Assessment of the Employability of University Graduates in the Agricultural Sector in Mocuba Regarding Their Participation in Climate Resilience Initiatives (2019–2023)

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ABSTRACT

This study assessed the employability of graduates in the agricultural sector in Mocuba between 2019 and 2023, with emphasis on their participation in climate resilience initiatives. The aim was to analyze their professional insertion, describe their sociodemographic profile, identify challenges in the labor market, and measure their contribution to mitigation and adaptation practices. A mixed-methods approach was applied to 475 UniZambeze graduates, combining quantitative analysis of 220 respondents and qualitative interviews with 17 graduates. Data were processed in Excel and complemented by statistical tests such as Chi-square and Cramer's V in SPSS. Findings reveal that 63% remain unemployed, while 36% are employed, with only 30% engaged directly in climate-related projects, including reforestation, soil conservation, efficient irrigation, and sustainable agriculture. Integration of methods demonstrates that despite high unemployment, graduates are able to apply technical skills, with generalist courses like Agronomic Engineering showing higher employability. The study concludes that employability should be understood not only as economic insertion but also as the ability to mobilize knowledge for climate action. It is proposed to expand internship programs, career guidance, green entrepreneurship, and public policies that facilitate the transition from academic training to professional practice, enhancing youth participation in climate resilience initiatives.

Keywords: Employability. Agricultural Sector. Climate Resilience. Professional Insertion.

INTRODUCTION

In Mozambique, agriculture plays a central role in the economy and in people's livelihoods, representing the main source of income and employment in rural areas. However, the sector faces increasing challenges arising from climate change, such as prolonged droughts, recurrent floods, and soil degradation, which reduce productivity and increase the vulnerability of communities. In this context, young graduates in agricultural sciences emerge as strategic actors, as they possess skills that can be applied to the development of climate resilience practices, including sustainable agriculture, reforestation, and the rational management of natural resources (Oram & Rosa, 2010).

Despite this potential, the integration of these young graduates into the formal labor market remains a challenge. The reality in Mocuba strongly reflects this difficulty, as many university graduates face structural barriers, such as limited job opportunities, the requirement for practical experience, and the lack of professional networks that facilitate entry into the workforce. According to the National Institute of Statistics (INE, 2021), the unemployment rate among higher education graduates remains high, and this situation limits not only the valorization of acquired qualifications but also the contribution of these professionals to addressing the impacts of climate change.

The issue of youth employability in the agricultural sector is therefore multifaceted, involving economic, social,

and environmental dimensions. Although agricultural education is recognized as essential for sustainable development, a gap persists between the competencies acquired at universities and the actual needs of the labor market (Meyer et al., 2020). The lack of specific data on professional integration in Mocuba further limits the formulation of appropriate public policies and strategies that promote youth participation in climate resilience initiatives.

Based on this context, this study aimed to assess the employability of young graduates in the agricultural sector in Mocuba between 2019 and 2023, seeking to understand the extent to which their professional integration is related to addressing climate change. Specifically, the study sought to describe the sociodemographic profile of graduates, identify the main challenges in accessing the labor market, and measure the level of involvement in practices and projects related to climate resilience.

This research adopted a mixed-methods approach of an exploratory and descriptive nature, integrating both quantitative and qualitative methods. The methodology aimed to combine theoretical and practical data, allowing not only the identification of key concepts and theories on employability and climate resilience, but also a critical analysis of the lived experiences of young people, as well as the gaps between the education received and labor market demands.

THEORETICAL FRAMEWORK

Employability and Youth in Mozambique

Employability can be understood as the combination of knowledge, skills, and attitudes that enable an individual to obtain and maintain employment, as well as to adapt to changes in the labor market. Yorke (2006) emphasizes that this capacity does not depend solely on formal qualifications, but also on interpersonal skills, practical experience, and continuous learning. According to Fugate, Kinicki, and Ashforth (2004), it is a multidimensional phenomenon resulting from the interaction between individual, contextual, and organizational factors. In Mozambique, the context of high informality means that employment is broadly associated with any income-generating activity, even under precarious, formal or informal conditions (Lachler & Walker, 2018).

Mozambican youth, officially defined as individuals aged between 15 and 35 years (Republic of Mozambique, 2013), represent a strategic human resource for socioeconomic development. However, they face structural barriers to labor market integration, such as the lack of formal jobs, weak linkages between universities and the labor market, and limited access to credit and technology (Floriano, 2018). Recent studies indicate that many young people remain in unstable and low-paying jobs, which undermines their social security and perpetuates inequalities (Castel-Branco, 2024). In regions such as Mocuba, this situation is further aggravated by the predominance of subsistence agriculture, which rarely requires formal qualifications and is unable to absorb the workforce trained in the agricultural sector.

It can be clearly understood that the concept of employability in Mozambique needs to be analyzed critically, as it is not enough to view young people merely as holders of skills. It is necessary to contextualize that the national labor market, particularly in Mocuba, lacks adequate structures to absorb qualified labor. Therefore, employability should be seen as a social construct that depends not only on individual efforts but also on public policies capable of creating an inclusive environment with real opportunities for young people.

The Agricultural Sector and Climate Change

The agricultural sector is central to the Mozambican economy, employing more than 80% of the labor force and contributing significantly to the Gross Domestic Product (Chihanhe, Mananze & Machava, 2022). However, it faces longstanding challenges such as low productivity, limited mechanization, inadequate technical assistance, and restricted access to credit and markets. In Mocuba, small-scale and family farming predominates, providing basic subsistence but failing to generate sufficient qualified employment opportunities for young graduates. This situation creates a disconnect between the skills acquired at universities and the practical realities of the productive sector.

These challenges become even more complex in the face of climate change, which directly affects agriculture through droughts, floods, soil erosion, and emerging pests (IPCC, 2022). In this context, young graduates in agricultural sciences can play a strategic role by implementing sustainable farming practices, promoting the rational management of natural resources, and engaging in climate adaptation and mitigation projects. Thus, while climate change exacerbates existing vulnerabilities, it also creates opportunities for innovation and entrepreneurship among young people, positioning them as key actors in the transition toward a resilient and sustainable agricultural model.

Therefore, despite its weaknesses, the agricultural sector represents a space of strategic potential for Mozambican youth. While climate risks intensify production challenges, they also offer a window of opportunity for young graduates in the agricultural field to apply their knowledge and introduce technological innovations. Hence, employability in this sector should not be oriented solely toward job creation, but also toward the structural transformation of the sector, making it more resilient and sustainable.

Employability, Sustainable Development and Public Policies

The concept of sustainable development is based on the integration of economic, social, and environmental dimensions, guiding policies aimed at meeting present needs without compromising future generations (Brundtland, 1987). In Mozambique, the link between youth and sustainability is critical, as the agricultural sector remains the foundation of livelihoods for most of the population and the main source of employment. However, precarious working conditions, the lack of technological innovation, and the limited recognition of scientific knowledge constrain the productive transformation required for sustainable development (Mucavele, 2019). In this context, youth employability becomes a key driver for aligning academic training with inclusive growth policies.

However, public policies aimed at youth employment in Mozambique face weaknesses in implementation and continuity. Despite initiatives such as the National Youth Employment Strategy, the linkage between the education sector and the labor market remains limited (Republic of Mozambique, 2021). Training, entrepreneurship, and agricultural financing programs rarely reach sufficient scale to absorb the number of graduates entering the labor market each year. This structural gap prevents youth from fully contributing to the Sustainable Development Goals, particularly those related to poverty eradication and food security (UN, 2015).

It is argued that sustainable development in Mozambique depends on recognizing youth as a driving force for innovation and transformation in the agricultural sector. Public policies should move beyond sporadic interventions and become more consistent, aligning with real market demands and local potential. Thus, youth employability should be viewed as a strategic priority for sustainable development, capable of generating long-term impacts on both the economy and social resilience.

Capabilities, Climate Resilience and Professional Integration

The capabilities approach, proposed by Amartya Sen (1999), suggests that development should be measured not only by economic growth but by the expansion of people's freedoms and opportunities. In this sense, youth employability in Mozambique's agricultural sector should be understood not merely as access to a job, but as an opportunity to expand capabilities for a dignified, secure, and resilient life. Academic training in agricultural sciences thus represents a valuable resource for promoting greater freedom of choice and for transforming local productive and social conditions.

However, the challenges posed by climate change reduce these freedoms by limiting access to natural resources and making agricultural production uncertain (IPCC, 2022). Climate resilience therefore becomes a prerequisite for professional integration, as young graduates need not only employment but also a productive environment capable of sustaining economic activities in the long term. This requires strengthening climate adaptation policies, promoting sustainable agricultural practices, and creating more inclusive markets. In this context, youth emerge as key actors, as they combine innovative potential with the ability to link scientific knowledge to practical application.

It is understood that the analysis of youth employability cannot be separated from climate resilience. The capabilities approach provides an appropriate lens to understand that young people need more than jobs; they require structural conditions that enable them to use their knowledge fully and innovatively. Therefore, it is essential that policies and programs integrate professional insertion with climate adaptation strategies in order to expand opportunities and strengthen the sustainability of the agricultural sector.

Local Challenges of Youth Employability in Mocuba

The district of Mocuba, in Zambézia Province, is characterized by an economy largely based on subsistence agriculture and informal trade. Although there is a growing number of young graduates in agricultural sciences, formal employment opportunities are extremely limited, largely due to the low presence of agro-industrial companies and the weak link between higher education and the labor market (Floriano, 2018). This mismatch between education and employability contributes to high levels of youth frustration and migration in search of opportunities in other regions.

In addition, access to entrepreneurship faces significant barriers. The lack of credit, the scarcity of quality agricultural inputs, and the limited coverage of extension services restrict the ability of young graduates to invest in their own businesses (Alexandre, 2024). This situation is further aggravated by gender inequalities, where young women face additional obstacles, such as restricted access to land and greater vulnerability within the informal market. As a result, in Mocuba, agrarian youth find themselves in a cycle of marginalization in which acquired education does not automatically translate into productive integration.

Local challenges of employability in Mocuba reflect not only structural deficiencies but also a lack of policies adapted to the municipal reality. Therefore, solutions lie in strengthening linkages between universities, the private sector, and local government in order to create sustainable opportunities that absorb the available human capital. In this way, youth can contribute to revitalizing the agricultural economy and diversifying the municipality's productive base.

Climate Change and Prospects for Professional Integration in the Agricultural Sector

Climate change directly affects the dynamics of agriculture in Mozambique, particularly through phenomena such as prolonged droughts, cyclical floods, and agricultural pests (FAO, 2021). In the context of Mocuba, these impacts reduce production predictability and increase the risks associated with investment in the agricultural sector. For young graduates, this scenario translates into reduced attractiveness of the sector, as climate instability limits both productivity and the profitability of agricultural enterprises.

However, climate change also creates room for innovation and new opportunities for professional integration. Practices such as conservation agriculture, the use of resilient seeds, and the promotion of agroforestry systems represent niches for employment and entrepreneurship that can be led by technically trained youth (IPCC, 2022). If supported by appropriate public policies and adaptation programs, young people can transform climate challenges into opportunities for innovation, contributing to the resilience of the agricultural sector and to local food security.

Therefore, the analysis of youth employability in Mocuba must necessarily incorporate the climate dimension, as the future of the agricultural sector depends on its capacity to adapt. Young graduates in agricultural sciences can be key actors in this transformation, but only if policies and investments enable the conversion of knowledge into practical innovation. Thus, the integration of employability and climate adaptation should be viewed as a strategic pathway for promoting sustainable local development.

This study also aligns with the Sustainable Livelihoods Approach, which emphasizes the role of different forms of capital in shaping livelihood outcomes. In this context, employability is linked to human capital (skills and education), social capital (networks and connections), and natural capital (engagement in climate-resilient agricultural practices), reinforcing the multidimensional nature of youth integration in the labor market.

METHODOLOGY

Research Approach, Type, Nature, and Technical Procedures

The study adopted a mixed-methods approach (quantitative and qualitative). The quantitative dimension made it possible to characterize the sociodemographic profile of graduates, measure the level of professional integration, and assess the contribution of these young people to addressing climate change. In turn, the qualitative dimension enabled a deeper understanding of the perceptions and experiences of graduates in the agricultural sector in Mocuba, particularly regarding their participation in climate resilience initiatives and the difficulties faced in the process of labor market integration. As argued by Creswell (2014), mixed methods enhance the validity of research by combining numerical objectivity with interpretative depth.

The paradigm used was both positivist and interpretivist. The former supported the collection of objective and measurable data on employability, while the latter made it possible to capture subjective meanings related to the experiences of graduates. This combination ensured a comprehensive perspective on the phenomenon under study.

The research was classified as exploratory and descriptive. It was exploratory because it addressed a phenomenon that has been little studied in Mocuba and sought to generate hypotheses and analytical pathways. It was descriptive because it aimed to characterize the sociodemographic profile of graduates, their patterns of professional integration, and the challenges they face. Furthermore, the study has an applied nature, as it seeks to contribute to the practical resolution of problems related to youth employability and climate change adaptation. In terms of method, it followed a deductive-dialectical logic, starting from theoretical concepts and engaging with the concrete reality, while acknowledging contradictions and multiple dimensions.

The technical procedure adopted was a case study, focused on the city of Mocuba. According to Yin (2005), the case study approach is suitable for examining contemporary phenomena in depth within their real-life context. This choice made it possible to analyze the professional integration of young graduates in the agricultural sector in a contextualized manner, taking into account both labor market dynamics and the role of higher education institutions.

Population, Sample, Data Collection and Data Analysis Techniques

The study population consisted of young graduates in the agricultural sector from the Universidade Zambeze, Mocuba campus, between 2019 and 2023. During this period, 475 students completed their studies, constituting the research universe.

To ensure representativeness and feasibility, a sample was calculated using the formula proposed by Yamane (1967), adopting a 95% confidence level and a 5% margin of error. The minimum estimated sample size was 218 individuals, and the study effectively included 220 respondents. The response rate was 46% (220 out of 475 graduates), which is considered acceptable for survey-based studies. To ensure representativeness, respondents were proportionally distributed across graduation years and fields of study, preserving the temporal and academic heterogeneity of the population. Although non-response bias cannot be entirely ruled out, this proportional distribution reduces its potential impact.

Data collection was carried out using multiple techniques, in line with the specific objectives of the study. For the characterization of the sociodemographic profile, data from the administrative records provided by the Directorate of UniZambeze were used. To assess the level of professional integration, the contribution of graduates to climate change mitigation, and the main challenges faced in labor market insertion, a structured questionnaire was applied in digital format, developed using the KoboToolbox platform and distributed to all 475 graduates through social networks and telephone contacts. The instrument included closed and semi-open questions, allowing the collection of both quantitative and qualitative data.

To deepen the understanding of employability challenges and the contribution of graduates to climate change mitigation, semi-structured interviews were conducted in person with 17 graduates selected intentionally. The

selection of this number followed the criterion of theoretical saturation, which indicates the point at which additional interviews no longer provide relevant new information (Minayo, 2012). The interviews made it possible to capture perceptions, obstacles, and individual experiences in greater detail. A thematic analysis approach was applied to the qualitative data, with categories such as employment barriers, skills mismatch, and climate-related engagement. The qualitative component was not intended for statistical generalization but to provide contextual depth.

Quantitative data were processed using descriptive statistics and association analysis, allowing the identification of trends and patterns of professional integration. Qualitative data were subjected to content analysis following Bardin (2016), which enabled the categorization of narratives and the identification of recurring meanings. The integration of both types of analysis was conducted through a comparative approach, where statistical findings were complemented by qualitative evidence, ensuring a comprehensive understanding of the phenomenon by combining statistical objectivity with critical interpretation of lived experiences.

Ethical Considerations and Study Limitations

The research respected the ethical principles of scientific investigation, ensuring informed consent, anonymity, and confidentiality of participants. All graduates were informed about the objectives of the study and their voluntary participation, and they were free to withdraw at any time. The collected data were used exclusively for academic purposes and stored securely, ensuring impartiality and integrity in the analysis.

The limitations of the study relate, first, to the fact that it focused only on graduates in the agricultural sector in Mocuba, which restricts the possibility of generalizing the results to other universities or regions of Mozambique. Nevertheless, the findings may serve as an important indicator of the country's situation regarding youth employability. In addition, the use of an online questionnaire may have excluded graduates with limited digital access; however, this limitation does not significantly compromise the validity of the results, as it was mitigated by the robustness of the sample and the methodological triangulation adopted.

PRESENTATION AND ANALYSIS OF RESULTS

This chapter presents the main results obtained from the quantitative and qualitative research conducted with young graduates in the agricultural sector in Mocuba between 2019 and 2023. The data are presented objectively, supported by tables, graphs, and interview excerpts, in order to highlight patterns, trends, and perceptions. The theoretical interpretation and comparison with the literature will be further developed in the following chapter.

The integration of quantitative and qualitative data was conducted through a comparative approach, where statistical trends were complemented by narrative evidence from interviews. This approach allows for a deeper understanding of how observed patterns are experienced in practice, strengthening the validity and interpretative depth of the findings.

Profile of Young Graduates in the Agricultural Sector in Mocuba

Between 2019 and 2023, UniZambeze graduated 475 young people in the agricultural sector in Mocuba, with a male predominance (63.2%) and a significant female participation (36.8%).

The predominant age group is between 25 and 30 years, although some graduates are up to 50 years old, indicating the presence of adults seeking professional reorientation. The most common courses were Agronomic Engineering (32.8%) and Agricultural Economics (28.6%), followed by Forestry Engineering (20.8%) and Animal Science Engineering (17.7%). This distribution highlights a preference for training oriented toward agricultural production and natural resource management, which are essential for climate resilience practices such as soil conservation, agroforestry systems, and sustainable crop management.

The quantitative analysis shows a predominance of young people between 21 and 30 years of age, while the qualitative data reveal that more experienced graduates apply their knowledge in practical contexts. One interviewee stated:

"In my internship, we implemented efficient irrigation techniques and crop rotation, reducing losses and helping to conserve water resources to cope with drought." (Agronomic Engineering student, 2021)

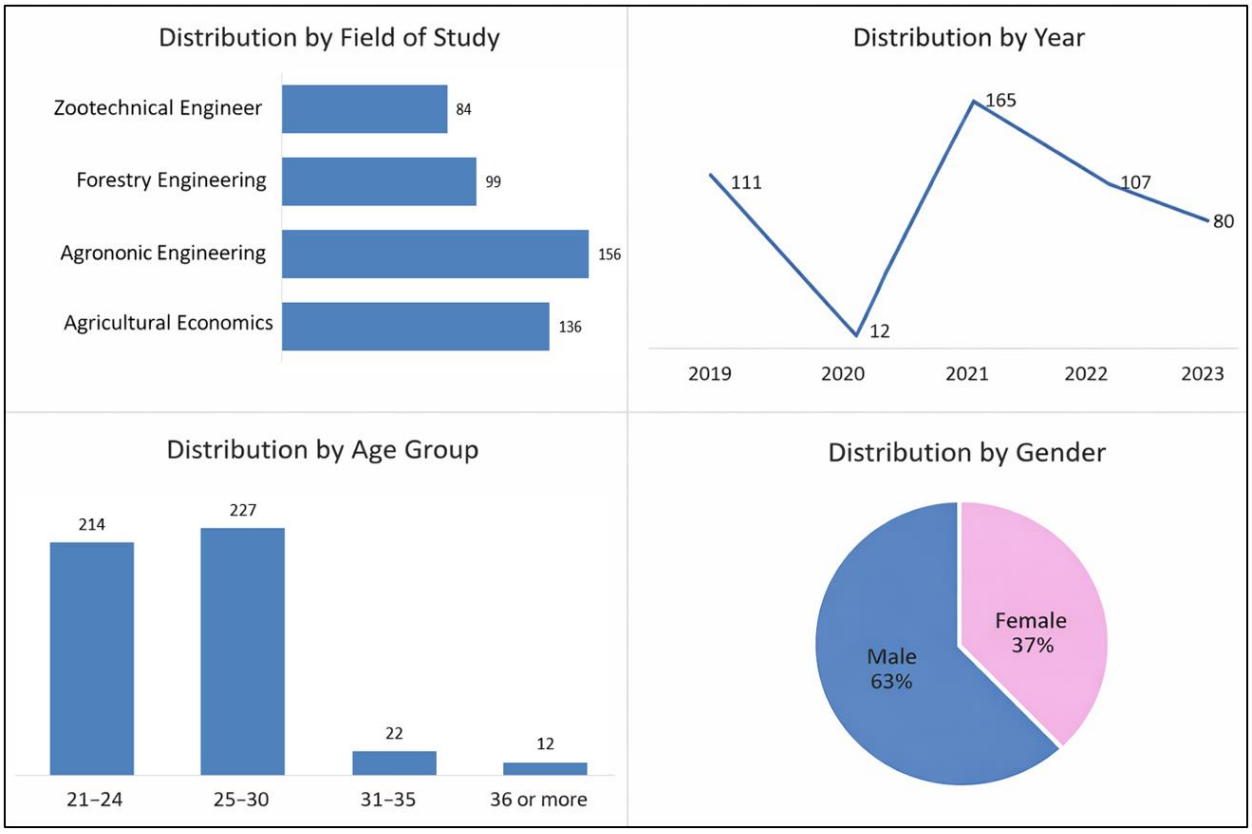

Figure 1: Distribution of the 475 graduates by gender, course, age group, and year of graduation (2019–2023)

Source: Author's own elaboration based on data provided by UniZambeze (2025)

These findings indicate that academic training provides a solid theoretical foundation, while practical experience and personal initiative determine the ability to apply skills in concrete climate resilience actions. The integration of quantitative data with qualitative accounts shows that, even among more qualified young people, participation in climate-related initiatives depends on opportunities to apply knowledge in real-world contexts.

Main Challenges in Professional Integration

The quantitative results revealed that the main obstacles are lack of job opportunities (26.1%), absence of practical experience (16.5%), and corruption or favoritism in recruitment processes (14.6%), in addition to difficulties related to lack of professional networks and insufficient capital to start businesses. Qualitative interviews help to better understand the weight of these factors. One graduate stated:

"Everything is difficult. The job vacancies are not related to what we studied and require experience we do not yet have, even in environmental projects." (Forestry Engineering student, 2022).

These accounts reinforce that, although the courses provide relevant competencies, the local labor market structure shows low absorption of qualified labor, especially in areas linked to environmental sustainability and climate adaptation. The quantitative findings on unemployment and limited opportunities are thus reinforced by qualitative evidence, where respondents consistently highlighted lack of experience, weak professional networks, and limited alignment between academic training and labor market demands as key barriers to professional integration.

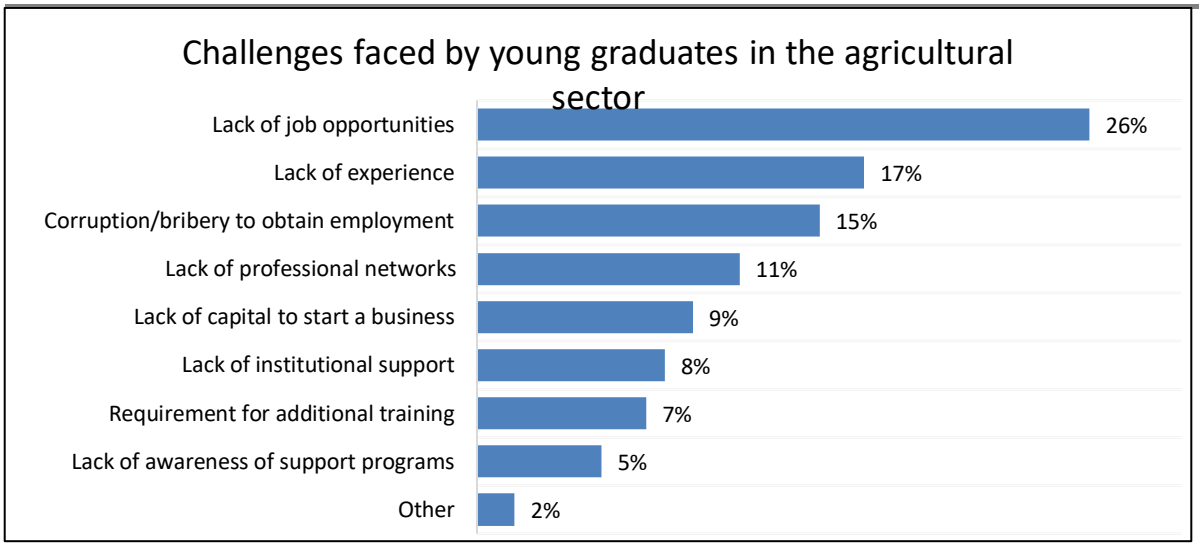

Figure 2: Main challenges faced by young graduates for labor market insertion (2019–2023)

Source: Author's own elaboration based on survey data applied to UniZambeze graduates (2025)

Level of Professional Integration and Participation in Climate Resilience Initiatives

The following figure summarizes the current state of professional integration of young graduates in the agricultural sector in Mocuba between 2019 and 2023, highlighting significant differences between unemployment and the various forms of employment and occupation.

The analysis of the data reveals that approximately 63% of young graduates remain unemployed, while 36% are integrated into the labor market, distributed among formal employment, informal employment, paid internships, and self-employment. Among those who are employed, 30% reported being directly or indirectly involved in initiatives aimed at combating climate change, working in reforestation projects, soil conservation, efficient irrigation, and the promotion of sustainable agriculture.

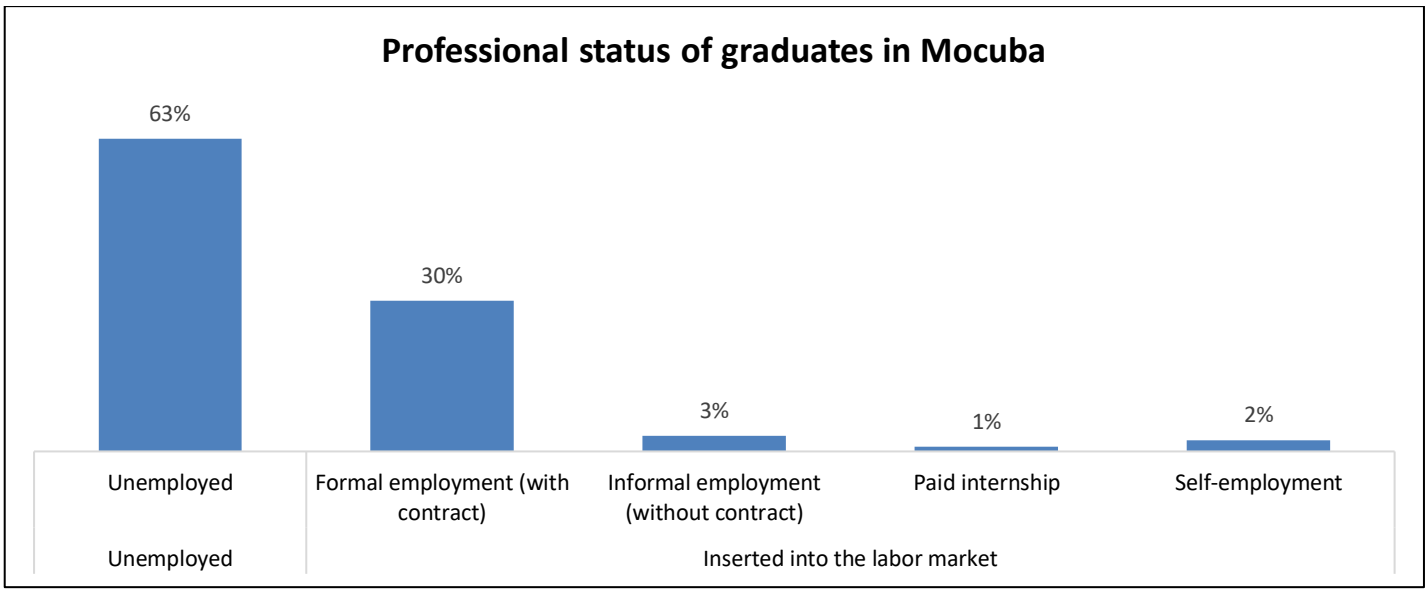

Figure 3: Level of professional integration of young graduates in the agricultural sector in Mocuba (2019–2023)

Source: Author's own elaboration based on survey data applied to UniZambeze graduates (2025)

In qualitative interviews, one respondent described his experience:

"I work in a community reforestation project, applying planting and soil management techniques that help reduce erosion and increase the community's resilience to drought." (Forestry Engineering student, 2021)

The average time taken to obtain the first job further supports this analysis, showing that 36% of young people secured employment in less than six months, 37% between 6 and 12 months, 16% between 1 and 2 years, and 11% took more than two years. These findings indicate that, although some graduates achieve employment quickly, many experience prolonged waiting periods, reinforcing the importance of internship programs, mentorship initiatives, and green entrepreneurship to reduce the transition between education and professional practice in climate-related sectors.

Table 1: Time taken to obtain the first job among young graduates in Mocuba (2019–2023)

Time to first employment	% of young graduates
Less than 6 months	36%
6 to 12 months	37%
1 to 2 years	16%
More than 2 years	11%

Source: Author's own elaboration based on survey data applied to UniZambeze graduates (2025*)*

The relationship between field of study and employability confirms that graduates in Agronomic Engineering show higher labor market insertion, while more specialized fields such as Forestry Engineering and Animal Science face greater challenges. The Chi-square test ($\chi^2 = 8.55$; df = 3; p = 0.036) confirms the statistical significance of this association, and the Cramer's V value (0.197) indicates that, although relevant, the strength of the relationship is moderate. This suggests that employability is influenced not only by academic background but also by factors such as practical experience, professional networks, and the broader institutional context.

Among the 36% of employed graduates, about 30% participate directly or indirectly in climate resilience initiatives, applying sustainable management techniques, soil conservation practices, and climate-adaptive agriculture. The integration of quantitative and qualitative findings demonstrates that, despite high unemployment levels, graduates are able to mobilize technical skills in meaningful ways. This reinforces the idea that academic training, combined with entrepreneurship strategies and practical opportunities, enables the transformation of knowledge into concrete climate change mitigation and adaptation actions, thereby enhancing the socio-environmental impact of employability in the agricultural sector.

DISCUSSION OF RESULTS

The results presented in the previous chapter highlight significant challenges faced by young graduates in the agricultural sector in Mocuba between 2019 and 2023, as well as some emerging opportunities related to their participation in climate resilience initiatives. The following discussion seeks to relate these findings to academic literature and institutional reports, highlighting both convergences and contradictions with the theoretical framework of this study.

Graduate Profile and Employability Prospects

The male predominance among graduates (63.2%) confirms the historical trend of higher male participation in agricultural higher education in Mozambique. However, the increasing presence of women (36.8%) suggests progress in gender inclusion, in line with FAO (2021), which highlights recent policies aimed at empowering women in the rural sector. This gradual balance may contribute to diversifying productive practices and improving equity in access to employment opportunities.

Regarding fields of study, Agronomy and Agricultural Economics stand out, corroborating Yorke's (2006) argument that employability depends not only on technical competencies but also on the perceived relevance of

academic training in the labor market. However, the lower absorption of graduates in Forestry Engineering and Animal Science suggests a persistent mismatch between training supply and local labor demand, reinforcing the need for better alignment between higher education institutions and market needs.

Structural Barriers to Professional Integration

The high unemployment rate among graduates (63%) indicates a critical gap between academic training and employment opportunities. This finding supports Castel-Branco's (2010) characterization of the Mozambican labor market as structurally weak and unable to absorb qualified labor. The shortage of formal employment opportunities, identified by 26.1% of respondents, suggests that the expansion of higher education has not been accompanied by proportional job creation.

The lack of practical experience, highlighted by 16.5% of respondents, reinforces the argument of Fugate et al. (2004) that employability is shaped by a combination of human, social, and psychological capital. Limited interaction between universities and the labor market reduces opportunities for internships and experiential learning, weakening graduates' readiness for employment.

Furthermore, the perception of corruption and favoritism (14.6%) in recruitment processes reveals institutional constraints that go beyond individual capabilities. As noted by Hanlon (2010), such practices undermine merit-based systems and disproportionately affect young job seekers. These findings illustrate that employability should not be viewed solely as an individual attribute but as a socially constructed outcome influenced by structural and institutional conditions.

Professional Integration and Participation in Climate Resilience Initiatives

Despite structural constraints, 36% of graduates achieved some level of labor market integration, and approximately 30% of those employed reported involvement in climate resilience initiatives. This suggests that, even in a constrained labor market, emerging opportunities exist in areas related to sustainability and environmental adaptation, in line with IPCC (2022) recommendations on integrating scientific knowledge with local practices.

The involvement of graduates in activities such as reforestation, soil conservation, and efficient irrigation demonstrates the practical applicability of academic training in addressing climate challenges. However, the limited scale of these initiatives indicates that they remain insufficient to absorb the growing number of qualified graduates. As argued by Mucavele (2013), structural limitations in productivity and innovation within Mozambican agriculture continue to constrain the expansion of skilled employment opportunities.

The statistically significant relationship between field of study and employability ($\chi^2 = 8.55$; $p = 0.036$) supports Sen's (1999) capability approach, suggesting that different educational backgrounds provide varying opportunities for expanding individual freedoms. However, the moderate strength of this association (Cramer's $V = 0.197$) indicates that employability is also strongly influenced by contextual factors such as access to networks, financial resources, and institutional support.

From the perspective of the Sustainable Livelihoods Approach, these findings highlight that employability is shaped by the interaction of multiple forms of capital. Graduates who are able to mobilize human capital (education and skills), social capital (networks and connections), and, to some extent, natural capital (engagement in climate-related agricultural activities) tend to have better chances of professional integration and participation in resilience initiatives.

Regarding time to employment, the finding that 73% of employed graduates secured jobs within one year should be interpreted cautiously. In contexts characterized by informality and precarious labor conditions, rapid employment does not necessarily translate into stable or decent work. This aligns with Castel-Branco's (2015) argument that employment quality must be considered alongside employment access.

In summary, the findings indicate that the employability of young graduates in Mocuba is shaped by a combination of structural economic limitations, mismatches between education and labor market demand,

institutional weaknesses, and limited access to practical experience. At the same time, engagement in climate resilience initiatives presents an important, albeit limited, pathway for innovation and sustainable development. These results not only confirm key aspects of existing literature but also reveal local specificities that should be addressed through more targeted public policies and stronger collaboration between universities, government, and the private sector.

CONCLUSION AND/OR RECOMMENDATIONS

The assessment of employability among young graduates in the agricultural sector in Mocuba between 2019 and 2023 indicates that the majority face significant difficulties in entering the labor market, with approximately 63% remaining unemployed. This situation highlights the limited absorption capacity of the local labor market and the structural challenges that hinder the transition from academic training to concrete professional opportunities.

Among the young people who secured employment, about 30% are directly or indirectly involved in initiatives aimed at combating climate change, applying technical knowledge in reforestation projects, soil conservation, efficient irrigation, and sustainable agriculture. These results show that, even in the context of high unemployment, academic training enables graduates to make a meaningful contribution to climate change mitigation and adaptation actions.

The integration of quantitative and qualitative findings strengthens the validity of the results, showing that beyond statistical trends, individual experiences provide important insights into the barriers and opportunities shaping youth employability.

The analysis demonstrates that employability in the agricultural sector should be understood not only as economic insertion but also as the ability to mobilize technical competencies in environmental and social practices. Strengthening the articulation between universities, the private sector, and public policies is essential to increase youth participation in climate resilience initiatives, ensuring that academic training translates into real socio-environmental impact.

For the future, it is recommended to strengthen internship programs, green entrepreneurship initiatives, and mentorship schemes, as well as to expand policies that encourage youth participation in climate adaptation and mitigation projects. In addition, further research should assess the impact of these actions on local sustainable development, creating mechanisms that reduce unemployment and enhance the contribution of young people to climate resilience in the region and beyond.

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