
Effect of Employment Creation on the Economic Empowerment of Male Beneficiaries of the Kapchunga Water and Irrigation Project in Moiben Sub-County, Kenya

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Abstract

Irrigation projects play an important role in enhancing agricultural productivity, employment, and household earnings in rural areas. However, the extent to which employment creation contributes to the economic empowerment of beneficiaries requires empirical assessment. This study examined the effect of employment creation on the economic empowerment of male beneficiaries of the Kapchunga Water and Irrigation Project in Moiben Sub-County, Kenya. A convergent parallel mixed methods research design was adopted. The target population comprised 1,400 registered male beneficiaries and seven key informants. A sample of 311 beneficiaries was determined using Yamane's (1973) formula. Simple random sampling was used to select beneficiaries, while purposive sampling was used to select key informants. Structured questionnaires and interview guides were used to collect quantitative and qualitative data, respectively. Of the 311 questionnaires administered, 277 were completed and returned, giving an 89.07% response rate, while all seven key informants participated. Quantitative data were analysed using descriptive statistics and multiple linear regression analysis in SPSS Version 25, while qualitative data were analysed thematically. Hypotheses were tested at a 95% confidence level ($\alpha = 0.05$). The descriptive findings showed that respondents generally agreed that the project contributed to employment creation. The linear regression results showed that employment creation had a positive and statistically significant effect on economic empowerment (Beta = 0.233, B = 0.229, $t = 4.355$, $p < .001$). Qualitative findings complemented the quantitative results, with key informants reporting that reliable irrigation enabled year-round farming, reduced seasonal unemployment, and created permanent and seasonal employment opportunities. The study recommends strengthening sustainable employment and self-employment opportunities, improving market linkages, supporting value addition and agribusiness activities, and establishing mechanisms that sustain employment and income-generating opportunities beyond the formal project implementation period.

Keywords: *Employment Creation, Economic Empowerment, Irrigation Project, Male Beneficiaries, Agribusiness, Moiben Sub-County, Kenya*

INTRODUCTION

Economic empowerment, defined in this study in terms of income growth, asset ownership, and financial independence, is an important outcome of development interventions. Agricultural and irrigation projects can contribute to economic empowerment by increasing productivity, creating employment and self-employment opportunities, and strengthening household livelihoods. Access to reliable irrigation water reduces dependence on rainfall, supports agricultural production across seasons, and creates opportunities for productive economic activities.

Irrigation development in Kenya is viewed as a means of enhancing agricultural productivity, food security, employment, and rural livelihoods. The Kapchunga Water and Irrigation Project, located in Sergoit Ward of Moiben Sub-County in Uasin Gishu County, was established to address water availability and agricultural production challenges. The project supports registered beneficiaries through interventions that include employment creation, capacity building, financial sustainability, and beneficiary participation. Despite these interventions, some beneficiaries continue to experience socioeconomic challenges such as limited income, weak market linkages, and limited access to financial services.

Employment creation is particularly important because productive employment can provide regular income, reduce periods of unemployment, and enable households to allocate resources to productive activities. Employment opportunities can also support economic empowerment through self-employment, agribusiness, livelihood diversification, and improved household economic well-being. The first specific objective of the study was to assess the effect of employment creation on the economic empowerment of male beneficiaries in Moiben Sub-County, Kenya. The null hypothesis stated that employment creation has no statistically significant effect on the economic empowerment of male beneficiaries.

LITERATURE REVIEW

Employment creation in agricultural development projects may occur through direct jobs, self-employment, and income-generating activities. Irrigation projects can create employment by enabling year-round production, increasing demand for farm labour, stimulating agribusiness, and strengthening agricultural value chains. In this study, employment creation was measured using indicators relating to job opportunities, self-employment, and income generation.

While acknowledging that agribusiness offers a significant number of jobs, agribusiness labour market in Brazil was studied by Rennó Castro et al. (2020) who concluded that income differences still exist due to informality and education and productivity differences. Vijayakumar (2021) reported that the empowerment of these FPOs led to better market linkages, collective marketing, value addition and professional management, resulting in an improvement in rural employment and subsequently farm income and livelihoods. Similarly, Tran et al. (2022) found that participation in agricultural cooperatives enhanced farm profitability by providing better access to farm inputs, extension services, collective marketing, etc., which helped secure more stable farm employment and household income.

There is evidence of irrigation development that backstitches the employment pathway too. Increasing the investment in irrigation infrastructure would boost the economic performance and employment, especially in cases of diversified production, reported by Ragkos and Ambas (2021). Zhang & Benjamin (2021) reported that cooperative irrigation schemes were seen to be associated with reduced poverty for smallholder farmers. These studies give credence to the notion that irrigation-related agricultural interventions can create productive employment and improve the economic status of the household.

The present study builds on this literature by focusing on employment creation as a project intervention within a county-level irrigation project in Kenya. It uses a convergent parallel mixed methods design to integrate evidence from male beneficiaries and key informants, thereby providing localized evidence on how employment opportunities generated through irrigation contribute to economic empowerment.

METHODOLOGY

A convergent parallel mixed methods research design was adopted. Quantitative and qualitative data were collected concurrently, analysed separately, and integrated during interpretation. The study was conducted in Sergoit Ward, Moiben Sub-County, Uasin Gishu County, where the Kapchunga Water and Irrigation Project is implemented. The quantitative target population comprised 1,400 registered male beneficiaries, while the qualitative component comprised seven key informants who were involved in project planning, implementation, coordination, and management.

A sample of 311 beneficiaries was determined using Yamane's (1973) formula. Simple random sampling was used to select beneficiaries, while purposive sampling was used to select key informants. Employment creation and economic empowerment were measured using structured questionnaires based on a five-point Likert scale. Employment creation was assessed through job opportunities, self-employment, income generation, reduction of unemployment, and sustainability of employment opportunities. The response rate was 89.07%, with 277 questionnaires returned and usable for analysis. All seven key informants participated. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the data. Multiple linear regression was used to determine the effect of employment creation on economic empowerment while controlling for capacity building, financial sustainability, and beneficiary participation. Hypotheses were tested at a 5% level of significance. Qualitative interview data were analysed thematically and integrated with the quantitative findings during interpretation.

The response rate was 89.07% with a total of 277 questionnaires returned and usable for analysis. The qualitative response rate was 100 % with all seven KI's participating. Descriptive statistics included frequencies, percentages, means and standard deviations. Pearson's product-moment correlation was used to calculate the direction and strength of correlation between the creation of employment and economic empowerment. The overall model estimated the effect of employment creation, controlling for the other project intervention variables, using multiple linear regression. Hypotheses tested at 5% level of significance. Qualitative interview data were analysed thematically and used to complement the quantitative findings.

RESULTS

Descriptive Findings on Employment Creation

The descriptive analysis revealed that respondents generally agreed that the Kapchunga Water and Irrigation Project contributed to employment creation. Mean scores were interpreted as follows: 1.00–1.49 = strongly disagree, 1.50–2.49 = disagree, 2.50–3.49 = neutral, 3.50–4.49 = agree, and 4.50–5.00 = strongly agree.

Table 1: Descriptive Findings on Employment Creation

Employment creation indicator	Mean	SD	Agreement finding
Created sustainable employment opportunities	3.74	1.30	202 (72.9%) agreed
Increased opportunities to earn regular income	3.79	1.19	209 (75.4%) agreed
Enabled profitable agribusiness activities	3.79	1.30	205 (74.0%) agreed
Improved household economic well-being	3.97	1.12	226 (81.6%) agreed

Reduced periods of unemployment	3.87	1.15	217 (78.3%) agreed
Promoted self-employment through agricultural enterprises	4.01	1.14	229 (82.7%) agreed
Employment sustainable beyond implementation	3.70	1.25	190 (68.6%) agreed

Promotion of self-employment through agricultural enterprises ($M = 4.01$, $SD = 1.14$) and improvement in household economic well-being ($M = 3.97$, $SD = 1.12$) had the highest mean scores. Sustainability of employment opportunities beyond the project implementation period had the lowest mean score ($M = 3.70$, $SD = 1.25$), although it remained within the agreement range. Overall, the findings indicate that the project contributed positively to employment opportunities, self-employment, income generation, and household economic well-being.

The descriptive results were supported by the qualitative findings. Key informants reported that reliable irrigation enabled beneficiaries to engage in productive farming activities throughout the year, creating both permanent and seasonal employment opportunities. They further noted that access to reliable irrigation reduced dependence on rain-fed agriculture and expanded employment opportunities within the project area. One key informant stated, “The project has enabled many beneficiaries to engage in farming throughout the year, creating stable employment opportunities that did not previously exist” (Key Informant 2). Another noted that “Many households that were previously unemployed now earn a living through activities supported by the irrigation project” (Key Informant 6).

Regression Analysis

Table 2: Regression Coefficients for Employment Creation

Model	B	Std. Error	Beta	t	Sig.
Constant	0.779	0.152	—	5.128	< 0.001
Employment creation	0.233	0.054	0.229	4.355	< 0.001

Source: Field Data (2026)

The linear regression analysis showed that employment creation had a positive and statistically significant effect on economic empowerment ($B = 0.233$, $\beta = 0.229$, $t = 4.355$, $p < .001$). This implies that a one-unit increase in employment creation was associated with a 0.233-unit increase in economic empowerment.

Hypothesis Testing

Table 3: Hypothesis Testing for Employment Creation

Hypothesis	B	p-value	Decision
H_{01} : Employment creation has no statistically significant effect on economic empowerment	0.233	< 0.001	Reject H_{01}

The regression coefficient for employment creation was positive and statistically significant ($B = 0.233$, $\beta = 0.229$, $p < .001$). Therefore, the null hypothesis was rejected. The study established that employment creation had a positive and statistically significant effect on the economic empowerment of male beneficiaries in Moiben Sub-County, Kenya.

DISCUSSION

The study established that employment creation positively and significantly influenced the economic empowerment of male beneficiaries. Respondents generally agreed that the Kapchungu Water and Irrigation Project provided sustainable employment opportunities, increased opportunities for regular income, promoted profitable agribusiness, reduced periods of unemployment, and encouraged self-employment. The highest descriptive rating was recorded for self-employment through agricultural enterprises ($M = 4.01$, $SD = 1.14$), indicating the

importance of the project in creating opportunities for beneficiaries to establish productive livelihoods.

The finding that employment creation significantly influenced economic empowerment is consistent with Vijayakumar (2021), who reported that farmer producer organizations created employment through collective marketing, value addition, and improved market access, contributing to farm income and economic well-being. It also concurs with Tran et al. (2022), who found that participation in agricultural cooperatives enhanced farm profitability and supported more stable employment through improved access to production inputs, extension services, and collective marketing. The finding further supports Torvikey et al. (2019), who observed that agricultural development initiatives can generate employment and diversify livelihood opportunities, thereby improving household income and economic well-being.

The results are also consistent with Ragkos and Amba (2021), who found that irrigation network development, could improve economic performance and employment, particularly where production patterns were diversified. In the Kapchunga context, reliable irrigation water enables production beyond the limitations of seasonal rainfall. The qualitative evidence similarly indicated that year-round farming contributed to both permanent and temporary employment and helped reduce seasonal unemployment.

The findings are supported theoretically by the Sustainable Livelihoods Framework, which emphasizes access to livelihood opportunities and assets that strengthen income, resilience, and long-term well-being. They are also consistent with Empowerment Theory, which suggests that access to economic opportunities and productive resources can strengthen self-reliance, decision-making capacity, and control over livelihoods. In the Kapchunga Water and Irrigation Project, employment creation therefore provides a pathway through which beneficiaries can generate income, participate in agribusiness, invest in productive activities, and strengthen their economic security.

The relatively lower mean for employment sustainability beyond the project implementation period ($M = 3.70$, $SD = 1.25$) suggests that employment generated during project implementation may not automatically remain sustainable after the project period. Continued access to irrigation water, stronger market integration, enterprise development, and agribusiness opportunities may therefore be necessary to sustain productive employment and income beyond the formal project implementation period.

CONCLUSION

The study concludes that employment creation has a positive and statistically significant effect on the economic empowerment of male beneficiaries of the Kapchunga Water and Irrigation Project in Moiben Sub-County. The project has contributed to employment and self-employment opportunities, regular income generation, agribusiness engagement, and improved household economic well-being. The regression findings, supported by qualitative evidence of year-round farming and reduced seasonal unemployment, demonstrate that employment creation is an important project intervention for strengthening the economic empowerment of male beneficiaries.

The study further concludes that sustaining employment opportunities beyond the formal project implementation period is important for achieving longer-term economic empowerment. Continued economic gains require viable agricultural enterprises, reliable irrigation services, improved market access, and mechanisms that support beneficiaries to maintain productive activities after project implementation.

RECOMMENDATIONS

The management of the Kapchungu Water and Irrigation Project, together with the County Government of Uasin Gishu and relevant agricultural extension officers, should strengthen sustainable employment and self-employment opportunities for male beneficiaries. Particular attention should be given to value addition, market-oriented production, agribusiness development, and activities that generate employment throughout the year.

Project implementers should strengthen market linkages so that increased agricultural production translates into improved income for beneficiaries. Partnerships with buyers, processors, cooperatives, and other value-chain actors should be developed to expand employment and income-generating opportunities and improve the commercial viability of beneficiaries' agricultural enterprises.

Project implementers and development partners should establish mechanisms that support employment and income generation beyond the formal project implementation period. These may include continued agricultural extension services, enterprise development, access to productive finance, skills development, market linkages, and maintenance mechanisms for irrigation infrastructure.

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