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Abstract

The role of government-owned processing factories in Kenya's economic development is immense, as they contribute significantly to value addition, job creation, and industrial growth. However, limited research has been conducted on the socio-economic effects of such factories on the surrounding communities. The study aimed to examine the impact of Kalamba Mango Processing Plant on the socio-economic condition of the community in Makueni County. In particular, it involved the impact of the factory on the livelihoods of mango farmers, factory workers and small-scale entrepreneurs. The study was conducted using the descriptive research design. Two theories underpinned this research: New Public Management (NPM) theory, underpinned by efficiency, accountability and performance in public enterprises; and the Agency Theory, which helped to explain the relationship between the principals (the local community) and the agents (plant managers) in ensuring the plant operates in the community's best interests. The target groups were mango farmers, staff in the Kalamba mango processing plant and small business operators in Makueni County. Using stratified sampling, a total of 115 respondents were selected. Additionally, interviews with key informants that included factory management, government officials and cooperative leaders were done to complement the quantitative data, with the help of an interview schedule. Both quantitative and qualitative data were gathered and analyzed for the presence of emerging patterns and insights from the interviews conducted. The research findings indicated that the newly established Kalamba mango Processing Plant has created job opportunities, especially for youth and women and boosted household income as a result of reliable market access for mango farmers. Furthermore, the plant has provided opportunities for the growth of micro businesses like food kiosks, transport services and local shops, resulting in overall community development. It is concluded that well-managed and well-integrated government owned processing plants can have a significant positive impact on rural socio-economic development. The results offer important policy guidance to policy-makers, development planners and investors in enhancing agro-industrial development as a key driver of inclusive economic growth in Kenya and elsewhere.

Keywords: *Community, Socio-Economic Wellbeing, Kalamba Mango Processing Factory, Makueni County, Kenya*

1.1 Background of the Study

Government-owned processing factories have become important instruments for promoting economic development through agricultural value addition, employment creation, productivity improvement, and market development. Their establishment is generally intended to strengthen local economies by transforming raw agricultural products into higher-value products while expanding income-generating opportunities for surrounding communities. Li and Maskin (2021) observed that government involvement in productive enterprises can influence employment, income distribution, and broader economic stability, particularly in developing economies. Similarly, government-supported food processing initiatives in India have contributed to employment creation and improved market access for agricultural producers (Nagarjuna, 2022).

Government-supported agro-processing has also been adopted in other regions as a mechanism for strengthening agricultural competitiveness and rural development. In Brazil, partnerships involving public agricultural institutions and private industry have supported the development and adoption of processing technologies for major agricultural commodities (Baer et al., 2019). In Europe, public agricultural development programmes have supported processing facilities intended to revitalize agricultural areas and expand rural employment, while China has invested in agricultural processing zones and industrial parks to enhance productivity and competitiveness (di Carlo & Schmitz, 2023; Wang et al., 2020). These experiences demonstrate the potential of public investment in agro-processing, although the resulting socioeconomic effects may differ considerably according to local economic and institutional conditions.

Across Africa, agro-processing initiatives have similarly been associated with employment creation, improved agricultural incomes, value addition, and stronger market access. Experiences from Nigeria, Ghana, Ethiopia, South Africa, and Tanzania suggest that investments in agricultural processing can stimulate rural economic activities, enhance the value of agricultural products, and create opportunities within agricultural value chains (Addo, 2017; Catela et al., 2023; Mwanja et al., 2021; Ogbuigwe, 2018; Zikargie et al., 2022). Government support for industrialization has therefore emerged as an important component of socioeconomic development strategies across the continent (Vamba et al., 2023). However, much of the existing evidence gives limited attention to localized effects on rural households, small enterprises, and marginalized groups.

In Kenya, government-supported processing facilities have contributed to agricultural value addition and the development of rural livelihoods across different subsectors. Processing activities involving rice, coffee, tea, flowers, dairy products, and fish have been associated with employment generation, improved marketability of agricultural commodities, and enhanced income opportunities for producers (Elliot & Skrydstrup, 2021; Martin, 2019; Mati & Thomas, 2019). Government interventions in processing and value addition have also strengthened farmers' access to markets and supported related economic activities along agricultural value chains (Catela et al., 2023; Mwanja et al., 2021). These experiences demonstrate the potential contribution of agro-processing facilities to both agricultural commercialization and local economic development.

Makueni County provides an important context for examining these socioeconomic effects because mango farming constitutes a significant economic activity among local households. The establishment of the Kalamba Mango Processing Plant was intended to enhance mango value addition, provide a market for farmers, and create economic opportunities associated with processing and distribution. Existing evidence suggests that mango processing in Makueni has

contributed to improved market opportunities, employment creation, and increased income for farmers involved in the mango value chain (Mwania et al., 2021; Vamba et al., 2023). Processing therefore provides an avenue through which farmers can access higher-value markets while reducing dependence on the sale of unprocessed mangoes.

The Kalamba Mango Processing Plant further creates value through the production of processed mango products such as pulp, juice, and dried or sliced mango products, thereby broadening market opportunities for locally produced mangoes (Petre & Andreaa, 2020). Processing activities have also created opportunities for workers to develop skills in food processing, packaging, quality control, and marketing, which can strengthen human capital within the local economy (Mwania et al., 2021; Vamba et al., 2023). Despite these potential benefits, comprehensive evidence on how the plant affects employment opportunities, household income, and the development of small-scale businesses within the surrounding community remains limited. Consequently, examining these interconnected socioeconomic outcomes provides a basis for understanding the contribution of the Kalamba Mango Processing Plant to community socioeconomic wellbeing in Makueni County.

1.1 Statement of the Problem

The creation of governmental-owned agricultural processing factories has already caught the attention of the world and been the subject of wide discussion and criticism on the socio-economic impact on local communities. First, Catela, Bittencourt, Carvalho and Savard (2023) discussed the environmental advantages of government-approved agricultural processing factories in Brazil, but failed to consider them in terms of value adding and market value in the agricultural supply chain. In this regard, Petre and Andreaa (2020) have mentioned the government policies to support these factories in Romania but failed to present a comprehensive study of their socio-economic impacts on the local community. Moreover, Catela et al. (2019) conducted a study in Guinea-Bissau about the impact of government owned coffee processing factories. The variables studied were jobs created, income level and value added. Results showed a significant rise in employment but also revealed income stability issues and an absence of market value creation, suggesting the necessity of additional long-term impacts and outcomes research.

One of the studies which stands out is one done by Benfica, Cunguara and Thurlow (2019) on the Mozambican Cashew Processing Factory (MPF). This study explored technological trends and efficiencies, including advancements in production techniques and increased quality. Cultivation of this kind, however, ignored significant socio-economic factors including economic and employment impact at the local level. Issues arose with the collection of a comprehensive set of data on the impact of the factories on employment, income security and the wider economic health of the local communities. A second study was conducted in Tanzania by Martin (2019) on government owned dairy processing plants. The variables analysed included employment opportunities, income fluctuations and value addition in the dairy value chain. The results indicated that there are positive signs of job creation and income enhancement but an inadequate value addition practices and market diversification were noted, which is a subject of research in the future to enhance the economic benefits.

While informative in their specific context, these existing studies have tended to examine the technical aspects or specific environmental and policy dimensions. There is however a lack of literature to comprehensively examine the socio-economic impacts of government owned agricultural processing factories with an emphasis on employment, income generation and value

addition to the agricultural value chain. Hence, this study aimed at finding out the socio-economic impact of these factories with a view to providing a more complex picture of the impact they have on communities and economic development, using the case of Kalamba Mango Processing Plant, Makueni County, as a reference.

1.2 Research Objectives

- i. To analyze how the Mango Processing Plant has affected job employment opportunities in Makueni Sub-County
- ii. To investigate the effect of the Mango Processing Plant on the income level of local farmers in Makueni Sub-County
- iii. To assess the effect of the Mango Processing Plant on small-scale businesses.

2.0 Literature Review

This chapter presents a review of empirical literature on the socio-economic effects of government-owned agricultural processing factories. It focused on the Kalamba Mango Processing Plant in Makueni County and was guided by Agency Theory and New Public Management (NPM) Theory. The chapter examined how these perspectives explained the plant's influence on employment opportunities, income levels, and small-scale businesses.

2.1 Empirical Review

Community socioeconomic wellbeing is reflected in improvements in employment opportunities, household incomes, livelihood security, and the development of small scale enterprises. Agro processing industries contribute to these outcomes through agricultural value addition, improved market access, reduced post harvest losses, and expansion of rural economic activities (World Bank, 2020). Barrett et al. (2019) established that transformation of agricultural value chains can improve rural livelihoods through increased off farm employment and household incomes. However, much of the existing literature has emphasized broad economic outcomes, leaving limited evidence on localized effects of agro processing facilities on surrounding communities and small enterprises.

Government owned agricultural processing factories have increasingly been recognized as mechanisms for promoting rural development and strengthening agricultural productivity. Petre and Andreaa (2020) observed that such factories transform raw agricultural produce into value added products while creating employment, strengthening local incomes, and stimulating complementary economic activities. Singh et al. (2022) similarly found that food processing units in India contributed to employment creation and related activities such as transportation and packaging, although the broader socioeconomic consequences were not comprehensively examined. In Kenya, Vamba et al. (2023) found that the Kalamba Mango Processing Plant supported value addition, reduced post harvest losses, and provided a relatively stable market, although technological, storage, and market constraints limited the full utilization of the plant.

Employment creation represents an important pathway through which agro processing affects community wellbeing. Agricultural processing factories generate direct jobs within production facilities and indirect opportunities through transportation, packaging, distribution, supply, and

related services (Amanor, 2019). Diao et al. (2017) established that agro processing can absorb agricultural labour and create off farm employment, while Amanor (2019) reported employment opportunities for rural populations, particularly women and youth. In Kenya, Kinyanjui (2014) and Onjala (2016) similarly associated agricultural value addition with employment creation, although limited empirical attention has been given specifically to the direct and indirect employment effects of government owned processing factories such as the Kalamba Mango Processing Plant.

Agro processing factories can also influence community wellbeing by improving and stabilizing household incomes. Deshmukh et al. (2024) found that value addition through agricultural processing increased farmers' returns and improved rural household living standards in India. Similarly, Moyib et al. (2022) reported improved incomes and economic empowerment among communities associated with cassava processing in Nigeria, while Guyalo and Ifa (2023) established that agro processing facilities in Ethiopia contributed to both employment and income growth. In Makueni County, Muthini et al. (2023) found that mango processing improved farmers' incomes by providing a more stable market, reducing post harvest losses, and improving prices received for agricultural produce.

The development of small scale businesses constitutes another important socioeconomic outcome associated with agro processing. Processing factories generate demand for transport, retail, food vending, packaging, accommodation, supply services, and other complementary enterprises within surrounding communities. Suryawanshi (2022) found that rice milling activities in India enhanced market value and supported the growth of small enterprises, while Ogbanje (2023) reported that soybean processing in Nigeria improved market opportunities and incomes for local businesses. Similar findings were reported by Gosa et al. (2023) in Ethiopia and Muigai (2020) in Kenya, where agricultural processing and value addition contributed to enterprise development and improved economic opportunities for farmers and local businesses.

2.2 Theoretical Framework

The study was anchored on New Public Management Theory and Agency Theory. New Public Management Theory emphasizes efficiency, accountability, results orientation, decentralization, stakeholder responsiveness, and the adoption of private sector management practices in public institutions (Hood, 1991). The theory was relevant to the study because the Kalamba Mango Processing Plant is a government owned enterprise whose socioeconomic contribution depends partly on how efficiently its resources, operations, and services are managed. In this context, efficient and responsive management was expected to support employment creation, agricultural value addition, improved market access, and increased income opportunities for farmers, employees, and small businesses.

Agency Theory, advanced by Jensen and Meckling (1976) and further developed by Eisenhardt (1989), explains relationships in which principals delegate responsibilities to agents who are expected to act in their interests. The theory recognizes that conflicts may arise when agents pursue interests that differ from those of principals, particularly where information asymmetry, weak monitoring, or inadequate incentives exist (Eisenhardt, 1989). In this study, the community and government represented the principals, while the managers and operators of the Kalamba Mango Processing Plant represented the agents responsible for implementing the plant's operational and development objectives. Agency Theory therefore provided a basis for examining the importance

of accountability, monitoring, performance expectations, and goal alignment in ensuring that factory operations generated intended benefits for the surrounding community.

Together, the two theories provided a complementary framework for examining the socioeconomic contribution of the Kalamba Mango Processing Plant. New Public Management Theory explained how efficiency, performance orientation, and responsiveness in a public enterprise could translate into improved employment opportunities, incomes, and business activity, while Agency Theory explained how governance and accountability relationships could influence the realization of these outcomes. The theories were therefore applied in interpreting whether management practices and institutional arrangements supported the developmental interests of farmers, employees, entrepreneurs, and the wider community. Their combined application enabled the study to assess the plant not only as an agro processing facility but also as a public institution expected to deliver tangible socioeconomic benefits to Makueni County.

2.3 Conceptual Framework

In this Study, the independent variable is the Kalamba mango processing factory. At the same time, the economic well-being of the community, job opportunities, income levels, and small-scale businesses are the dependent variables.

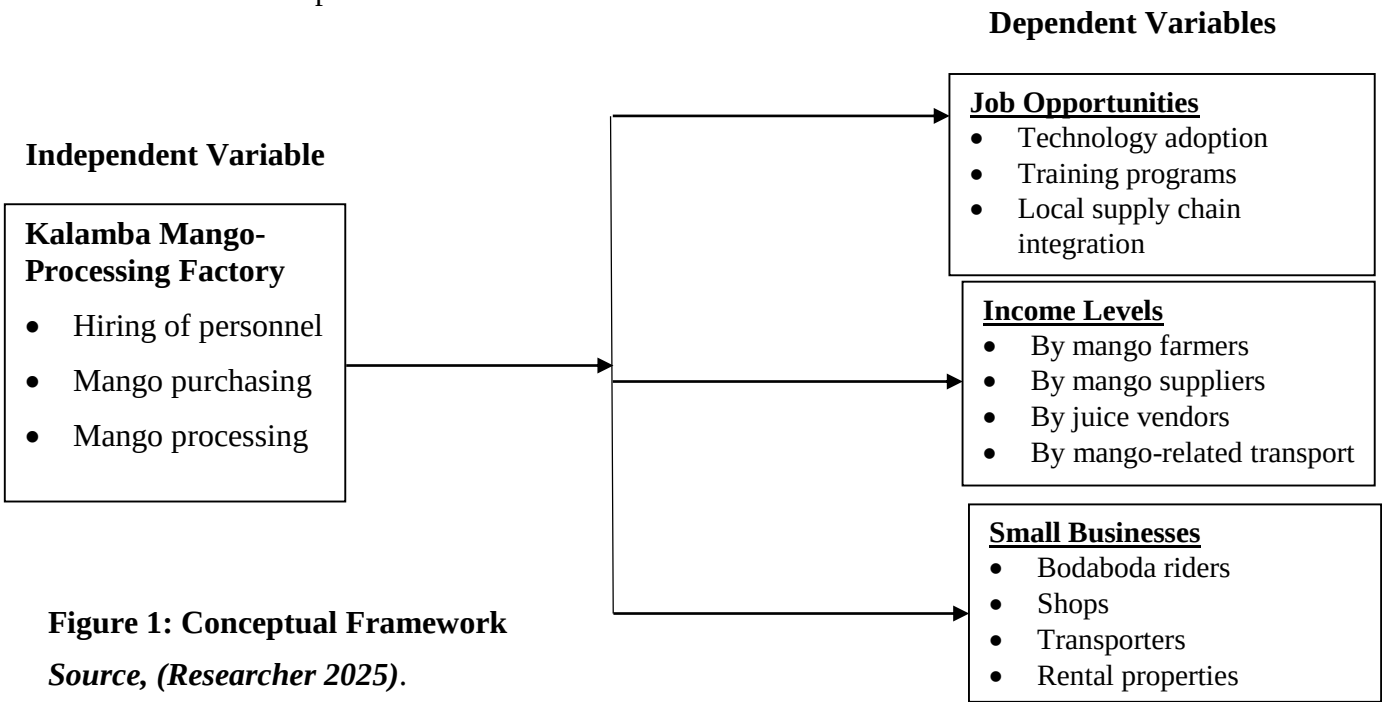


Figure 1: Conceptual Framework
Source, (Researcher 2025).

3.0 Research methodology

The study adopted a descriptive research design to examine the effect of the Kalamba Mango Processing Plant on employment opportunities, income levels, and small scale business activities in Makueni Sub County. The study was conducted in Kalamba Location, Makueni County, a semi arid agricultural area where mango production constitutes an important livelihood activity alongside maize farming, pigeon pea production, and livestock keeping (Vamba et al., 2023). The study targeted stakeholders directly involved in or affected by the factory, including government officials, mango farmers association officials, factory employees association officials, bodaboda

riders association officials, business community representatives, factory management, and rental property owners. A census approach was adopted, covering 115 officials and leaders from the identified stakeholder groups, while primary data were collected using questionnaires and interview schedules and supplemented with secondary information from government reports, academic publications, books, newspapers, and relevant institutional reports. Quantitative data were checked for completeness and consistency, coded, and analyzed using Microsoft Excel and the Statistical Package for the Social Sciences. Frequencies, percentages, measures of central tendency, and inferential statistics were used to identify patterns and relationships in the data, while qualitative information obtained through interviews was analyzed thematically to capture recurring views concerning employment creation, income generation, and small scale business development. Ethical requirements were observed through institutional authorization, university ethical approval, NACOSTI authorization, informed and voluntary participation, confidentiality, anonymity, and protection of respondents' information throughout the research process. The methodological approach therefore enabled the study to combine quantitative and qualitative evidence in assessing the socio economic contribution of the Kalamba Mango Processing Plant to the surrounding community.

4.0 Research Findings and Discussion

The chapter focuses on data, analysis and discussion on the impact of the Kalamba Mango Processing Factory on community socio-economic wellbeing in Makueni County.

4.1 Response Rate

The study targeted 115 respondents drawn from government officials, Mango Farmers Association officials, Plant Employees Association officials, Bodaboda Riders Association officials, Business Community Association officials, factory management, and Rental Property Owners Association officials. Out of the 115 questionnaires administered, 106 were successfully completed and returned, representing an overall response rate of 92.0%. Response rates across the respective strata ranged from 83.3% among Plant Employees Association officials to 100.0% among factory management, indicating strong participation across all respondent categories. The high response rate provided an adequate basis for analysis and reflected effective cooperation from the respondents, local associations, and the management of the Kalamba Mango Processing Factory.

4.2 Demographic Characteristics of Respondents

The demographic characteristics examined included gender, age, education level, and respondents' relationship with the Kalamba Mango Processing Plant. Male respondents constituted 53.8% of the sample, while females accounted for 46.2%, indicating relatively balanced participation of men and women in activities associated with the mango value chain. In terms of age, the largest proportion of respondents was aged 31–40 years at 35.8%, followed by those aged 41–50 years at 32.1%, 51–60 years at 17.0%, and 20–30 years at 15.1%, showing that most participants were within economically active working ages. The gender and age distribution therefore reflected participation by adults actively engaged in farming, employment, transport, and small-scale commercial activities associated with agro-processing (FAO, 2021; Ogbanje, 2023).

Regarding education, 30.2% of respondents had diploma qualifications, 27.4% had certificates, 19.8% had KCSE qualifications, 18.9% had degrees, and 3.8% reported other qualifications, indicating varied educational backgrounds among participants. Education level was significantly

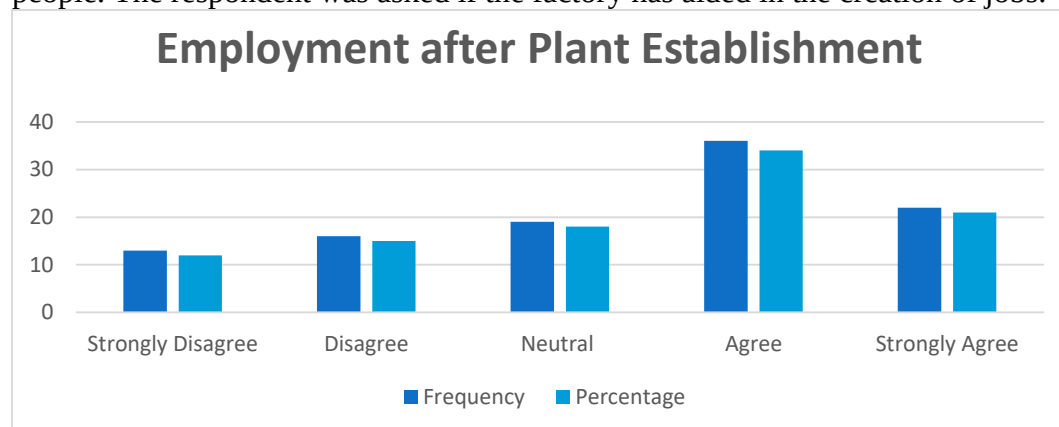
associated with respondents' connection to the factory ($\chi^2 = 21.63$, $p < 0.05$), with factory workers and government officials generally having higher qualifications than farmers and small business operators, supporting the importance of education in participation within agro-industrial value chains (Muthini et al., 2023). Regarding respondents' relationship with the plant, 38.7% were small business owners, 34.9% were farmers, and 26.4% were employees, demonstrating that the plant's activities extended beyond direct employment to farming and entrepreneurial activities within the surrounding community. Respondents' socio-economic status was also significantly associated with their relationship with the factory ($\chi^2 = 17.48$, $p < 0.05$), suggesting that participation in factory-related activities differed across socio-economic groups and reflected the plant's wider linkages with agriculture, employment, and local enterprise development.

4.3 Effect of the Kalamba Mango Processing Plant on Job Employment Opportunities

The study aimed to examine the impact of Kalamba Mango Processing Plant to the employment opportunities in Makueni Sub-County. The study was aimed at finding out if the factory had been able to create employment and create better employment opportunities for the local community. Data was gathered from farmers, factory workers, small businessmen, and others who are involved with the factory. The results of the findings are presented and analyzed by descriptive statistics, figures and respondent perceptions about the job opportunities given by the factory. The pre-interview questionnaire respondents highlighted that the employment situation in Kalamba Sub-County was 'highly unstable with seasonal jobs' before the establishment of the Kalamba Mango Processing Plant. Most of our young people relied on casual farm activities or were moved to the cities during the lean season, said one government official. Another respondent remarked "There was no reliable income source, anyone would only work when there was harvesting of mangoes." The result is in line with Agency Theory, which focuses on the importance of structured employment systems where there is a synergy between community capacity and institutional goals (Eisenhardt, 1989).

4.3.1 Employment Opportunities after Establishment of the Factory

The study aimed to find out if the Kalamba Mango Processing Plant has provided jobs for the local people. The respondent was asked if the factory has aided in the creation of jobs.



Source: Researcher (2025)

Figure 2: Employment after Plant Establishment

Figure 2 shows that 34 per cent of the respondents agreed and 21 per cent strongly agreed that the Kalamba Mango Processing Plant had created jobs for the community. On the other hand, 15% disagreed, 12% strongly disagreed and 18% were neutral. It is therefore evident that the factory has positively impacted on employment creation in Makueni Sub-County. The findings also suggest that employment opportunities have been created directly and indirectly by the factory operation, transportation, supply and other small-scale businesses through the factory. The processing plant has stimulated economic activities in the local community, enhancing the livelihoods of people living in the area. The results are similar to those of Mugambi and Wambugu who found that agro-processing industries play a significant role in rural employment both in the factories and value-chain activities. Likewise, Kariuki noted that agricultural processing industries attract local labour and also cut dependency on seasonal agriculture work. A Chi-square test ($\chi^2 = 9.74$, $p < 0.05$) also showed that there is a significant correlation between the respondents' involvement in the activities carried out by the factory and the perception of employment created by the factory, which means that the factory has an impact on employment in the area of study. These were confirmed by the qualitative responses of the interview participants. Prior to the factory's opening, jobs were very seasonal and patchy in the area, said one government official. Respondents noted that the factory had increased employment opportunities, especially for young people and mango suppliers and transport providers.

4.3.2 Employment Opportunities Across Different Skill Levels

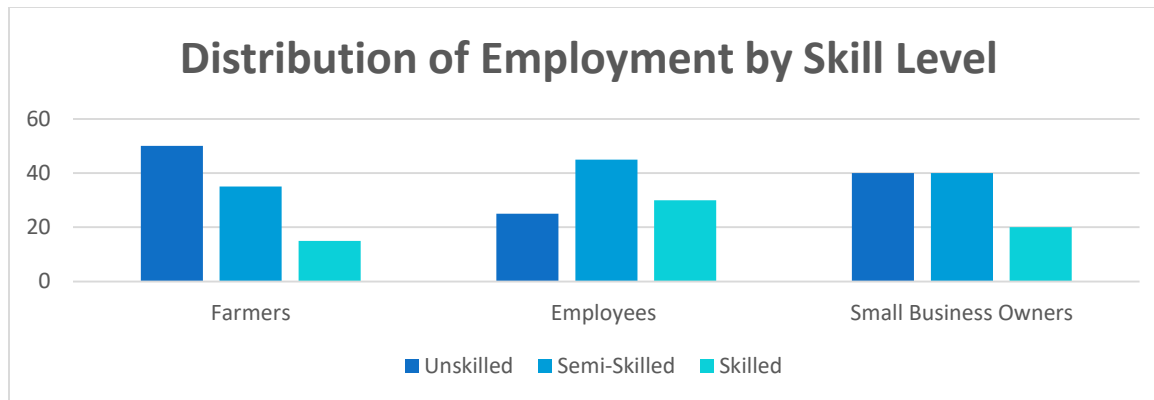
Table 1 and Figure 3 illustrates respondents' perceptions on the level of job creation in the Kalamba Mango Processing Plant at various skills. The study classified the employment into three broad categories; unskilled, semi-skilled and skilled.

Table 1: Distribution of Employment by Skill Level

Respondent Category	Unskilled (%)	Semi-Skilled (%)	Skilled (%)
Farmers	50	35	15
Employees	25	45	30
Small Business Owners	40	40	20

(Source: Researcher, 2025)

It was discovered that farmers were mainly involved in unskilled (50%), semi-skilled (35%) and skilled (15%). Of the total factory workers, 45% worked in semi-skilled jobs, 30% in skilled jobs, and 25% in unskilled jobs. The small business people were more evenly distributed; 40% unskilled, 40% semi-skilled and 20% skilled.



Source: Researcher (2025)

Figure 3: Distribution of Employment by Skill Level

The chi-square test ($\chi^2 = 12.47$, $df = 4$, $p = 0.014$) was significantly associated with the level of skill employed. This indicates that there are opportunities in various skill levels in the Kalamba Mango Processing Plant, however more opportunities are for farmers on unskilled side. The findings are consistent with Singh et al. (2022) who observed that agro-processing industries created many unskilled and semi-skilled jobs, especially in the rural areas of India. Likewise, through the experience gained in an agro-processing factory, and informal training, Girma and Kelil (2021) noted that workers were able to move from unskilled to semi-skilled jobs in Ethiopia. As far as job security was concerned, the respondents reported that the plant had established a stability in their work lives, as reported in the interviews. One worker stated, “I can budget my finances in advance because I know that I will have a regular paycheck at the end of the month. Another local leader added, “Families are now able to make school fees and health insurance payments on time.” But a few respondents warned that contract work is still prevalent: “There are still jobs that are contract so people are still afraid of being cut when things are slow.” This combination of fixed and temporary jobs reflects the agency relationship between management and workers, which makes people feel insecure about their jobs as a function of contractual terms (Eisenhardt, 1989).

The results indicate that the Kalamba Mango Processing Plant has played a major role of diversifying labor in Makueni Sub-County. The factory will adopt a diversified workforce, which will create an environment of inclusive employment and be conducive to both educated and less-educated community members. This inclusiveness helps to advance local economic empowerment, skills upgrading and sustainable livelihoods. This approach fits with the New Public Management (NPM) Theory which argues that it increases efficiency and accountability in public enterprise operations and guarantees that community needs are being met by making employment more accessible (Hood, 1991).

4.4 Effect of the Kalamba Mango Processing Plant on Income Levels

The second objective of the study was to find out the impact of the Kalamba Mango Processing Plant on the income of Makueni Sub-County. The study aimed at finding out if the factory had helped the income of the mango growers, small scale businessmen, transport service providers and other stakeholders engaged in mango-related activities. The results centered on the impact of the factory operation on the household income, income stability, access to market opportunities, and

business income. The results are presented through descriptive statistics, figures and the perception of the respondents that the income in the study area has improved.

4.4.1 Effect of the Factory on Income Stability

The study aimed at finding out if the formation of Kalamba Mango Processing Plant has helped to increase income stability of the households in Makueni Sub-County. The responses have been summarized as follows in Table 2 below.

Table 2: Income Stability for Individuals

Response Category	Frequency	Percentage (%)
Strongly Disagree	8	7.5
Disagree	11	10.4
Neutral	13	12.3
Agree	45	42.5
Strongly Agree	29	27.5
Total	106	100

(Source: Researcher, 2025)

Table 2 shows that 69.8% of the respondents (Agree + Strongly Agree) felt that the Kalamba Mango Processing Plant brought increase in their individual income stability. 12.3% were neutral and 17.9% disagreed. The results indicate that the plant is now a good source of livelihood to many of Makueni's populace, especially during mango processing seasons when both direct and indirect jobs are generated. These same sentiments were shared in responses given during the interviews. A majority of the respondents voiced their concerns on the positive impact Kalamba Mango Processing Plant has made to the local economy. Growth in employment, better income levels and more economic activity were consistently cited as signs of progress. The male farmers said that the plant has changed the lives of their community because now people have work and regular income, particularly in the mango season. A youth leader from Kalamba area had a similar feeling, "Our youths who used to idle around now work at the factory or in businesses related to it." A local business owner from Wote Town commented, "More money is moving around in the community now than ever before, and that's because people are working in the community, even if it's not directly. These perspectives show that most people believe the plant has given them stable jobs and that this has enhanced their income stability.

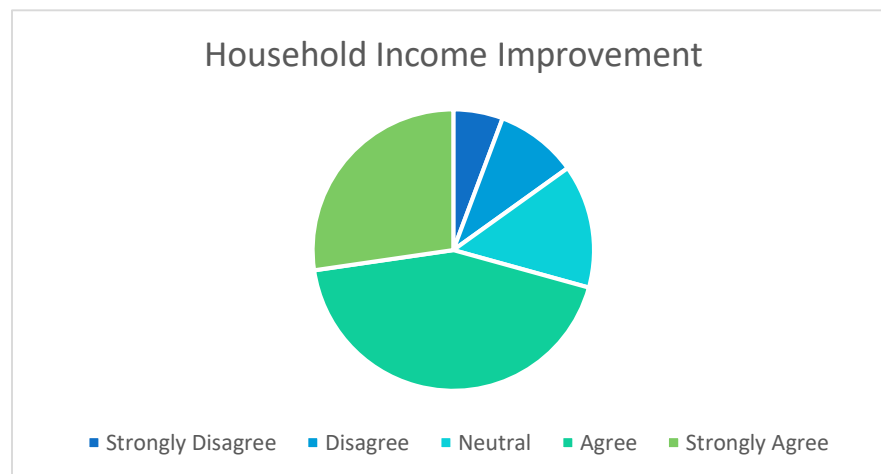
The observation agrees with Nyangena and Mugo (2021) who reported that agro-industrial activities have ensured a regular employment opportunity and steady market access for local produce, thereby stabilizing the income of the rural people in Kenya. In a similar vein, Kamau (2020) noted that employment security in agricultural processing companies helps households make better financial decisions and helps lower their exposure to shocks to income. Participants noted that prior to setting up the Kalamba Mango Processing Plant, majority described low, irregular and seasonal income to the community. The major economic activity of the households was mango cultivation with income generation only in the months of harvest. Off-season periods were difficult for many residents because they were unable to provide for their needs. For example,

a middle-aged farmer commented, “There was not a lot going on during the rest of the year like in those days, before the factory, when people waited for the mango season to earn money. A female farmer added, “Earlier we were selling mangoes at throwaway prices due to control of brokers in the market and sometimes even the fruits used to rot. Likewise, a community elder said, “Most of the families back then were able to survive through casual labor or charcoal selling; it was difficult to plan for the future.” The majority of participants' feedback provided was a testament to the many benefits of the plant.

A chi square test ($\chi^2 = 11.83$, $df = 4$, $p = 0.018$) indicated that there was a significant association between the respondents' occupation (small business, employee, or farmer) and the agreement on the consistency of jobs. The agreement level was higher among the employees and the farmers indicating that there are potential stable income streams for both direct plant workers and those involved in mango value chains. It is significant that the Kalamba Plant's capacity to provide regular jobs reflects the NPM vision of an economic service to citizens and economic viability of public institutions (Hood, 1991). The plant is able to sustain its operations and continuation of staff so it provides a good socio-economic value in terms of public resource management and accountability. Further, doing this when it fulfils this obligation means that the agent's operational objectives and the principal's development objectives are aligned, which helps to minimize agency problems. The results prove that the Kalamba Mango Processing Plant is a good strategy for rural economic empowerment through providing a source of regular jobs and financial security, which ultimately benefits their livelihoods and decrease migration pressures in Makueni County.

4.4.2 Improvement in Household Income Levels

This study aimed to find out if the creation of the Kalamba Mango Processing Plant had improved the income of the household members of Makueni Sub-County. The answers are shown in Figure 4.



(Source: Researcher, 2025)

Figure 4: Perceptions of Household Income Improvement

Results indicate that 70.7% (Agree + Strongly Agree) agreed their family income had increased as a result of the plant coming to the area. This means that the Kalamba Mango Processing Plant has positively impacted the livelihood of families either by creating jobs for them or by enhancing

their ability to sell their agricultural produce or through business activities that are linked to the operation of the processing Plant. Fewer than one-fifth (15.1%) disagreed; and one-fifth (14.2%) was neutral, suggesting that the benefits are not enjoyed by everyone but are widely distributed throughout the community.

These findings were confirmed by qualitative interviews. After the plant was operational, there was a significant improvement in the income of the respondents' households as noted. This they have attributed to direct employment, the sale of mangoes to the plant, and the generation of other economic activities like transport and vending. The regular wages have enabled a better standard of living, better housing and education facilities. First off, a 34-year-old female production worker noted, "I now send my children to school without fail because I have a job at the plant, and I don't have to borrow the money as before." Further, a male farmer and supplier said that "my wife works in the plant and my income doubled now as she is with the plant, I supply mangoes, we are more stable financially". Lastly, a youth respondent answered, "The plant has helped many people to plan their finances better since payments are made monthly and on time." This was an indication that the plant has improved income families of individuals and families.

This is in line with Ochieng and Kirimi (2020) who observed that there are forward and backward linkages agricultural processing industries have with rural people that encourages rural growth. Likewise, Muriithi (2021) cited the possibility of improved market prices and consistent income streams for smallholder farmers, as another advantage of agro-processing plants to local incomes. This is similar to the increase in household income reported in Makueni County, which indicates that the Kalamba Plant is a major economic contributor to the region. There was a significant relationship between respondents' occupation and perceived increase in household income as revealed by the chi-square test ($\chi^2 = 13.45$, $df = 4$, $p = 0.009$). Farmers and individuals employed in the plant were found to be the most agreeable respondents, both of which are great benefactors of the plant's income generation mechanisms. That would imply that job creation and agribusiness participation in the plant has direct implications on financial results.

The increase in household income shows the effectiveness of public-private operational efficiency from a New Public Management (NPM) point of view. The focus of the NPM principles lies in the output oriented control of activities and service delivery for the benefit of the community (Hood 1991). The Kalamba Plant is a good example of decentralized public enterprise achieving concrete socio-economic benefits by enhancing household incomes. In the context of Agency Theory, the outcomes suggest that the government (the principal) has been successful in directing the agents (the factory management) to carry out its task of creating better livelihoods of the local people. To reduce the principal-agent problem (Eisenhardt, 1989), agents are expected to be in line with the economic aspirations of the community to which they belong, as evidenced by the increase in household income. Regular mango purchases and employment for these incentives are beneficial to accountability and performance orientation. The study revealed that the Kalamba Mango Processing Plant has contributed to the welfare of the households in Makueni County, one way being the provision of employment and the other, value addition in the form of sustainable income.

4.4.3 Access to Additional Income-Generating Activities

The study also explored if the Kalamba Mango Processing Plant had developed any other income generating opportunity for the people of the area. This was to understand the indirect role the plant may have played in promoting livelihood diversification in Makueni Sub-County. Potential

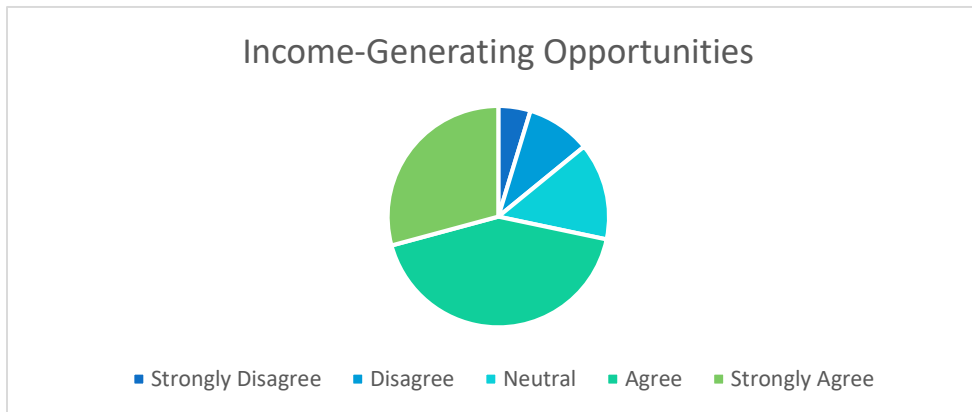
opportunities were identified as contract supplies, transport, food vending, packaging and value-added services that could be offered at the factory. The responses were spread as illustrated in Table 3.

Table 3: Access to Other Income-Generating Opportunities

Response Category	Frequency	Percentage (%)
Strongly Disagree	5	4.7
Disagree	10	9.4
Neutral	15	14.2
Agree	45	42.5
Strongly Agree	31	29.2
Total	106	100

(Source: Researcher, 2025)

The data in the table above is further presented in the pie chart below:



(Source: Researcher, 2025)

Figure 5: Access to Other Income-Generating Opportunities

In the Table, 71.7% (Agree + Strongly Agree) of the respondents agreed that the Kalamba Mango Processing Plant did help them to access other income-generating activities. Fewer than 14.1% disagreed, and 14.2% were neutral. This demonstrates the plant has been a major force in the local economic diversification. The results suggest that other businesses related to the plant's activities have also been created, such as the provision of raw materials, transport, or value-added services such as drying the mangos, packing them and selling them. The results are in line with Kinyanjui (2019) who observed that agro-processing industries in Kenya contribute to rural entrepreneurship through the provision of new value chains and employment relationships. Likewise, Ochieng and Mbogoh (2021) have found that industrial projects in rural counties can also generate what they call “income spillover effects” which increases the financial strength of the local households.

The Chi-square test ($\chi^2 = 9.84$; $p < 0.05$) showed a significant link between the respondents' association with the Kalamba Plant (farmer, employee, small business) and their access to new income-generating activities. This means that the impact on income diversification differs for the different occupational groups—employees tend to have a more stable income, while farmers and small businesses have to account for additional income diversification through market linkages and increased demand for services. Focusing on the Agency Theory of Jensen & Meckling (1976),

the diversification observed may be seen as the evidence of the effective linkage between the agency (managers of the factory) and the principals (people in the local community), where the agency's action benefits the community's general welfare by providing jobs and income. This is also supported by the New Public Management (NPM) framework which focuses on efficiency, decentralization and empowerment through the community. The plant has therefore been successful in creating new income generating avenues, thus highlighting the ability of public-sector managed enterprises to create socio-economic value through entrepreneurial linkages and market expansion.

4.4.4 Improvement in Household Economic Well-being

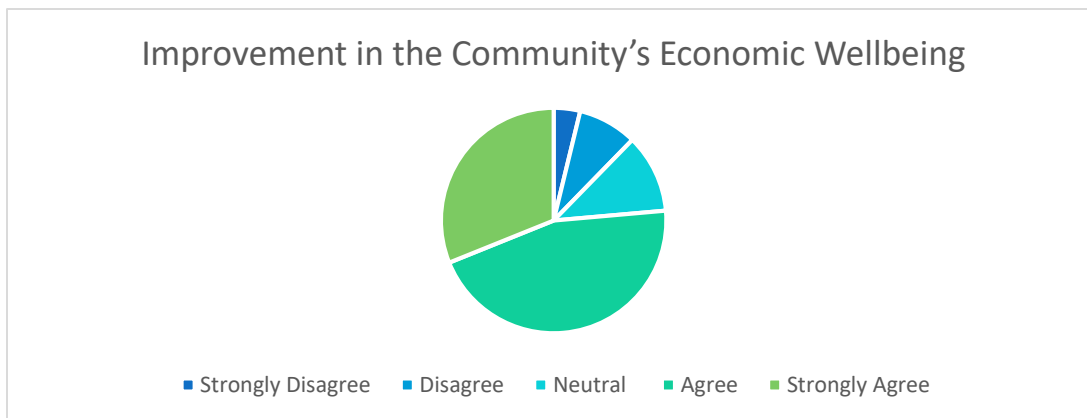
The study also looked at the creation of extra income generating activities of the members of the local community due to the operations of the Kalamba mango processing plant. The aim was to explore the potential for the economic activities of the plant indirectly influencing livelihood diversification in Makueni Sub-County. Opportunities were viewed as opportunities that could be realized under a contract supply, transportation, food vending, packaging and value-added services emanating from the factory. The responses to the question were distributed as in Table 4.

Table 4: Improvement in the Community's Economic Well-being

Response Category	Frequency	Percentage
Strongly Disagree	4	3.8
Disagree	9	8.5
Neutral	12	11.3
Agree	48	45.3
Strongly Agree	33	31.1
Total	106	100

(Source: Researcher, 2025)

The data above is also shown in the pie chart below:



(Source: Researcher, 2025)

Figure 6: Improvement in Community's Economic Wellbeing

The results from Table and figure above show that most of the respondents (76.4%) have noticed economic improvement in the community due to the Kalamba Mango Processing Plant. There was no disagreement from 12.3%, and 11.3% of them showed a neutral attitude. This discovery

indicates that the plant has had a positive impact on local economic activity by creating jobs, generating income, and stimulating market activity. A number of respondents mentioned an increase in business for mango suppliers, transporters and shop owners. This is in line with Mwangi (2020) who noted that agro-processing businesses in rural Kenya contribute to the strengthening of local economies through income circulation and the promotion of microenterprises. Likewise, Abdullahi and Musa (2022) observed that such plants help in transforming the rural areas because they create jobs, develop infrastructures and ensure household income stability.

The chi-square test ($\chi^2 = 11.26$, $p < 0.05$) revealed that there was a significant relationship between respondents' education level and their awareness of the economic improvement of the community. Those with higher levels of education were more likely to mention indirect benefits of the plant (expansion of infrastructure and access to services), whereas individuals with less education were more likely to mention direct benefits (such as providing jobs and advancing business). From this it can be seen that awareness of the long-term economic impact differs depending on education. The results are highly consistent with the New Public Management (NPM) paradigm, which focuses on better public sector performance, local involvement, and the provision of visible socio-economic benefits from public sector decentralization. The Kalamba Mango Processing Plant is a government owned plant, which exemplifies the benefits of public-private management in achieving tangible community results. In addition, Agency Theory provides a useful lens to understand this improvement. When the plant is managed by the local community, as the principal, the benefit is that the goals of plant operation align with the goals of the local socio-economic development. The results of the plant's ability to improve the incomes of communities and businesses show that agency alignment can be reached to a large extent.

4.5 Effect of the Kalamba Mango Processing Plant on Small-Scale Businesses

The third aim of the study was to determine the impact of Kalamba Mango Processing Plant on the small-scale enterprises in Makueni sub-County. The study aimed to find out if the factory had helped to grow and expand the small enterprises in the local community. The analysis was based on the experiences of traders, transportation service providers, food vendors, shop owners and other small-scale entrepreneurs who were directly or indirectly involved in the business activities of the factory. The results are expressed in descriptive statistics, perception of the respondents and qualitative answers related to the influence of the factory on the activity of businesses.

4.5.1 Benefits to Local Traders and Small Businesses

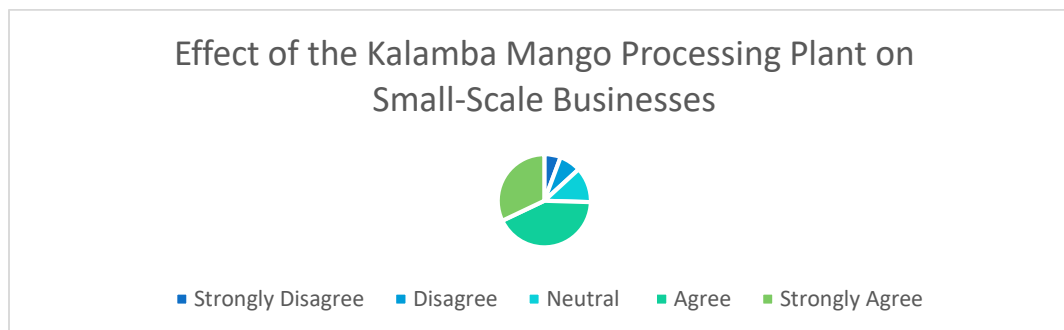
The study was aimed at finding out if the Kalamba Mango Processing Plant has helped in the development of small-scale business along Makueni sub-County.

Table 5: Effect of the Kalamba Mango Processing Plant on Small-Scale Businesses

Response Option	Frequency	Percentage (%)
Strongly Disagree	6	5.7
Disagree	8	7.5
Neutral	13	12.3
Agree	45	42.5
Strongly Agree	34	32.1
Total	106	100

(Source: Researcher, 2025)

The results suggest that the Kalamba Mango Processing Plant had a positive impact on the development of small-scale businesses in the study area. Respondents reported that the factory stimulated local economic activity by increasing demand for goods and services associated with mango processing. The results further suggest that traders, food vendors, retail shop operators, and small business owners experienced increased customer flow and improved business earnings due to factory-related activities. The factory has strengthened local commercial activity by creating a market environment that supports the growth of small enterprises. These findings are consistent with studies by Ogbanje, which established that agro-processing industries stimulate rural economies by generating opportunities for complementary business activities and expanding local markets. Qualitative responses further revealed that many respondents viewed the factory as a catalyst for local economic expansion. Several business owners noted that the increased movement of workers, farmers, and traders contributed to higher demand for products and services within the area. The data is demonstrated in the pie chart below:



(Source: Researcher, 2025)

Figure 7: Growth of Local Businesses

The qualitative results of the interview schedule corroborated these quantitative results. Prior to the formation of Kalamba Mango Processing Plant, the majority of the interviewees reported that there was not much business activity and that most of the businesses were informal, seasonal and small. The main focus was on small kiosks and local markets, catering to a low-income population. Many others closed as there was not enough consumer demand during the off-season. One of the female kiosk owners, said: “Well, it is true that before the plant came, we only had a few kiosks around and as soon as the mangoes were over, most of the kiosks closed as there was no money.” Another retail trader agreed, saying, “The customer base was limited then and people used to take credit from customers and pay after they sold their mangoes.” A bodaboda rider was also happy, “Transport businesses barely survived as there was little movement of goods and workers.” All these sentiments proved that the plant has contributed significantly to growth of local businesses.

The results support those of Kariuki and Wambugu (2021) who reported an increase in demand for rural transport services with the establishment of agro-industrial projects in rural Kenya, which leads to employment creation both formally and informally. Likewise, Njeru (2020) noted that the industrial plant creates backward and forward linkages within the economy, leading to diversification of business and an increase in entrepreneurship. A Chi-square test of independence was used to explore the association between respondents' relationship with the plant (farmer, employee or small business owner) and their attitudes on local transport enterprise growth. The test result was $\chi^2 = 11.28$, 2 degrees of freedom, $p = 0.004$, the result was statistically significant. This indicates that those who directly participate in small business activities are more likely that

the plant has opened up opportunities in transport. This discovery underscores the plant's importance for the local transport system and its impact on the micro-economy.

This finding is important because it suggests the advantages of decentralization and efficiency-focused solutions for public–private partnerships in industrial development from a NPM perspective. The Kalamba Mango Processing Plant exemplifies how investments at the local level can trigger entrepreneurship, infrastructure development and the creation of viable business ecosystems. There is also a County Government (as principal) and plant managers (as agents) to promote the economic development of the region, which is also known as the Agency Theory. The transport sector has experienced considerable expansion and should be seen as a successful example of agent performance, in line with the Principal's objectives of stimulating the economy and creating jobs.

4.5.2 Growth of Transport-Related Businesses

The study also determined if the Kalamba Mango Processing Plant had positively impacted transport related enterprises in Makueni Sub-County. The results show that the Kalamba Mango Processing Plant had a positive impact on the transport related businesses. A majority noted a rise in demand for transporting mangoes, mango workers, processed mangoes, and other factory related activities. The findings also indicate that expanded activities of mango supply and distribution near the factory provided more business opportunities for the bodaboda operators, vehicle transport operators and loaders. The results confirm Muigai's assertions that agro-processing industries also play a major role in the development of the transport related business in rural economies. Interviews also indicated that the activities of transport service providers were higher during harvesting and processing seasons.

4.5.3 Growth of New Small-Scale Enterprises

The study also aimed to find out if there were new small-scale businesses as a result of the formation of the Kalamba Mango Processing Plant in the local community.

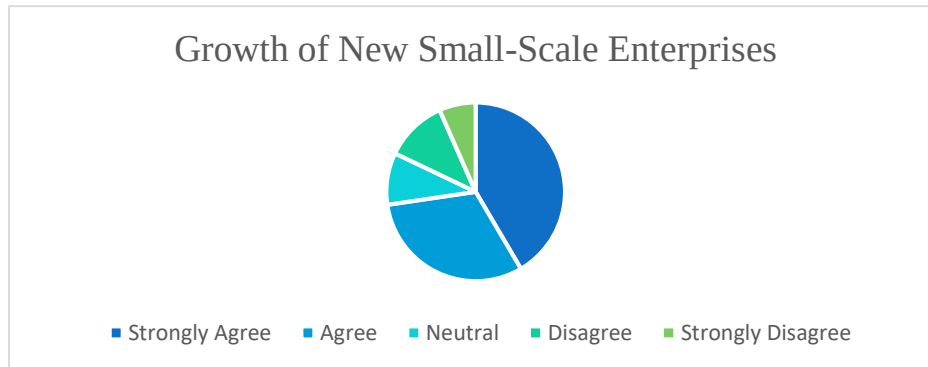
Table 6: Views on Growth of New Small-Scale Enterprises

Response Option	Frequency	Percentage (%)
Strongly Agree	44	41.5
Agree	33	31.1
Neutral	10	9.4
Disagree	12	11.3
Strongly Disagree	7	6.6
Total	106	100

(Source: Researcher, 2025)

The results show the Kalamba Mango Processing Plant was a catalyst for the creation of new small businesses in Makueni Sub-County. Establishment of food kiosks, retail stores, vending, and service-oriented businesses increased, with respondents reporting increases related to factory operations. The findings suggest that the factory provided a conducive economic climate which stimulated entrepreneurial activities among residents. An enhancement in the mobility of laborers, providers and traders led to a rise in demand for goods and services which helped to establish new enterprises. This finding corresponds with the studies conducted by Suryawanshi that revealed that agro-processing industries foster entrepreneurship and promote growth of local entrepreneurs in

rural communities through facilitating economic interaction within the rural communities. Those who responded qualitatively also reported that the factory has created new business opportunities for youth and women in the area. The above information is summarized below in the form of a pie chart:



(Source: Field Data, 2025)

Figure 8: Growth of New Microbusinesses

Most respondents (72.6%) strongly agreed or agreed the plant has facilitated the creation of new micro business. There was general consensus with 9.4% being neutral, but 17.9% disagreeing. This reflects the general impression that the plant has been a great catalyst to entrepreneurial activities around the plant. The data show that respondents are largely in agreement that the Kalamba Mango Processing Plant has led to the development of micro-businesses such as food stalls, mobile money kiosks, tailoring shops and other service providers. These small businesses have grown with the demand of the factory workers, transporters and mango sellers on a day-to-day basis. These numbers were substantiated by the sentiments of the interviewees. Some of the respondents noted that since the plant has started operating, new micro businesses have emerged, especially in the areas of food vending, rental housing, and supplies. When you ask a food vendor, aged 27, “How many people have begun offering lunch and snacks at the factory gates?”, you will get answers ranging from a handful to thousands. If you ask a food vendor, aged 27, “How many people have started selling lunch and snacks at the factory gates?”, you'll get answers between a few and thousands. This is in line with what Njeru and Kanyinga (2020) found, that industrial operations in remote areas in Kenya tend to spill over and create job opportunities for the informal sector. Likewise, Mwangi and Wambua (2021) cited agro-processing investments as being able to boost local purchasing powers, which in turn is a conducive platform for small businesses to thrive. Those who disagreed may have been in a location further away from the works and so the economic impact of the works is less. The findings, however, suggest that the plant represents an accelerator of local economic growth that focuses on generating low capital businesses, which offer services to the local community.

Table 7: Chi-Square Test Results on New Microbusinesses

Variable	Chi-Square Value (χ^2)	df	p-value	Decision
Growth of new microbusinesses	10.83	4	0.016	Significant

(Source: Researcher, 2025)

According to the chi-square results, there is a statistically significant relationship between growth into new microbusinesses and establishment of the plant ($p = 0.016 < 0.05$). This indicates that the increase in small enterprises is not random, and is most probably a result of the presence of the plant. This is in line with the Value Chain Theory which focuses on the extent to which industrial activities provide a chain of backward and forward linkages that positively impact the businesses located in the vicinity of the industrial activities (Porter, 1985). The plant has created a demand for food, services and logistics which has persuaded Micro-Entrepreneurs to respond by meeting this need. Furthermore, from the New Public Management (NPM) viewpoint, the Kalamba Plant is a government-owned enterprise that showcases implementation of the principles of private sector efficiency on public investment, in order to promote entrepreneurial ecosystems (Hood, 1991). This is a strategy to boost local self-reliance, and to diversify the local income streams. The findings show that the Kalamba Mango Processing Plant has made a significant contribution in promoting micro business development around the area. The plant has generated both direct and indirect demand for services, which has helped to ensure economic resilience and reduce poverty in Makueni Sub-County by supporting small-scale entrepreneurs.

5.0 Conclusion

The study concludes that the Kalamba Mango Processing Plant has positively impacted the socio-economic welfare of the community in Makueni Sub-County. The greatest change was in the growth and development of small businesses such as traders, transport service providers, food vendors, and retail shops as a result of the higher number of visitors and goods and services demanded. The second largest effect was on income generation, by ensuring a stable market for mangoes, minimizing post-harvest losses, and increasing farmer and entrepreneur income stability. The factory also had a positive impact on employment creation, but not one as significant as that on income improvement and small enterprise growth.

6.0 Recommendations

The study further recommends that the management of Kalamba Mango Processing Plant and County Government of Makueni to continue to strengthen the support of small-scale businesses around the Kalamba Mango Processing Plant as this area had the greatest socio-economic effects. This can be done by better market infrastructure, providing affordable business space, and policy measures that focus on local entrepreneurs, transport service providers, and traders. The study also suggests increasing the mango procurement and processing capacity for sustaining and enhancing farmer's income and local businessmen's income. Expand factory production for better market access for mango growers; establish more sustainable income opportunities for the population. The research also suggests the development of more jobs in the factory and its value chains. This can be done by scaling up factory operations, providing more investment in agro-processing facilities and encouraging labor-intensive support services in relation to mango processing activity. The County Government and factory management should also work with local business association, farmers' association and transport operators to ensure that the socio-economic dividends from the factory are spread in the community. Furthermore, the research suggests that investments in value added and agro-processing are a viable option for sustainable rural economic development and a means of mitigating the losses experienced at the post-harvest level in rural communities.

REFERENCES

- Abdullahi, A., & Musa, I. (2022). Agro-industrial development and rural transformation in Sub-Saharan Africa. *Journal of Rural Development Studies*, 34(3), 211–228.
- Addo, E. O. (2017). The impact of manufacturing industries on Ghana's economy. *International Journal of Research Studies in Management*, 6(2). doi: 10.5861/ijrsm.2017.2003
- Amanor, K. S. (2019). *Global value chains and agrarian change in Ghana*. Routledge.
- Baer, W., Kerstenetzky, I., & Villela, A. (2019). The Changing Role of the State in the Brazilian Economy. *World Development*, 11(1), 23-34.
- Barrett, C. B., Reardon, T., & Swinnen, J. (2019). Agri-food value chain revolutions in low- and middle-income countries. *Journal of Economic Literature*, 57(4), 1–35. <https://doi.org/10.1257/jel.20181494>
- Benfica, R., Cunguara, B., & Thurlow, J. (2019). Linking agricultural investments to growth and poverty: An economy-wide approach applied to Mozambique. *Agricultural Systems*, 172, 91-100. <https://doi.org/10.1016/j.agsy.2018.01.029>
- Catela, J. V., Bittencourt, M. V. L., Carvalho, T. S., & Savard, L. (2023). Potential economic impacts of agricultural growth in Africa: Evidence from Guinea-Bissau. *Journal of Agricultural and Applied Economics*, 55(3), 492-515. <https://doi.org/10.1017/aae.2023.26>
- Chang, H-J. (2020). Institutions and economic development: Theory, policy and history. *Journal of Institutional Economics*, 7(04). doi: 10.1017/S1744137410000378
- Deshmukh, S. S., Jadhav, K., Maheshwari, S., & Phand, S. (2024). Women's agripreneurship in India's Maharashtra State: An analysis of the AC and ABC Scheme. *Current Agriculture Research Journal*, 12(1), 356-377. doi: 10.12944/CARJ.12.1.29
- di Carlo, D., & Schmitz, L. (2023). Europe first? The rise of EU industrial policy, promoting and protecting the single market. *Journal of European Public Policy*, 30(10), 2063-2096. <https://doi.org/10.1080/13501763.2023.2202684>
- Diao, X., McMillan, M., & Rodrik, D. (2017). The recent growth boom in developing economies: A structural change perspective. *NBER Working Paper Series*, No. 23132. <https://doi.org/10.3386/w23132>
- Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57–74.
- Elliot, H., & Skrydstrup, M. (2021). True price of quality: On the infrastructures of tea in postcolonial Kenya. *Commodity Frontiers*, 2(2), 16-23. doi: 10.18174/cf.2021a18080
- Gachanja, J. M. (2020). The role of agro-industrialization in promoting rural employment and economic transformation in Kenya. *Journal of Development Studies in Africa*, 7(2), 45–59.
- Girma, A., & Kelil, A. (2021). The role of agro-processing industries in employment and economic growth in Oromia Region, Ethiopia. *Journal of Development Studies*, 57(8), 1135–1150.
- Gosa, A. S., Megento, T. L., & Teka, M. A. (2023). Analysis of vegetable production status and marketing system in Ethiopia: The case of Sebeta Hawas Woreda, Oromia region. *Cogent Food & Agriculture*, 9(2). <https://doi.org/10.1080/23311932.2023.2286047>

- Guyalo, A. K., & Ifa, L. T. (2023). Impact of agricultural cooperatives on the food security status of households in Oromia regional state, Ethiopia: The case of Halu Woreda. *Cogent Economics & Finance*, 11(2). <https://doi.org/10.1080/23322039.2023.2237716>
- Hood, C. (1991). A public management for all seasons? *Public Administration*, 69(1), 3–19.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Kamau, L., & Njeru, J. (2022). Agro-industrial development and rural livelihoods in Kenya: A case of devolved agricultural investments. *African Development Review*, 34(2), 178–191.
- Kariuki, P., & Wambugu, J. (2021). Industrialization and rural transport development in Kenya. *Journal of African Economic Growth*, 8(2), 55–70.
- Kinyanjui, M. (2019). *Agro-industrial linkages and rural development in Kenya*. Nairobi: Kenya Institute for Public Policy Research and Analysis (KIPPRA).
- Kinyanjui, M. N. (2014). *Women and the informal economy in urban Africa: From the margins to the centre*. Zed Books.
- KNBS (Kenya National Bureau of Statistics). (2022). *Economic Survey 2022*. Government Printer.
- Makueni County Government. (2023). *Annual Agricultural Report*.
- Martin, W. (2019). Economic growth, convergence, and agricultural economics. *The Journal of the International Association of Agricultural Economists*, 50(S1), 7-27. <https://doi.org/10.1111/agec.12528>
- Mati, B. M., & Thomas, M. K. (2019). Overview of the sugar industry in Kenya and prospects for production at the coast. *Agricultural Sciences*, 10(11). doi: 10.4236/as.2019.1011108
- Moyib, F. R., Ja, A., & Victor, O. (2022). Resource-use efficiency of female-cassava farmers in rain-forest zone of Ogun State. *Journal of Agriculture and Biodiversity Research*, 2(2), 17-23.
- Mugambi, L., & Wambugu, M. (2021). Agro-processing industries and their impact on rural livelihoods: A case of mango value chain in Eastern Kenya. *International Journal of Rural Development and Sustainability*, 9(4), 83–98.
- Muriithi, B. W., & Matz, J. A. (2015). Smallholder participation in Kenya's agricultural markets: Determinants and welfare outcomes. *Food Policy*, 52, 1–10. <https://doi.org/10.1016/j.foodpol.2015.02.002>
- Muthini, J., et al. (2023). An assessment of mango farmers' choice of marketing channels in Makueni, Kenya. *Journal of Agricultural Economics*, 11(3), 286.235.
- Mwangi, P., & Wambua, L. (2021). Agro-industrialization and local entrepreneurship in rural Kenya: Emerging patterns and implications. *Journal of Development Studies*, 57(6), 1023–1040.
- Mwania, D. T., Odek, A., & Vundi, N. (2021). Effects of agricultural extension education on promotion of horticultural farming: A case of Kaiti farmers association, Makueni County, Kenya. *African Journal of Emerging Issues*, 3(8), 44-62. <https://ajoeijournals.org/sys/index.php/ajoei/article/view/224>

- Nagarjuna, B. (2022). The impact of make in India on foreign direct investment: An analytical study. *SEDME*, 49(1). <https://doi.org/10.1177/09708464221084181>
- Njeru, L., & Mwaura, S. (2020). Education and socioeconomic participation in Kenya's rural economy. *African Journal of Development Studies*, 10(3), 45–59.
- Nyangena, W., & Mugo, R. (2021). Industrial investment and employment retention in rural Kenya. *East African Journal of Economic Studies*, 11(3), 142–160.
- Ochieng, D., & Mbogoh, S. (2021). Rural industrialization and income diversification in devolved Kenya. *African Journal of Economic Policy*, 28(2), 45–63.
- Ogbanje, E. C. (2023). Financial performance of soybean farmers in Vandeikya Local Government area of Benue State, Nigeria. *Journal of Agriculture and Food Sciences*, 21(1), 128-146.
- Ogbuigwe, A. (2018). Refining in Nigeria: History, challenges and prospects. *Applied Petrochemical Research*, 8, 181-192. <https://doi.org/10.1007/s13203-018-0211-z>
- Omondi, J., & Kilonzo, J. (2022). Agro-industrial development and local entrepreneurship in Kenya. *International Journal of Rural Development*, 14(1), 60–73.
- Onjala, J. (2016). The impact of industrialization on economic growth in Kenya. *Journal of African Development*, 18(2), 45–60.
- Porter, M. E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. Free Press.
- Reardon, T., Timmer, C. P., & Minten, B. (2012). Supermarket revolution in Asia and emerging development strategies to include small farmers. *Proceedings of the National Academy of Sciences*, 109(31), 12332–12337. <https://doi.org/10.1073/pnas.1003160108>
- Republic of Kenya. (2019). Makueni County Integrated Development Plan 2018–2022. County Government of Makueni.
- Singh, S., Kaur, R., & Bains, A. (2022). Food processing and rural employment: A case of Punjab, India. *Agricultural Economics Research Review*, 35(1), 45–58.
- Suryawanshi, O. P. (2022). Enhancement of market price of rice by value addition and entrepreneurship. *International Journal of Agricultural Engineering*, 11, 105-109.
- Vamba, M. K., Kibutu, T., & Musau, J. (2023). Devolution of agriculture and its effects on mango marketing by small-scale farmers in Makueni County, Kenya. *East African Journal of Agriculture and Biotechnology*, 6(1). <https://doi.org/10.37284/eajab.6.1.1326>
- Wambua, L., & Njoroge, S. (2020). Training and productivity in Kenya's agro-processing sector. *African Journal of Human Resource Development*, 8(4), 201–218.
- Wang, S., Zhao, S., Shao, D., & Liu, H. (2020). Impact of government subsidies on manufacturing innovation in China: The moderating role of political connections and investor attention. *Sustainability*, 12(18), 7740. <https://doi.org/10.3390/su12187740>
- World Bank. (2020). *Agricultural value chains and rural development*. World Bank Publications.
- Zikargie, Y. A., Wisbord, P., & Cochrane, L. (2022). State-led modernization of the Ethiopian sugar industry: Questions of power and agency in lowland transformation. *Journal of Eastern African Studies*, 16(3), 434-454.