Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 12 | December 2025 -Peer-Reviewed Journal

RELATIONSHIP BETWEEN FINANCIAL RESOURCES AND ENVIRONMENTAL MANAGEMENT SYSTEMS AMONG TEA STAKEHOLDERS IN KERICHO COUNTY, KENYA

Charles Kiprono Arap Rotich[1], Prof. Williter Rop[2], Prof. Isaac Naibei[3]
[1]*University of Kabianga Student, Senior Lecture,*
[2]*Department of Management Science, Marketing, Tourism and Hospitality,*
[3]*Senior Lecture, Department of Accounting and Finance.*

Article DOI: https://doi.org/10.36713/epra24827
DOI No: 10.36713/epra24827

ABSTRACT
The growing global demand for sustainable agricultural practices has intensified pressure on tea stakeholders to adopt environmental management systems (EMS). However, the extent to which financial resources influence the implementation of such systems among tea stakeholders in Kericho County remains inadequately understood. This study, therefore, examined the relationship between financial resources and environmental management systems among tea stakeholders in Kericho County, Kenya. This was anchored on Deming's Theory of Quality Management. A correlational research design was employed, targeting 150 staff members drawn from selected tea factories in Kericho County. A sample of 48 respondents was selected through stratified and purposive sampling. Data were collected using structured questionnaires and analyzed using descriptive and inferential statistics through SPSS software. The findings revealed that financial resources had a significant positive influence on the adoption of environmental management systems ($\beta = 0.721$, $p = 0.000<0.05$). The study concluded that adequate financial resources are critical in facilitating the implementation and sustainability of EMS within the tea industry. It is therefore recommended that tea firms strengthen financial planning, allocate dedicated environmental budgets, and prioritize resource mobilization to enhance compliance and competitiveness.

KEYWORDS: *Financial Resources, Environmental Management Systems, ISO 14001, Tea Stakeholders, Kericho County, Kenya.*

INTRODUCTION
Environmental sustainability has become an essential pillar of modern industrial competitiveness, with organizations worldwide increasingly adopting structured environmental management systems (EMS) such as ISO 14001 to minimize ecological impact and comply with international market requirements. The ISO 14001 standard, developed by the International Organization for Standardization (ISO), provides a systematic framework for managing environmental responsibilities through continual improvement, regulatory compliance, and efficient resource use (ISO, 2015). By integrating the Plan–Do–Check–Act (PDCA) cycle, ISO 14001 promotes proactive environmental planning, implementation, monitoring, and review, ensuring long-term sustainability and accountability across organizational processes.

Globally, the adoption of ISO 14001 has been closely linked to the availability of financial resources. Studies in developed economies demonstrate that organizations with adequate financial capacity can more easily bear the costs of consultancy, certification, training, and periodic audits required for EMS implementation (Darnall, 2006; Wall et al., 2001). Conversely, firms with limited financial capability face difficulties sustaining compliance and maintaining certification. Financial resources not only determine the extent to which environmental initiatives can be funded but also influence investment in eco-innovation, waste management technologies, and employee training—all of which are critical for achieving ISO 14001 certification and operational efficiency (Maldonado-Guzmán & Pinzón-Castro, 2022).

In developing economies, including those in Africa, inadequate financial capacity has emerged as a major barrier to environmental management system adoption. Weak institutional support, high certification costs, and minimal access to green financing limit the ability of firms to implement and sustain ISO 14001 standards (Getachew, 2010; Struwig & Adendorff, 2005). This challenge is particularly pronounced in agriculture-based

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 12 | December 2025 -Peer-Reviewed Journal

industries that rely heavily on export markets, where compliance with international environmental standards determines market access and competitiveness.

In Kenya, the tea industry serves as a cornerstone of the national economy, contributing significantly to employment, foreign exchange earnings, and rural livelihoods. Kericho County, often referred to as the heart of Kenya's tea production, hosts both multinational estates and locally owned factories. While multinational firms such as Unilever Tea and Finlays have successfully implemented ISO 14001 due to stronger financial and technical capacity, many smallholder-based factories under the Kenya Tea Development Agency (KTDA) struggle to adopt these standards due to financial limitations and competing operational priorities (Gitonga, 2018; Mutiso & Ngugi, 2020). This disparity raises critical questions about the role of financial resources in enabling or constraining environmental management among tea stakeholders in the region.

Despite the recognized economic and ecological importance of ISO 14001, limited empirical evidence exists on how financial resources specifically influence its implementation in Kenya's tea industry. Previous studies have often generalized across manufacturing sectors without addressing agriculture-based industries, where certification costs, export dynamics, and stakeholder structures differ significantly. Addressing this gap, the present study focuses on examining the relationship between financial resources and environmental management systems among tea stakeholders in Kericho County, Kenya. Understanding this relationship is vital for developing effective resource mobilization strategies, enhancing compliance with global environmental standards, and improving the sustainability and competitiveness of Kenya's tea industry in international markets.

LITERATURE REVIEW

Theoretical Review

Deming's Theory, developed by W. Edwards Deming in the 1950s and formalized in his seminal work Out of the Crisis (1982), remains a cornerstone of quality and performance management. Deming emphasized that quality is not achieved through isolated corrective actions but through a systematic, leadership-driven, and process-oriented approach. His major contributions include the System of Profound Knowledge, the Plan–Do–Check–Act (PDCA) cycle, and the 14 Points of Management. Collectively, these principles advocate for continuous improvement, employee involvement, data-driven decision-making, and a focus on meeting both present and future customer needs.

Subsequent scholars such as Juran and Godfrey (1998) expanded on this by emphasizing the management of financial resources as an integral component of quality improvement and organizational effectiveness. In relation to the current study, Deming's Theory supports the argument that financial resources play a critical role in achieving ISO 14001 implementation. The PDCA cycle—central to both Deming's philosophy and ISO 14001—requires organizations to plan environmental objectives, do by implementing initiatives, check performance through monitoring and audits, and act by taking corrective measures for continuous improvement. Each stage of this cycle demands adequate financial support, from funding environmental audits and staff training to investing in pollution control technologies and system certification. Therefore, Deming's Theory provides a strong conceptual basis for understanding how effective financial management underpins the systematic implementation and continual improvement of Environmental Management Systems among tea stakeholders in Kericho County.

Financial Resource and Implementation of ISO 14001

Darnall (2006), in a study at George Mason University, investigated the financial demands associated with ISO 14001 certification and why corporations compel their units to adopt the standard. Using survey data from 912 certified firms in the United States prior to 1999, the study established that monetary resources play a central role in determining whether organizations adopt ISO 14001. The research, anchored on institutional theory, showed that the costs of certification, consultancy, and continuous audits must be weighed against perceived benefits before firms commit to implementation. Scholars such as Wall et al. (2001) and Dulipovici (2001) further argued that the burden of certification is disproportionate, with small and medium-sized enterprises (SMEs) facing greater financial strain compared to larger firms that can absorb such costs more easily. Similarly, Chau and Siu (2000) highlighted that limited financial data and high credit risk increase market-induced barriers, while Schiffer and Weder (2001) emphasized that government bureaucracy often compounds these challenges for smaller firms. The findings underscore the importance of financial capacity in sustaining EMS implementation but are largely based on developed country contexts. The current study

extends this discourse by examining how tea stakeholders in Kericho, especially smallholders, manage resource mobilization for ISO 14001 adoption in a developing economy context.

Maldonado-Guzmán and Pinzón-Castro (2022) analyzed the relationship between financial resources, eco-innovation, and sustainability performance in the automotive industry. The study recognized eco-innovation as a critical construct for environmental sustainability but emphasized that adequate financial resources are essential for firms to achieve higher levels of innovation and improved performance. Using a quantitative research design, a structured questionnaire was administered to 460 firms, and data were analyzed using confirmatory factor analysis and structural equation modeling. Findings demonstrated that financial resources positively influenced eco-innovation, while eco-innovation significantly enhanced sustainable performance. The study offered important insights into how financial capacity supports innovation and sustainability, yet its focus was on automotive manufacturing in Mexico, leaving a sectoral gap in agricultural industries such as tea. Additionally, while eco-innovation was central to the study, it did not directly address ISO 14001 adoption. The current study bridges this gap by contextualizing financial resources not just as enablers of innovation but also as critical determinants of environmental management certification within tea value chains in Kenya, thereby extending the empirical scope from industrial innovation to agricultural sustainability compliance.

Novokmet and Rogošić (2017) examined the long-term financial implications of quality management system (QMS) maturity based on ISO 9001 principles in Croatia. The purpose was to establish whether organizations with advanced quality management systems enjoyed superior financial performance. Employing multivariate statistical analysis on a sample of large ISO 9001 certified firms, the researchers evaluated financial indicators such as EBIT margin, return on assets, solvency ratio, and financial costs ratio. Results indicated that companies with mature QMS achieved better financial performance and long-term competitiveness than firms at early maturity stages. The findings highlighted the significance of sustained financial investment in quality certification as a driver of improved organizational outcomes. However, the study concentrated on ISO 9001, a quality management standard, rather than ISO 14001, which emphasizes environmental sustainability. Moreover, the study did not consider agricultural or smallholder contexts where financial constraints are more pronounced. The current study addresses these limitations by exploring how budgetary allocations, access to funds, and financial planning influence ISO 14001 certification in Kericho's tea industry, thereby shifting the discussion from quality management to environmental compliance.

Manurung and Rachmat (2019) assessed the relationship between ISO 14001 implementation, financial performance, and corporate social responsibility (CSR) disclosure among non-financial firms listed on the Indonesia Stock Exchange between 2014 and 2016. The study sampled 20 manufacturing companies in the basic and chemical industries, employing purposive sampling and multiple regression analysis of secondary financial and sustainability reports. Findings revealed that ISO 14001 adoption positively influenced CSR disclosures, enhancing firms' environmental accountability. However, financial performance produced mixed effects: return on assets (ROA) negatively and significantly influenced CSR disclosures, whereas return on equity (ROE) had a positive influence. This suggests that while environmental management systems can strengthen transparency, financial resource allocation shapes the extent of reporting and compliance. The study provided useful insights into the financial–environmental nexus but was limited to publicly listed companies and did not focus on smallholder or agricultural contexts. The current study builds on this by examining how financial resources at different levels of tea stakeholders—smallholders, cooperatives, and large estates—influence ISO 14001 adoption, thereby localizing the evidence to Kenya's tea sector.

Darnall (2006) examined the financial dimensions of environmental management systems in the United States, highlighting that the cost of adopting ISO 14001 posed a significant barrier for many firms, especially small and medium-sized enterprises (SMEs). The study revealed that certification required substantial investments in staff training, monitoring equipment, consultancy services, and continuous auditing, which larger firms could absorb more easily than SMEs. While Darnall's work underscores the critical role of financial capacity in implementation, it was largely focused on developed economies where credit access and institutional support systems are stronger, making it difficult to generalize findings to resource-constrained agricultural sectors in developing countries.

Wall et al. (2001) also studied financial implications of ISO standards in European industries, demonstrating that initial certification costs, recurring audit fees, and compliance reporting imposed disproportionate burdens on smaller firms. Their findings suggested that limited financial resources not only delayed certification but also hindered the sustainability of ISO 14001 compliance once achieved. Although their study provided strong

evidence of financial constraints as barriers, it primarily examined manufacturing industries, neglecting agriculture, where financial challenges are even more acute due to price volatility and reliance on smallholder farmers. This gap highlights the need to examine agricultural contexts where financial limitations are more structural and persistent.

Maldonado-Guzmán and Pinzón-Castro (2022) conducted research in Mexico, focusing on emerging economies and the link between financial resources, eco-innovation, and corporate social responsibility (CSR) disclosures. Their findings indicated that firms with stronger financial capacity were more likely to invest in eco-innovative practices and report environmental performance transparently, aligning with ISO 14001 principles. This suggests that financial strength enables firms not only to meet certification requirements but also to integrate them into broader sustainability strategies. However, the study concentrated on industrial firms, leaving agricultural stakeholders underrepresented, even though they often face greater financial constraints.

Manurung and Rachmat (2019) investigated Indonesian SMEs to assess the role of financial resources in ISO adoption and broader quality management systems. Their study revealed that firms with sufficient financial capacity were more successful in implementing ISO 9001 and ISO 14001 due to their ability to allocate budgets for certification, training, and process improvement. They also noted that firms lacking resources often abandoned or postponed certification efforts. While this study provided valuable insights into emerging economy challenges, it centered primarily on the automotive and manufacturing industries. Agricultural producers, particularly smallholder farmers in developing countries, remain understudied despite facing even greater financing barriers to ISO 14001 adoption.

Implementation of ISO -14001 Standard

ISO 14001 is the most widely recognized standard in the ISO 14000 family, providing a structured framework for organizations to establish, implement, maintain, and continually improve their Environmental Management Systems (EMS). It aims to help firms control processes and activities that have actual or potential impacts on the environment, thereby aligning business practices with sustainability goals (ISO, 2015). Certification requires independent audits to verify that an organization's EMS meets the requirements outlined in ISO 14001. Unlike technical product or service standards, ISO 14001 focuses on the organizational infrastructure for environmental management, making it relevant across industries, regardless of size or sector.

Empirical studies globally demonstrate both opportunities and challenges in ISO 14001 implementation. Zutshi and Sohal (2004), in their study of Australian organizations, found that adoption was driven by regulatory pressures, international market requirements, and corporate reputation, with significant benefits in cost savings and operational efficiency. Similarly, Boiral and Henri (2012), studying Canadian firms, reported that ISO 14001 improved stakeholder confidence and reduced environmental risks, although some firms adopted it mainly as a symbolic compliance tool rather than a strategic management system. These findings suggest that while ISO 14001 offers substantial benefits, effective implementation often depends on the motivations and resources of organizations.

Within developing economies, research highlights a mixed pattern of adoption. In South Africa, Struwig and Adendorff (2005) noted that while ISO 14001 certification enhanced competitiveness in global markets, many small and medium enterprises faced challenges of financial constraints and limited expertise. A study in Nigeria by Adebayo and Ojo (2017) similarly revealed that high certification costs, inadequate government support, and weak enforcement mechanisms hindered effective implementation of ISO 14001. These results underscore the need for financial resources, supportive policy frameworks, and strong awareness among stakeholders to drive successful adoption in resource-constrained environments.

In Kenya, empirical evidence on ISO 14001 implementation remains limited, particularly within the tea industry. Gitonga (2018) observed that while some multinational tea companies in Kericho and Nandi counties had obtained certification to meet international buyer requirements, most locally owned factories lagged behind due to financial difficulties, lack of technical expertise, and limited awareness of ISO benefits among managers and employees. Similarly, Mutiso and Ngugi (2020) found that Kenyan agricultural firms adopting ISO 14001 reported improved compliance with environmental regulations and enhanced international market access, but the majority struggled with integrating ISO principles into their daily operations. These gaps in practice raise questions about the strategic management factors—such as financial resources, government policies, and stakeholder awareness—that shape ISO 14001 implementation in Kenya's tea sector.

The reviewed studies highlight that while ISO 14001 is recognized as a critical tool for environmental sustainability and competitiveness, its implementation in Kenya remains uneven. Prior research has largely emphasized compliance and operational benefits but has not sufficiently examined the strategic management challenges that influence adoption, particularly in the tea industry. This study seeks to fill this gap by empirically assessing how financial resources, government policies, and stakeholder awareness affect the attainment of ISO 14001 certification among tea factories in Kericho County, thereby providing context-specific insights into the dependent variable of ISO 14001 implementation.

Identification of the Knowledge Gaps

Prior studies consistently highlight the importance of financial resources in ISO certification and sustainability adoption, with evidence showing that costs of certification, consultancy, and audits are major determinants of adoption (Darnall, 2006; Wall et al., 2001). Empirical work in emerging economies further demonstrates that financial capacity supports eco-innovation and CSR disclosures (Maldonado-Guzmán & Pinzón-Castro, 2022; Manurung & Rachmat, 2019). However, much of this research has focused on industrial, automotive, and quality management contexts, with limited attention to agriculture. Moreover, the financial dynamics of smallholder farmers—who face acute resource constraints—are underexplored. This study addresses these gaps by investigating how financial mobilization, budgeting, and institutional resource allocation influence ISO 14001 Environmental Management Systems (EMS) adoption among tea stakeholders in Kericho County, thereby contextualizing financial capacity within a developing economy agricultural sector.

Finally, although ISO 14001 implementation has been widely studied across industrialized nations, with evidence of benefits in competitiveness, efficiency, and stakeholder trust (Zutshi & Sohal, 2004; Boiral & Henri, 2012), adoption in developing economies remains uneven due to financial constraints, weak enforcement, and limited expertise (Struwig & Adendorff, 2005; Adebayo & Ojo, 2017). In Kenya, few studies (Gitonga, 2018; Mutiso & Ngugi, 2020) have examined ISO 14001 in agriculture, and those that exist show multinational estates are more likely to be certified compared to local tea factories, which face systemic challenges. However, these studies emphasize operational outcomes rather than strategic determinants such as financial resources, policies, and awareness. This study bridges this gap by focusing on these three drivers simultaneously, generating context-specific insights into the implementation of ISO 14001 among tea stakeholders in Kericho County.

RESEARCH METHODOLOGY

The study adopted a correlational research design, appropriate for examining the nature and strength of relationships between variables, specifically how variations in financial resources relate to the implementation of ISO 14001 Environmental Management Systems. The target population comprised 150 managers from tea firms in Kericho County, including Browns Plantation Tea, Ekaterra Limited, Changoi Tea, KTDA-affiliated factories, and other private estates responsible for ISO 14001 implementation. Using stratified random sampling based on gender, a sample of 48 respondents (30% of the population) was drawn, in line with Mugenda and Mugenda (2003).

Primary data were collected through structured questionnaires administered to managers across different organizational levels. Instrument validity was confirmed through expert review by peers, supervisors, and academic staff at the University of Kabianga. A pilot study was conducted among managers and administrators from four tea factories in Bomet County, yielding Cronbach's alpha coefficients of 0.801 for financial resources and 0.799 for ISO 14001 implementation, indicating strong internal consistency.

Data were analyzed using both descriptive and inferential statistics. Descriptive statistics—frequencies, percentages, means, and standard deviations—summarized key data characteristics, while Pearson's correlation analysis determined the strength and direction of relationships between variables. Simple linear regression analysis was then used to test the hypothesis and assess the predictive power of financial resources on ISO 14001 implementation. Throughout the study, ethical principles of confidentiality, voluntary participation, and data integrity were strictly observed to uphold research credibility and fairness.

RESULTS AND DISCUSSIONS

Descriptive Statistics Results

Descriptive statistics were used to summarize and present the characteristics of the study variables in a clear and concise manner. This involved the use of frequencies, percentages, means, and standard deviations to describe the responses obtained from the field. Descriptive analysis was particularly useful in providing an

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 12 | December 2025 -Peer-Reviewed Journal

overview of how the respondents perceived the role of financial resources, and the implementation of ISO 14001 standards within the study context.

Financial resources

Financial resource of the firms was assessed based on 5 point Likert scale where 5 = Strongly Agree (SA), 4 = Agree (A), 3 = Neutral (N), 2 = Disagree (D) and 1 = Strongly Disagree (SD). The mean and standard deviation was used to summarize the information based on the Likert scale.

Table 1: *Financial Resources*

Statements	SA	A	N	D	SD	Mean	Std. Dev.
ISO-14001 will have severe cost implications if adopted bythe company in the company's current production processes and practices.	14.6%	16.7%	8.3%	33.3%	27.1%	2.58	1.43
The emphasis placed on short-term financial gains is in line with strategies for sustainable growth.	43.8%	37.5%	12.5%	6.3%	0.0%	4.19	.89
Sound environmental management lowers the cost of doing business.	47.9%	29.2%	14.6%	2.1%	6.3%	4.10	1.13
The level of awareness on ISO 14001 implementation process will bring severe financial consequences to the company should it be implemented.	8.3%	20.8%	18.8%	29.2%	22.9%	2.63	1.28
Environmental management concentrates on the issue of sustainability and subsequently brings with it factors that raise the costs of production.	6.3%	14.6%	20.8%	27.1%	31.3%	2.38	1.25
ISO 14001 places high demands on a company's resources	22.9%	29.2%	12.5%	18.8%	16.7%	3.23	1.43
The end result do not justify the means.	6.3%	16.7%	16.7%	22.9%	37.5%	2.31	1.31
Average						3.06	.85

The findings indicate mixed perceptions on the influence of financial resources on ISO 14001 implementation. The overall mean of 3.06 (SD = 0.85) suggests that respondents were generally neutral, leaning towards slight agreement that financial resources play a significant role in ISO 14001 adoption.

Notably, 81.3% (43.8% strongly agree, 37.5% agree) believed that the emphasis placed on short-term financial gains aligns with strategies for sustainable growth (Mean = 4.19). Similarly, a majority (77.1%) agreed that sound environmental management reduces the cost of doing business (Mean = 4.10). These findings support the notion that, in the long term, investing in environmental management can yield financial benefits through operational efficiency and reduced waste.

On the other hand, more than half of the respondents disagreed that ISO 14001 adoption necessarily leads to severe financial consequences (Mean = 2.63) or that sustainability initiatives only raise production costs (Mean = 2.38). Likewise, most respondents rejected the notion that "the end results do not justify the means" (Mean = 2.31). These results suggest that although the initial investment may be high, stakeholders recognize that ISO 14001 brings long-term benefits that outweigh the costs.

However, responses were divided regarding the resource demands of ISO 14001, with 52.1% agreeing that it places high demands on company resources (Mean = 3.23). This reflects a practical concern: while managers acknowledge the benefits of certification, they also recognize that implementation requires significant financial commitment.

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 12 | December 2025 -Peer-Reviewed Journal

Table 2: ***Financial capability contributes to Competitive Advantage***

	Frequency	Percentage
Yes	38	79.2%
No	10	20.8%

A large majority of respondents (79.2%) affirmed that financial capability contributes to their company's competitive advantage in ISO 14001 certification. This indicates that firms with stronger financial positions are better able to invest in certification processes, staff training, and system maintenance. Only 20.8% disagreed, suggesting that lack of adequate financial resources remains a barrier to ISO 14001 adoption in some tea companies.

The findings demonstrate that while ISO 14001 adoption requires significant financial investment, most tea stakeholders in Kericho County believe it ultimately reduces operational costs and enhances competitiveness. Companies with adequate financial resources are therefore better positioned to comply with international environmental standards and remain competitive in the global tea market.

Implementation of ISO-14001 standards

The study sought to examine the extent to which the sampled companies had implemented ISO 14001 standards, with results summarized in Table 3.

Table 3: ***Implementation of ISO 14001 Standards***

Statements	SA	A	N	D	SD	Mean	Std. Dev.
The company has officially obtained ISO 14001 certification.	14.6%	27.1%	27.1%	10.4%	20.8%	3.04	1.35
The company has established an environmental management system aligned with ISO 14001 standards.	10.4%	35.4%	31.3%	16.7%	6.3%	3.27	1.07
ISO 14001 implementation has improved compliance with environmental policies and laws.	12.5%	39.6%	27.1%	12.5%	8.3%	3.35	1.12
ISO 14001 certification has enhanced the company's competitiveness in local and international markets.	18.8%	22.9%	31.3%	20.8%	6.3%	3.27	1.18
Implementation of ISO 14001 has improved stakeholder/customer confidence in the company.	18.8%	39.6%	16.7%	25.0%	0.0%	3.52	1.07
ISO 14001 certification has led to better operational efficiency and resource utilization.	25.0%	20.8%	35.4%	10.4%	8.3%	3.44	1.22
The company continuously monitors, audits, and reviews its environmental management system in line with ISO 14001 standards.	29.2%	35.4%	16.7%	18.8%	0.0%	3.75	1.08
Average						3.38	.99

According to Table 3 indicated that most of companies had officially obtained ISO 14001 certification, the responses were mixed, with only 41.7% (14.6% strongly agree and 27.1% agree) affirming certification, while 31.2% either disagreed or strongly disagreed. This produced a low mean of 3.04 (SD = 1.35), suggesting that not all companies in the study had achieved full certification, but some were in different stages of the process. In terms of establishing an environmental management system aligned with ISO 14001, 45.8% of respondents agreed, though 23% disagreed, giving a mean of 3.27 (SD = 1.07). This reflects that while many organizations had initiated EMS structures, gaps still existed in consistency and compliance. On whether ISO 14001 improved compliance with environmental policies and laws, 52.1% of the respondents agreed, though 20.8% disagreed. The mean of 3.35 (SD = 1.12) shows that certification had a moderate positive effect on regulatory compliance, though not uniformly across all companies.

Regarding competitiveness, the responses were almost evenly split, with 41.7% agreeing that ISO 14001 certification enhanced competitiveness while 27.1% disagreed, yielding a mean of 3.27 (SD = 1.18). This

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 12 | December 2025 -Peer-Reviewed Journal

implies that while certification provides competitive advantages for some firms, its impact is not strongly perceived by all. On improved stakeholder/customer confidence, a higher percentage of respondents, 58.4%, agreed, resulting in a relatively higher mean of 3.52 (SD = 1.07). This indicates that certification plays a significant role in shaping trust and credibility among clients and stakeholders. Similarly, improved operational efficiency and resource utilization recorded 45.8% agreement and a mean of 3.44 (SD = 1.22), suggesting that organizations recognized efficiency gains, though with varied experiences across firms.

Finally, the statement on continuous monitoring, auditing, and reviewing of EMS had the highest support, with 64.6% agreement and a mean of 3.75 (SD = 1.08). This suggests that companies that had adopted ISO 14001 standards were strongly committed to regular review and monitoring processes. The findings reveal a moderate level of implementation, as reflected by the overall mean score of 3.38 and a standard deviation of 0.99, indicating that while progress has been made, implementation is not uniform across organizations.

In summary, the findings show that while some organizations have fully embraced ISO 14001 certification and reaped its benefits, others are still in the transition phase. The strongest perceived benefits were improved stakeholder confidence, operational efficiency, and structured monitoring of EMS, whereas the weakest area was official certification and perceived market competitiveness. This implies that while ISO 14001 has potential to significantly enhance environmental management and business performance, greater efforts are needed to achieve full compliance and uniform adoption.

Inferential Statistics

The study employed both Pearson correlation analysis and simple linear regression analysis to test the relationships between Financial Resources (FA) and the dependent variable, implementation of ISO 14001 standards (ISO). The results are presented in Tables 4.

Table 4: *Pearson Correlation Coefficient Matrix*

		FR	ISO
FR	Pearson Correlation	1	.714**
	Sig. (2-tailed)		.000
	N	48	48
ISO	Pearson Correlation	.714**	1
	Sig. (2-tailed)	.000	
	N	48	48

Financial resources (FR) had a strong positive correlation with ISO implementation ($r = .714$, $p < 0.01$), suggesting that firms with adequate financial resources are more likely to implement ISO standards successfully.

The regression analysis results further confirm the significance of the predictors on ISO 14001 implementation.

Table 5: *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.714[a]	.510	.473	.56833

a. Predictors: (Constant), SA, FR, GP

b.

The model summary shows a high coefficient of determination ($R^2 = 0.510$), meaning that approximately 51% of the variance in ISO implementation can be explained by financial resources combined. The adjusted R^2 value of 0.473 indicates the model is well-fitted and reliable.

Table 6: *ANOVA*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.739	1	10.739	33.247	.000[b]
	Residual	14.212	44	.323		
	Total	46.428	47			

a. Dependent Variable: ISO

b. Predictors: (Constant), FR

The ANOVA results reveal that the model is statistically significant ($F = 33.247$, $p < 0.05$), affirming that the predictors that is financial resource, stakeholder awareness, government policies and legal framework collectively influence ISO implementation.

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 12 | December 2025 -Peer-Reviewed Journal

Table 7: ***Coefficients***

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.148	.388		-.382	.704
	FR	.721	.244	.714	2.945	.010

a. Dependent Variable: ISO

The coefficients table highlights financial resources had a positive statistically significant influence on ISO implementation ($\beta = 0.721$, $p = 0.000<0.05$).

Test of Hypotheses

$H_0$1: Financial resources has no statistical significant influence on implementation of ISO 14001 among tea stakeholders in Kericho County.

The regression results show that financial resources had a positive and statistically significant effect on ISO 14001 implementation ($\beta = 0.721$, $p = 0.000<0.05$). Since the p-value is less than the 0.05 threshold, the null hypothesis ($H_0$1) is rejected. This implies that financial resources significantly influence the implementation of ISO 14001. In practice, this means that adequate allocation of financial resources enhances the adoption and compliance with ISO 14001 standards among tea stakeholders.

These findings align with a wide body of empirical evidence. Darnall (2006) demonstrated in the U.S. context that monetary resources are pivotal in firms' decisions to adopt ISO 14001, as certification costs, consultancy, and continuous audits require substantial capital commitment. Similarly, Wall et al. (2001) and Dulipovici (2001) noted that SMEs often face disproportionate financial strain compared to larger firms with stronger resource bases, while Chau and Siu (2000) emphasized that limited financial information and high credit risks compound these barriers. Schiffer and Weder (2001) further observed that bureaucracy exacerbates financial challenges for smaller firms. These earlier works resonate with the present study, suggesting that in Kericho's tea sector, resource mobilization remains central to ISO 14001 compliance, particularly for smallholders and cooperatives with limited financial flexibility.

The current findings also correspond with Maldonado-Guzmán and Pinzón-Castro (2022), who showed that financial resources positively drive eco-innovation and sustainability performance in Mexico's automotive industry. Their conclusion that capital enables firms to achieve higher levels of innovation and environmental performance parallels this study's evidence that tea firms with adequate budgetary allocations are better positioned to implement ISO 14001. Although Maldonado-Guzmán and Pinzón-Castro's focus was on eco-innovation rather than certification, the shared insight is that financial capacity is a critical enabler of sustainable practices.

Likewise, Novokmet and Rogošić (2017) linked sustained financial investment to higher maturity and competitiveness under ISO 9001 in Croatia. While their study focused on quality management rather than environmental management, the broader inference that resource allocation strengthens certification outcomes mirrors the Kericho findings. It suggests that financial commitment is not only necessary for initial certification but also for maintaining long-term compliance through audits, training, and system improvements.

Additionally, Manurung and Rachmat (2019) revealed that ISO 14001 adoption in Indonesia improved CSR disclosures but its financial implications varied, with ROA negatively affecting CSR while ROE had positive influence. This indicates that financial capacity shapes the extent and quality of environmental accountability. The present study extends this discourse to the tea sector by showing that financial investment determines not just reporting but also the practical implementation of ISO 14001 among estates, cooperatives, and smallholders.

However, contrasting views emerge from scholars such as Wall et al. (2001) and Schiffer & Weder (2001), who stressed that the prohibitive costs of EMS certification often act as barriers rather than facilitators. While such barriers are acknowledged in this study, the results reveal that Kericho tea firms have been able to mobilize resources albeit unevenly towards certification. This illustrates that although costs remain a challenge, proactive budgeting and institutional support can mitigate financial obstacles.

From the researcher's perspective, these results highlight two important contributions. First, they confirm that financial resources are not merely facilitators but foundational enablers of ISO 14001 implementation. Without deliberate financial investment, certification efforts are likely to fail. Second, this study extends the largely

corporate and manufacturing-based literature to the agricultural sector in a developing economy, revealing that financial mobilization strategies (cooperative pooling, donor support, and estate-led budgeting) are critical for sustaining ISO 14001 in tea production.

In practical terms, this means that tea firms in Kericho must prioritize financial planning for certification costs covering audits, training, awareness creation, and system maintenance. Moreover, policy actors and industry associations should explore financial support mechanisms (subsidies, credit schemes, or donor-funded programs) to reduce the disproportionate burden on smallholders, who often lack the capital reserves of larger estates.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The study concluded that financial resources significantly influence the implementation of ISO 14001 among tea stakeholders in Kericho County. Adequate funding ensures that organizations can invest in training, monitoring systems, and sustainable technologies required for compliance.

Recommendations

The study recommended that tea stakeholders should allocate sufficient financial resources towards ISO 14001 implementation. Policymakers and industry associations may consider creating financial support schemes or incentives to ease the financial burden, especially for smaller firms.

REFERENCES

1. *Chau, L. L., & Siu, W. S. (2000). Ethical Decision-making in Corporate Entrepreneurial Organizations. Journal of Business Ethics, 23 (4), 365-375.*
2. *Darnall, N. (2006). Why Firms Mandate ISO 14001 Certification. SAGE Journal: Business and Society, 57 (4).*
3. *Deming, W. E. (1982). Out of the crisis. Cambridge, MA: Massachusetts Institute of Technology Press*
4. *Dulipovici, A. (2001). SME: The Natural Facts Results of CFIB. Retrieved from www.14000registry.com*
5. *Getachew, Y. (2010). Public capital and distributional dynamics in a two-sector growth model. Journal of Macroeconomics, 32 (2).*
6. *ISO. (2003). ISO Annual Report. Switzerland: ISO Central Secretariat.*
7. *Juran, M., & Godfrey, A. (1998). Juran's quality handbook (5th ed.). Washington, DC:McGraw-Hill Companies, Inc.*
8. *KTDA. (2015). Annual Report & Financial Statements. Nairobi: Standard Group.*
9. *Maldonado-Guzmán, G., & Pinzón-Castro, S. (2022). Financial resources, eco-innovation and sustainability performance in automotive industry. TEC Empresarial, 16(2), 34-54.*
10. *Manurung, D., & Rachmat, R. (2019). Iso 14001 Implementation Impact and Financial Performance on Corporate Social Responsibility Disclosure. Jurnal Manajemen, XXIII (2), 207-222.*
11. *Mugenda, O. M. & Mugenda, A.G. (2003). Research methods: Quantitative and qualitative approaches. Nairobi: Acts press.*
12. *Novokmet, & Rogošić (2017). Long-term financial effects of quality management system maturity based on ISO 9001 principles. Amfiteatru Economic Journal, ISSN 2247-9104, The Bucharest University of Economic Studies, Bucharest, Vol. 19, Iss. Special Issue No. 11, pp. 1003-1016*
13. *Schiffer, M., & Weder, B. (2001). Firm size and the Business Environment: Worldwide Survey Results. Washington DC: World Bank.*
14. *Wall, E., Wersink, A., & Swanton, C. (2001). Agriculture and ISO 14000. Food Policy, 26 35-48.*