibility and clarity of government programs, and the overall effectiveness of communication channels used to disseminate critical information. These gaps may contribute to reduced trust and confidence in public interventions, ultimately limiting their impact on improving rice marketing activities and discouraging active farmer participation in available support programs.

Meanwhile, 80 (21.2%) respondents rated the government's effort as serious , and 77 (20.4%) viewed it as very serious , indicating that a combined 41.6% of farmers hold a generally positive perception of government involvement in facilitating access to marketing information. This optimism may be attributed to the visible impact of successful initiatives such as agricultural extension services, farmer cooperatives, and the adoption of ICT-based platforms that provide timely and relevant market data. These programs appear to be functioning effectively in certain regions, enabling farmers to make informed decisions and improve their marketing strategies. The high satisfaction levels reported in these areas demonstrate the potential benefits of well-designed, targeted interventions and underscore the importance of replicating and scaling up such successful models to ensure equitable access to marketing information across all rice-growing regions.

Conversely, 74 (19.6%) respondents believed the government was slightly serious, and 42 (11.1%) stated it was not serious at all. These views represent a significant portion of the farming population that feels disconnected from government-led marketing support initiatives and underserved by existing interventions. Such perceptions may stem from several factors, including inadequate infrastructure, limited access to extension services, insufficient funding for outreach, or ineffective communication channels, particularly in remote and marginalized regions. The sense of exclusion expressed by these farmers highlights the need for more inclusive, equitable, and region-specific strategies to ensure that all rice farmers, regardless of their geographical location, are well-informed, empowered, and actively engaged in structured rice marketing systems. Addressing these disparities could enhance trust, improve participation, and foster sustainable growth in the rice value chain.

Table 3: Awareness of Government-Mandated Rice Marketing Organization

Responses	Frequency	Percent
Yes	336	88.9
No	42	11.1
Total	**378**	**100**

In regard to whether rice farmers are aware of a government-mandated rice marketing organization operating in their area, the data in Table 4.5 show that a substantial majority, 336 (88.9%), reported being aware of such an organization. This finding indicates that government efforts to establish, promote, and institutionalize structured marketing systems have achieved significant visibility among farmers. The high awareness levels suggest that communication and sensitization strategies often facilitated through agricultural extension officers, farmer cooperatives, barazas, community meetings, and local administrators are effectively reaching the intended audience. Such widespread awareness is critical for fostering farmers' participation in formal marketing systems, as it increases their opportunities to access regulated markets, benefit from collective bargaining, and utilize shared services such as price information, credit facilities, and organized distribution networks. Ultimately, this heightened awareness reflects progress in government outreach initiatives while underscoring the importance of sustaining and expanding these efforts to maximize the potential of structured rice marketing frameworks.

However, 42 (11.1%) of respondents indicated that they were not aware of any government-mandated rice marketing organization operating in their area.

While this represents a relatively small proportion of the sample, it nevertheless highlights significant gaps in outreach and communication, particularly in remote, marginalized, or underserved regions where access to information remains limited. Farmers in these areas risk missing out on critical benefits, including price regulation, timely access to market information, participation in collective bargaining, and opportunities to leverage structured marketing channels for better returns. The lack of awareness among this group may also contribute to continued reliance on informal markets, which often expose farmers to price exploitation and unstable incomes. This finding underscores the urgent need for more inclusive, targeted, and region-specific awareness campaigns that utilize diverse communication channels such as local radio, community-based extension programs, mobile platforms, and farmer cooperatives. Ensuring that all rice farmers are adequately informed will help bridge existing disparities and enable equitable participation in government-led market interventions, ultimately improving livelihoods and strengthening the rice value chain.

Table 4: Membership in Government-Mandated Rice Marketing Organization

Response	Frequency	Percent
Yes	340	89.9
No	38	10.1
Total	**378**	**100**

Respondents were asked whether they are members of a government-mandated rice marketing organization operating in their area. The results presented in Table 4.6 show that 340 (89.9%) of the farmers reported being members, while only 38 (10.1%) indicated they were not affiliated with such an organization. The high membership rate suggests that government-initiated marketing structures have achieved substantial farmer participation, likely due to their role in providing collective bargaining power, access to market information, and streamlined marketing processes. This widespread membership reflects strong institutional presence and policy alignment with farmers' marketing needs. Their role in providing collective bargaining power, timely market information, regulated pricing, credit facilities, and streamlined marketing processes appears to be a key factor driving widespread enrollment. Furthermore, this strong participation indicates effective policy alignment with farmers' marketing needs and highlights the credibility of government-backed intervention. However, the 10.1% of respondents who reported non-membership may represent farmers in geographically isolated areas, those unaware of such organizations, or those who have become disillusioned with formal marketing structures. Their exclusion from the mainstream marketing system limits their access to essential services such as timely pricing information, bulk selling opportunities, collective bargaining power, and structured government support. This situation underscores the need for targeted engagement strategies, robust awareness campaigns, and simplified enrollment processes to ensure that all farmers, regardless of location or circumstances, are fully informed, included, and able to benefit from the services and protections provided by government-mandated marketing organizations.

Table 6: Correlation Analysis

Variables	Marketing Channels	Access to Information	Organizational Membership
Marketing Channels	1	0.131**	0.275**
Access to Information	0.131**	1	0.532**
Organizational Membership	0.275**	0.532**	1

**P-value significant at 0.05 level of significance

The study investigated the determinants of marketing channel choice for unprocessed rice in Kenya, with particular emphasis on the role of government policy. In this context, government policy was operationalized through two key factors: access to marketing information and membership in co-operatives or marketing boards. The correlation results provide insights into how these factors influence farmers' selection of marketing channels. Marketing channels were positively correlated with access to marketing information ($r = 0.131$, $p < 0.01$) and co-operative/marketing board membership ($r = 0.275$, $p < 0.01$). These findings indicate that farmers who had better access to market information or were members of organized marketing groups were more likely to choose formal or structured marketing channels for their unprocessed rice. The stronger correlation with co-operative membership suggests that collective action and organized structures have a more pronounced influence on marketing decisions than individual access to information alone. Moreover, access to marketing information and co-operative membership were strongly correlated with each other ($r = 0.532$, $p < 0.01$), highlighting that farmers involved in co-operatives also tended to have better access to market information. This reinforces the view that government-supported structures, such as co-operatives and marketing boards, facilitate information flow, thereby shaping channel choice.

Binary Logistic Regression Results on Government Intervention Measures and Marketing Channel Choice

Table 7: Binary Logistic Regression Results on Government Intervention Measures and Marketing Channel Choice

Binary Logistic Regression Model 1							
Log likelihood=-172.489						LR chi²(2) =78.23 Prob > chi²	
Variable	Coef. (β)	Std. Err.	Odds Ratio (OR = e^β)	95% Confidence Interval (CI)	Average Marginal Effect (AME)	Z	P>|z|
Access to marketing information	-1.1	0.381	0.33	0.16 – 0.68	-0.18	-2.89	0.004**
Membership to marketing organizations	-0.96	0.422	0.38	0.17 – 0.87	-0.15	-2.26	0.023**
Constant	1.864	0.305	6.45	3.54 – 11.74	—	6.11	0.000**

The results reveal that access to marketing information has a significant negative association with the likelihood of farmers marketing through brokers (coef. = -1.100, $p = 0.004$). This suggests that farmers with better access to marketing information are less likely to rely on brokers and more likely to sell directly. Access to reliable market information may enhance their decision-making capacity, negotiation power, and awareness of better market opportunities, thereby empowering them to bypass intermediaries. Similarly, membership in marketing organizations was also negatively associated with the use of brokers (coef. = -0.960, $p = 0.023$). This indicates that farmers who belong to cooperatives or farmer groups are less likely to use intermediaries. Such organizations may provide collective bargaining, access to group markets, logistical support, and shared market intelligence, reducing the need for brokers. The constant term (_cons) was statistically significant

(coef. = 1.864, p = 0.000), indicating that, in the absence of the predictor variables, there remains a baseline likelihood of choosing brokers. Further analysis using Pearson correlation reinforced these conclusions. Access to marketing information showed a modest but significant positive correlation with the choice of marketing channels ($r = 0.131$, $p < 0.01$), while membership in marketing organizations demonstrated a stronger relationship ($r = 0.275$, $p < 0.01$). These findings suggest that farmers with better access to information and organizational support are more empowered to negotiate favorable terms, select profitable channels, and reduce reliance on brokers.

CONCLUSION AND RECOMMENDATION

The findings suggest that government policy interventions, specifically improving access to marketing information and promoting membership in marketing organizations, have a statistically significant impact on how rice farmers in Kenya select their marketing channels. The binary logistic regression model I demonstrated strong overall significance, with a log likelihood of -172.489, chi-square of 48.23, and a p-value of 0.000, confirming that these policies play a meaningful role in shaping farmers' marketing behaviors. Both access to marketing information and membership in marketing organizations emerged as significant factors, showing a statistically significant negative association with the use of brokers. This indicates that farmers who have better market information and are affiliated with marketing groups are less likely to rely on intermediaries and are more inclined to engage in structured and direct marketing channels.

Access to marketing information plays a crucial role in influencing the choice of marketing channels among rice farmers. When farmers are well-informed about prevailing market prices, buyer availability, and demand trends, they are better positioned to make independent and profitable decisions. Such information empowers them to bypass traditional intermediaries like brokers and instead engage directly with buyers or cooperatives. This leads to better pricing, reduced exploitation, and improved income stability. Therefore, timely and accurate marketing information is essential for enhancing market participation and encouraging the use of efficient marketing channels. The results align with Naik and Mohan (2024), who emphasized that access to timely market data enables smallholder farmers to reduce dependency on middlemen and improve market efficiency.

Availability of reliable market information remains a cornerstone for empowering smallholder rice farmers in their marketing decisions. Informed farmers are more likely to identify favorable market conditions, negotiate prices confidently, and choose marketing pathways that maximize returns. Access to buyer contacts, price fluctuations, and demand forecasts allows them to shift away from reliance on brokers and toward more structured market actors such as processors or cooperatives. This access not only strengthens their bargaining position but also reduces vulnerability to exploitation. Consistent with Balasingam et al. (2024), the study confirmed that information accessibility significantly enhances farmers' autonomy and marketing efficiency.

Membership in marketing organizations significantly influences farmers' marketing channel decisions by offering collective strength and organized support. Through cooperatives or farmer groups, members benefit from shared resources, training, collective bargaining, and better access to markets. This collective approach reduces individual marketing risks and enhances farmers' confidence in negotiating for fairer terms. Being part of a marketing organization also exposes farmers to structured channels that offer more predictable pricing and buyer relationships. Overall, membership encourages the use of more formal and profitable marketing channels, contributing to sustainable market engagement and improved livelihoods. These findings are consistent with Naik and Mohan (2024) who observed that farmers in strong marketing groups were more likely to access

high-value markets and negotiate better terms for their produce.

Policy makers should strengthen programs that improve farmers' access to market information and actively promote co-operative membership. These interventions will likely increase the use of formal marketing channels, enhance market efficiency, and boost farmers' incomes, thereby supporting the broader development of Kenya's rice marketing sector.

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