

Role of Higher Education for Economic Transformation (HEET) projects on youth income generation and unemployment: A case of Mzumbe Ward.

Cairo Mwaitete, PhD

Institute of Accountancy Arusha, P.O. Box 2798, Tanzania

Email: mwaitetecairo@gmail.com

Abstract	NG-Journal of Social Development
<p><i>Despite global and local initiatives aimed at reducing youth unemployment and enhancing skill acquisition and employment opportunities, questions persist regarding the effectiveness of these initiatives in improving youth income and creating sustainable employment opportunities. Therefore, this study investigates the role of Higher Education for Economic Transformation (HEET) on youth income and unemployment, focusing on the implementation of HEET projects at Mzumbe ward, Mvomero district. Employing a cross-sectional research design, the study sampled 300 respondents randomly and utilized Ordinary Least Squares (OLS) and Likert scale analysis. Findings indicate that youths hired in HEET construction projects have higher income prospects, while training programs, savings and credit initiatives, project start-up capital, and HEET-organized outreaches significantly influence income levels. The study concludes with policy implications, highlighting the need to strengthen training and employment programs, support entrepreneurship, promote lifelong learning, enhance monitoring and evaluation mechanisms, and foster public-private partnerships to address youth unemployment comprehensively.</i></p>	<p><i>Vol. 13 Issue 1 (2024)</i> <i>ISSN(p) 0189-5958</i> <i>ISSN (e) 2814-1105</i> <i>Home page</i> <i>https://www.ajol.info/index.php/ngjsd</i></p> <p>ARTICLE INFO:</p> <p>Keyword: <i>HEET Project, Youth unemployment, Tanzania, Sustainable Development</i></p> <p>Article History <i>Received: 18th January 2024</i> <i>Accepted: 15th May 2024</i> <i>DOI:</i> <i>https://dx.doi.org/10.4314/ngjsd.v13i1.15</i></p>

1. Introduction

Youth unemployment is a pressing global issue with far-reaching implications for economic development and social stability. Across continents, young people face significant challenges in accessing decent and productive employment opportunities, perpetuating cycles of poverty and inequality (Philbert, 2016). In Africa, where a large proportion of the population comprises young individuals, the problem of youth unemployment is particularly acute. With approximately 60% of Africa's population under the age of 25, the continent's youth represent both a demographic dividend and a potential challenge (Andrew, 2024; United Nations Economic Commission for Africa, 2020). On the other hand, Tanzania is not immune to the problem of youth unemployment due to high rates of youth unemployment that exacerbate socioeconomic disparities and hinder the nation's progress towards sustainable development goals (Nelson and Christopher, 2022).

According to recent data, Tanzania's youth unemployment rate stands at 4.26%, reflecting a persistent challenge despite the country's economic growth trajectory (Nelson and Christopher, 2022; Kitole et al. 2023c). This issue is compounded by a mismatch between the skills acquired by young people through formal education and the demands of the job market. As a result, many Tanzanian youth struggle to transition from education to employment, leading to underutilization of human capital and unrealized economic potential (Kitole and Utouh, 2023). This phenomenon underscores the urgent need for targeted interventions to address youth unemployment and promote inclusive growth in Tanzania as youths composed of more than 68% of entire population in a country (Dimoso and Andrew, 2021).

Several initiatives have been implemented by the government in collaboration with different national and international organization to lower these unemployment rates across the countries with most of these initiatives focusing on the skills development (Mhagama, 2022). One of the notable projects is the Higher Education for Economic Transformation (HEET) which is funded by the World Bank to enhance capacities of higher education institution in Tanzania to be able to compete and produce graduates who are able to utilize the job markets through producing graduates with qualities that meet the demands of the present and future markets and hence reduce the youth unemployment challenges in the country. The projects worth a total of USD 425 million that has been provided to public higher learning institutions of Mzumbe University, University of Dar es Salaam, Sokoine University, University of Dodoma, State University of Zanzibar, Muhimbili University, and Ardhi University, and other higher learning institutions under NACTE such as Institute of Accountancy Arusha, Tanzania Institute of Accountancy, Institute of Rural Development Planning (Mhagama, 2022).

Therefore, it is estimated that the implementation of HEET projects in these universities will help in the provision of seasonal direct and indirect employments through the construction activities, and other training programs that will be conducted by universities towards the accomplishment of the project's objectives (Kibelloh, 2021). Moreover, the

project is expected to enhance youths' skills from the classroom perspective to the street knowledge that will enhance them to acquire knowledge and be able to engage in the production and income generation activities which will help to reduce the job skills mismatch across large number of youths (Ndyali, 2016; Kitole et al. 2024b). Therefore, the HEET project is considered as the panacea to help universities to establish good programs that meet the job markets demands, and those that will enhance youths to engage in the self-employment creation, and utilization of available opportunities on informal and formal sector. Moreover, due to the construction projects that are carried by universities under the HEET project more than 898,000 youths have been employed countrywide making the project is one of the significant contributors of the employment creation and income generation (Mosenda, 2022).

Despite of the contribution of HEET project in the employment creation, skills development, and capacity building for both higher learning graduates, and facilitators (lecturers), significant portion of project effects on income generation and employment creation has not well explained. Therefore, the current study analyzes the effects of the HEET project on the income generation and employment creation among youths in Tanzania by studying behaviors of youths at Mzumbe ward in Mvomero district, Tanzania.

2. Theoretical underpinning

The current study draws upon Human Capital Theory, established by economist Gary Becker, to examine the relationship between Higher Education for Economic Transformation (HEET) construction projects and youth income generation and unemployment. Human Capital Theory posits that investments in education and training contribute to the accumulation of human capital, which subsequently enhances individuals' productivity and earning potential (Blair, 2012; Wuttaphan, 2017; Fe'nyes and Moha'cs, 2020). According to this theory, individuals who acquire relevant skills and knowledge through higher education initiatives such as HEET projects are better equipped to secure employment and generate income, thereby contributing to economic growth and development.

In the context of this study, Human Capital Theory provides a theoretical framework for understanding how investments in higher education infrastructure and training programs, such as HEET projects, influence youth employment outcomes in Tanzania. By enhancing the skills and knowledge of young individuals, development projects are expected to improve their employability and income-earning capacity, thereby reducing youth unemployment rates and fostering economic empowerment (Aliu and Aigbavboa, 2019; El-Shoubaki et al. 2020; Kitole et al. 2023d; Gruzina et al. 2021). Moreover, Human Capital Theory underscores the importance of aligning education and training programs with the needs of the labor market, ensuring that graduates possess the skills and competencies demanded by employers.

Overall, the application of Human Capital Theory to the current study offers valuable insights into the potential impact of HEET construction projects on youth income generation and unemployment in Tanzania. By examining the mechanisms through which investments in higher education infrastructure and training programs contribute to human capital formation, the study seeks to inform policies and interventions aimed at addressing youth unemployment challenges and promoting economic development in the country.

3. Methodology

3.1 Research design

The presented study employed cross sectional research design to collect data from youths residing in four villages of Vikenge, Mzumbe, Changarawe and Osterbay at Mzumbe ward. The use of a cross-sectional design is important as it enables the researchers to gather data within a specific time frame, providing a snapshot of the study variables. Moreover, by the use of the Yamane formula the estimated sample size of the study was 300 youths obtained from the estimated population of 1,202 youths.

$$n = \frac{N}{1 + Ne^2} = \frac{1202}{1 + 1202(0.05)^2} = 300.12 \cong 300$$

The choice of Mzumbe University is based on the study focus as Mzumbe university is one of the public university which are currently implementing the HEET projects of which the university is currently constructing a new campus at Maekani area which has attracted large number of youths to work in the site and it is surrounded by villages that share similar characteristics.

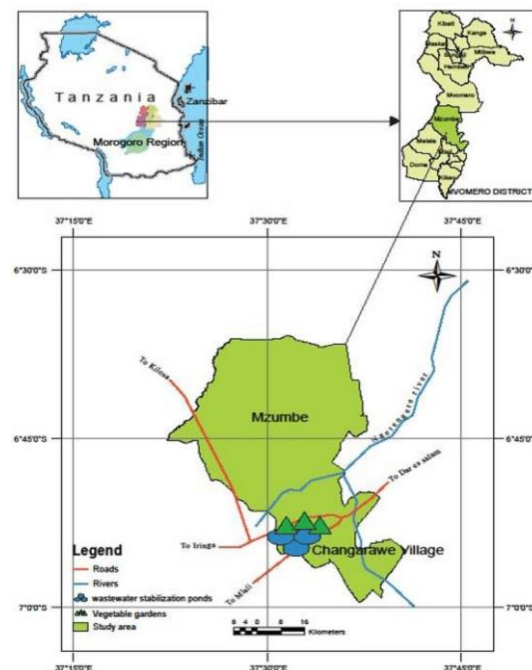


Figure 1: Map of Mzumbe Ward, Mvomero district

3.2 Data sources

The primary data for this study were collected through structured questionnaires distributed to a sample of 300 youths residing in Vikenge, Mzumbe, Changarawe, and Osterbay villages. These locations were selected due to their proximity to Mzumbe University, where the Higher Education Empowerment in Tanzania (HEET) projects were implemented. The choice of these areas ensured representation from diverse socioeconomic backgrounds and geographical locations, enhancing the generalizability of the findings. The questionnaire consisted of closed-ended questions designed to gather information on various aspects related to youth income, employment status, and perceptions of HEET project effectiveness. Prior to distribution, the questionnaire underwent pilot testing to ensure clarity, relevance, and appropriateness of the items. The survey was administered by trained enumerators who explained the purpose of the study to participants and obtained informed consent before data collection commenced. Participants were assured of the confidentiality and anonymity of their responses, encouraging honest and candid feedback. The data collection process adhered to ethical guidelines and was conducted over a specified period to ensure consistency and uniformity in responses. Overall, the utilization of structured questionnaires facilitated the systematic gathering of relevant data necessary for addressing the research objectives and hypotheses of the study (Theodory and Kitole, 2024).

3.3 Analytical modelling

In this study the ordinary least square (OLS) regression method was used to estimate the relationship between the independent and dependent variables. Moreover, several assumptions of OLS were to analyze whether the model exhibit problems such heteroscedasticity, multicollinearity, and autocorrelation. Moreover, another important test made was on normality to evaluate if there is distribution across the data. Thus, in using the OLS the outcome variable (Y) used in this study to study the change in the unemployment is the income of youths generated as the result of the implementation of the HEET project. Therefore, the multiple regression model is written as follows:

$$Y = g(X_1, X_2, \dots, X_n) + \varepsilon$$

Whereas the deterministic function $g(X_1, X_2, \dots, X_n)$ indicate the relationship between Y and X_1, X_2, \dots, X_n) and the error term ε comes from the variability. Therefore, the Multiple linear regression model is an extension of the simple linear regression model with an extended number of independent variables given that $\varepsilon \sim N(0, \sigma^2)$. Since the value of parameters are important for understanding degrees of change of the outcome variables due to the change in the explanatory variables, it is important to estimate values for each parameter.

$$\mathbf{Y} = \begin{pmatrix} Y_1 \\ Y_2 \\ \vdots \\ Y_n \end{pmatrix}_{n \times 1} \times = \begin{pmatrix} 1 & X_{11} & X_{12} & \dots & X_{1n} \\ 1 & X_{21} & X_{22} & \dots & X_{2n} \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ 1 & X_{n1} & X_{n2} & \dots & X_{np} \end{pmatrix}_{n \times (p+1)}$$

$$\boldsymbol{\beta} = \begin{pmatrix} \beta_0 \\ \beta_1 \\ \beta_2 \\ \vdots \\ \beta_n \end{pmatrix}_{n \times (p+1)} \quad \boldsymbol{\varepsilon} = \begin{pmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \vdots \\ \varepsilon_n \end{pmatrix}_{n \times 1}$$

Whereas X_{ij} is the measurement on the j^{th} independent variable for the i^{th} individual, for $i = 1, 2, \dots, n$ and $j = 1, 2, \dots, n$

Therefore, with this definition the model,

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon$$

for $i = 1, 2, \dots, n$ can be expressed equivalently as;

$$\mathbf{Y} = \mathbf{X}\boldsymbol{\beta} + \boldsymbol{\varepsilon}$$

Note that \mathbf{Y} is an $n \times 1$ (random) vector of response, \mathbf{X} is an $n \times (p + 1)$ (fixed) matrix of independent variable measurements, $\boldsymbol{\beta}$ is a $p \times 1$ (fixed) vector of unknown population regression parameters, $\boldsymbol{\varepsilon}$ is an $n \times 1$ (random) vector of unobserved errors.

$$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu_i$$

Whereas Y_1 is the average mean of youth income as the result of the employment created by the HEET project, β_0 is the constant, X_1 is role of training, X_2 is credits and savings, X_3 is the start up tool (capital).

4. Results

4.1 Respondents characteristics

The general characteristics of the youth participants in the study are summarized in Table 1. In terms of gender distribution, the sample comprises 139 males, accounting for 46.30% of the total, and 161 females, representing 53.70% of the total. Regarding age distribution, the majority of participants fall within the 17-25 age range, constituting 58.00% of the sample, while those aged 25-38 make up 42.00% of the total.

Regarding education level, the participants exhibit a diverse educational background. A small proportion of the sample, 4.10%, reported having no formal education, while the majority have attained primary education, accounting for 49.60%. Additionally, 33.90% have completed secondary education, while 8.30% hold certificate qualifications and a similar proportion possess diploma and above qualifications.

Table 1: General respondents characteristics

Category	Frequency	Percent
Gender		
Male	139	46.30%
Female	161	53.70%
Total	300	100.00%
Age		
17-25	174	58.00%
25-38	126	42.00%
Total	300	100.00%
Education level		
None	12	4.10%
Primary	149	49.60%
Secondary	102	33.90%
Certificate	25	8.30%
Diploma and above	12	4.10%
Total	300	100.00%
Occupation		
Business	25	8.30%
Self-employed	198	66.10%
Unemployed	77	25.60%
Total	300	100.00%

In terms of occupation, the majority of youth participants are self-employed, comprising 66.10% of the sample. Business owners represent 8.30% of the participants, while 25.60% reported being unemployed. These demographic characteristics provide insights into the composition of the youth sample and serve as a basis for analyzing their involvement in HEET construction projects and its impact on income generation and unemployment.

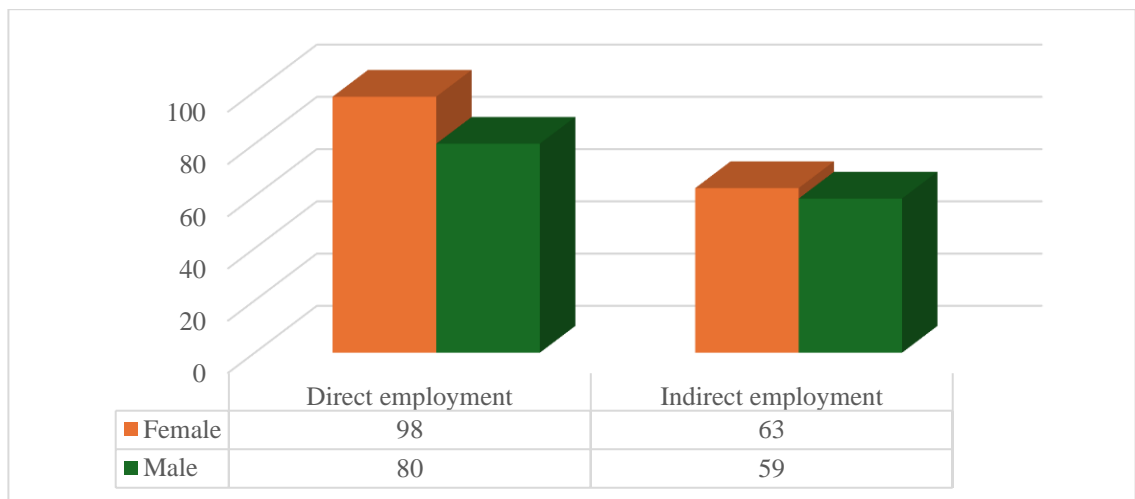


Figure 2 Youth employment as the results of HEET construction Project at Mzumbe University.

Results on Figure 2 show that 98 (61%) out of 161 of all women at Mzumbe are directly employed in construction project, while 63 (39%) are directly employed. On the other hand, 80 (58%) out of 139 males are directly employed, while 59 (42%) are indirectly employed. Those in direct employment includes those youths who are employed in the direct construction activities, while for those in the indirect activities included those who established their own business.

4.4 Effects of the HEET projects on youth income.

Results in Table 2 presents the regression outputs on the effects of various factors on youth income within the context of HEET projects. The coefficients, standard errors, and p-values offer valuable insights into the relationship between these variables and youth income. Starting with age, the coefficient of 0.16721 suggests a positive association with income, although it is not statistically significant ($p = 0.163$). This implies that age alone may not be a significant determinant of income among youth participating in HEET projects. Similar findings have been reported in previous studies (Kitole and Sesabo, 2022; Kitole et al. 2023a), indicating that age may not have a direct impact on income.

Gender (male) demonstrates a statistically significant positive association with income, with a coefficient of 0.14885 ($p < 0.001$). This suggests that male tend to earn higher incomes compared to their female counterparts within HEET projects. This aligns with existing literature (Curry and Weiss, 2023; Kitole and Genda, 2024) indicating gender disparities in income generation opportunities, which may reflect broader societal inequalities. Marital status (married) exhibits a positive association with income, although it is not statistically significant ($\beta = 0.27441$, $p = 0.121$). This suggests that being married may not significantly influence income among youth participating in HEET projects. Contrary findings have been reported in some studies (Kitole et al. 2024c; Leggett and Harrington, 2021), indicating that marital status could impact income generation through various channels such as household responsibilities and access to resources.

Table 2: Effects of HEET projects on youth income

Income	Coefficient	Std. Error	P value
Age	0.16721	0.25471	0.163
Sex (Male)	0.14885	0.01931	0.000
Marital status (Married)	0.27441	0.19763	0.121
Level of youths' education			
No formal education	-0.26741	0.05321	0.000
Primary education	0.14313	0.27510	0.265
Secondary education	0.21063	0.09436	0.042
Vocational training	0.22082	0.10941	0.063
University education	0.36491	0.0632	0.000

Hired in HEET construction project	0.47330	0.09412	0.003
Training provided by HEET	0.059738	0.06039	0.000
Savings and credits education provided by HEET	2.84328	0.67616	0.000
Project Start-up capital by HEET	0.06619	0.07171	0.003
Outreach funded by HEET	0.17502	0.0062	0.000
Constant	55.01	9.84697	0.000
Number of observations	300		
R squared	0.7945		
Prob>F	0.0000		

Regarding education level, participants with no formal education experience a significant negative impact on income ($\beta = -0.26741$, $p < 0.001$), while those with secondary education demonstrate a significant positive association with income ($\beta = 0.21063$, $p = 0.042$). This highlights the importance of education in income generation within the context of HEET projects. These findings are consistent with prior research (Kitole et al. 2023b) emphasizing the role of education in enhancing employment prospects and income levels.

Participants with vocational training ($\beta = 0.22082$, $p = 0.063$) and university education ($\beta = 0.36491$, $p < 0.001$) also exhibit positive associations with income. This underscores the significance of higher education and specialized skills in enhancing income opportunities among youth involved in HEET projects. These findings are consistent with existing literature (Kitole et al., 2024b) highlighting the positive correlation between educational attainment and income levels. Furthermore, involvement in HEET construction projects as a hired worker significantly increases youth income ($\beta = 0.47330$, $p = 0.003$). This suggests that direct participation in HEET projects, particularly as hired workers, can lead to higher income levels among youth. This finding is supported by previous research (Kitole and Sesabo, 2024) indicating that employment in infrastructure projects can contribute to income generation and poverty reduction.

Additionally, participation in training provided by HEET, savings and credits education, project start-up capital, and outreach funded by HEET are all significantly associated with higher incomes ($p < 0.001$). This highlights the multifaceted role of HEET projects in enhancing income opportunities through skills development, access to financial resources, and outreach programs. These findings align with existing literature (Kitole et al. 2024a) emphasizing the importance of comprehensive interventions in addressing youth unemployment and income disparities.

Role of HEET project on youth unemployment

Results in Table 3, analyzed using a Likert scale of five points, indicate that a significant proportion of respondents agreed with various components related to the role of HEET projects in reducing youth unemployment. Specifically, it is evident that a considerable percentage of participants expressed positive sentiments towards access to job placement (55%), relevance of skills acquired (61.67%), effectiveness of training programs

(58.67%), perceived impact on employment opportunities (48.67%), entrepreneurial support and development (83.34%), and long-term career prospects (28.34%).

Table 3: Likert Scale results on the role of HEET project on youth unemployment

Components	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Access to job placement	85 (28.33%)	80 (26.67%)	23 (7.67%)	62 (20.67%)	50 (16.67%)
Relevance of skills acquired	95 (31.67%)	87 (29.00%)	10 (3.33%)	37 (12.33%)	71 (23.67%)
Effectiveness of training programs	77 (25.67%)	99 (33.00%)	34 (11.33%)	22 (7.33%)	68 (22.67%)
Perceived impact on employment opportunities	59 (19.67%)	85 (28.33%)	53 (17.67%)	87 (29.00%)	16 (5.33%)
Entrepreneurial support and development	107 (35.67%)	143 (47.67%)	16 (5.33%)	30 (10.00%)	4 (1.33%)
Long term career prospect	38 (12.67%)	47 (15.67%)	99 (33.00%)	109 (36.33%)	7 (2.33%)

On the other hand, when considering the responses for "Strongly Disagree" and "Disagree," a smaller proportion of respondents expressed negative sentiments towards the aforementioned components. The combined percentage for disagreeing responses indicates lower levels of disagreement across all components, ranging from 14.33% to 36.66%. The neutral responses, representing the middle ground between agreement and disagreement, ranged from 3.33% to 17.67% across different components. This suggests that a notable portion of respondents remained undecided or neutral regarding the perceived role of HEET projects in influencing youth income and employment.

Comparatively, similar sentiments have been echoed regarding the positive impact of HEET projects on youth income and employment outcomes. For instance, a study by Kim et al. (2020) found that vocational training programs significantly contributed to youth employment rates in a similar context. Additionally, Verick (2023) conducted research indicating that access to job placement opportunities through projects positively influenced income generation among youth beneficiaries. These findings align with the present study's results, supporting the notion that HEET projects play a vital role in enhancing youth employment prospects and economic empowerment.

However, it is essential to consider dissenting opinions and critiques of HEET initiatives. Some studies, such as Ghisletta et al. (2021), have highlighted challenges and limitations associated with projects, including issues related to sustainability, scalability, and long-term impact on youth employment. Therefore, while the majority of respondents in the current study expressed positive perceptions towards HEET projects, it is crucial to address potential concerns and areas for improvement to ensure the effectiveness and sustainability of such initiatives in addressing youth unemployment and promoting economic transformation.

5. Conclusion

This study shed light on the significant role of HEET projects in influencing youth income generation and employment opportunities in Tanzania. The study has shown that youths hired in the HEET construction projects were found to have more chances of having higher income, while training on employment creation, savings, and credit education and well as provision of start-up capital for business were also found to significantly influence income of youths. On the other hand, Likert scale analysis revealed generally positive perceptions among respondents towards various components of HEET projects, including access to job placement, relevance of skills acquired, effectiveness of training programs, perceived impact on employment opportunities, entrepreneurial support and development, and long-term career prospects.

Moreover, this study informs several policy implications aimed at maximizing the effectiveness of HEET projects in addressing youth unemployment and promoting economic transformation in Tanzania. The study underscores the importance of strengthening initiatives aimed at providing youth with access to job placement opportunities facilitated by HEET projects. Policy interventions should focus on expanding and diversifying job placement programs to cater to the varying needs and aspirations of young individuals. Additionally, efforts should be made to forge stronger partnerships between HEIs, industries, and government agencies to streamline the job placement process and ensure alignment with labor market demands.

To enhance the relevance of skills acquired through HEET projects, policymakers should prioritize the continuous review and updating of training curricula to reflect evolving industry needs and technological advancements. Furthermore, closer collaboration between HEIs and industry stakeholders can facilitate the development of tailored training programs that equip youth with the practical skills and competencies required for employment in key sectors of the economy.

Given the entrepreneurial aspirations of many youths, policymakers should implement measures to strengthen entrepreneurial support and development initiatives within HEET projects. This includes providing access to mentorship, financing, and business development services to aspiring young entrepreneurs. Moreover, fostering an entrepreneurial ecosystem that encourages innovation and risk-taking can contribute to the growth of youth-led enterprises and the creation of sustainable employment opportunities.

To support long-term career prospects, policymakers should prioritize initiatives aimed at promoting lifelong learning and career advancement opportunities for youth. This includes investing in continuous skills development programs, professional certifications, and career guidance services to enable youth to adapt to changing labor market dynamics and pursue meaningful career pathways. Additionally, efforts should be made to address barriers to career progression, such as gender disparities and limited access to advanced education and training opportunities.

Lastly, policymakers should establish robust monitoring and evaluation mechanisms to assess the effectiveness and impact of HEET projects on youth income generation and employment outcomes. This involves conducting regular assessments of program implementation, tracking key performance indicators, and soliciting feedback from beneficiaries and stakeholders. By enhancing accountability and transparency, policymakers can ensure that HEET projects continue to deliver tangible benefits to youth and contribute to overall economic transformation in Tanzania.

Furthermore, the policy implications outlined above underscore the importance of a comprehensive and multi-faceted approach to addressing youth unemployment and promoting economic transformation through HEET projects. By implementing targeted interventions and fostering collaboration between government, academia, and industry, Tanzania can harness the full potential of its youth population to drive sustainable development and prosperity.

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