INITIATIVES AIMED AT INCREASING THE PARTICIPATION OF WOMEN IN THE TECH INDUSTRY IN RWANDA AND THEIR IMPACT ON SOCIAL AND ECONOMIC DEVELOPMENT.

30 YEARS AFTER GENOCIDE AGAINST TUTSI IN RWANDA

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ABSTRACT

This research paper explores the initiatives undertaken in Rwanda to increase women's participation in the tech industry thirty years after the Tutsi genocide. The paper examines the impact of these initiatives on social and economic development in Rwanda, highlighting the progress made and the challenges that remain. Rwandan women have achieved significant milestones across various sectors, including politics, entrepreneurship, education, peacebuilding, and professions traditionally dominated by men. With over 60% representation in parliament, Rwandan women play a pivotal role in shaping the country's legislative agenda, while women-led startups and enterprises contribute to innovation and economic growth. Gender parity in education has empowered women with skills and opportunities, with girls outnumbering boys in secondary and tertiary education and excelling in Science, Technology, Engineering and Technology (STEM) subjects. Women's leadership in peacebuilding and reconciliation efforts has been instrumental in healing Rwanda's wounds from the 1994 genocide against Tutsi, fostering unity and social cohesion. Additionally, women's accomplishments in the military, law enforcement, diplomacy, and the arts showcase Rwanda's commitment to gender equality and diversity, inspiring future generations and contributing to the nation's socio-economic development. In conclusion, Rwanda's women have made remarkable strides across various sectors, contributing significantly to the nation's socio-economic development and global recognition. Their achievements underscore Rwanda's commitment to gender equality, diversity, and inclusive growth, serving as a beacon of inspiration for other nations striving for progress and empowerment. To further advance women's empowerment and gender equality in Rwanda, it is imperative to continue investing in initiatives that promote women's participation in leadership roles, entrepreneurship, and STEM education. Strengthening mentorship programs, providing access to financing, and implementing policies that address cultural barriers will be essential in creating a more inclusive and equitable society.

Keywords: Rwanda, women empowerment, gender equality, socio-economic development, inclusive growth

INTRODUCTION

The 1994 genocide against the Tutsi in Rwanda resulted in the catastrophic loss of approximately more than one million 1,000,000 lives and left the country in a state of disarray (Des Forges, 1999). In the aftermath, Rwanda has pursued a path of significant socio-economic transformation, particularly emphasizing gender equality as a cornerstone of its development strategy (Powley, 2006). The Rwandan government has implemented robust policies to enhance women's representation across various sectors, including politics, law, economics, management, education, and business. Today, Rwanda boasts the highest proportion of women in parliament globally, with women holding over 60% of the seats (Inter-Parliamentary Union, 2021). This emphasis on gender parity has extended to the technology sector, where various initiatives aim to increase the participation of women, acknowledging that their inclusion is vital for comprehensive national development.

Rwanda's burgeoning tech industry is a testament to its broader Vision 2020 and Vision 2050 plans, which seek to transform the nation into a knowledge-based economy (Government of Rwanda, 2020). The establishment of tech hubs, innovation centers, and extensive digital infrastructure are indicative of this strategic focus. As part of this vision, the government, alongside non-governmental organizations and private sector stakeholders, has launched multiple programs targeting the inclusion of women in ICT (Information and Communication Technology) fields. For instance, initiatives like Girls in ICT Rwanda and the Rwanda Coding Academy are specifically designed to equip young women with the necessary skills to thrive in the digital age (NISR, 2021).

The impact of these initiatives is multi-faceted, influencing both social and economic dimensions of Rwandan society. Socially, the inclusion of women in tech challenges traditional gender norms, promotes gender equality, and serves as an inspiration for younger generations (Bauer et al., 2017). Economically, it contributes to job creation, enhances innovation, and fosters a more inclusive digital economy. Companies with higher gender diversity have been shown to perform better and be more innovative, which is crucial for Rwanda's ambition to become a regional tech hub (McKinsey & Company, 2020).

Despite these advancements, several challenges persist. Cultural norms and societal attitudes towards gender roles continue to pose significant barriers to the full participation of women in the tech industry (Uwamaliya et al., 2020). Additionally, women often face difficulties in accessing funding and resources necessary for entrepreneurship in tech. Addressing these challenges requires sustained efforts in policy implementation, increased investment in women-led tech initiatives, and ongoing promotion of STEM education for girls (World Bank, 2021).

The participation of women in the technology industry has become a focal point for many developing countries seeking to leverage human capital for economic growth and social development. In Rwanda, various initiatives have been introduced to increase women's involvement in the tech sector, aiming to bridge the gender gap and foster inclusive growth. These efforts are crucial in a country where the tech industry is seen as a key driver of the national economy and a means to achieve Vision 2050, which outlines Rwanda's long-term development goals (Republic of Rwanda, 2020).

Girls in ICT Rwanda is one such initiative that has made significant strides in encouraging young girls to pursue careers in information and communication technology (ICT). This initiative, supported by the Ministry of ICT and Innovation, offers training, mentorship, and various programs aimed at increasing digital literacy among girls. The impact of such programs is evident in the growing number of female students enrolling in ICT courses and pursuing tech careers (Ministry of ICT and Innovation, 2021). This shift not only enhances women's employment prospects but also contributes to a more diverse and innovative tech industry.

Another notable initiative is the KLab (Knowledge Lab), an open technology hub in Kigali that provides resources and support for tech entrepreneurs, including a significant number of women. KLab has been instrumental in fostering a culture of innovation and entrepreneurship among women, offering them the tools

and networks necessary to launch and grow their tech startups. By promoting female entrepreneurship in tech, KLab is helping to drive economic growth and create new job opportunities in the technology sector (Nduwayezu, 2019).

Programs like SheCanCODE and WeCode have also played a pivotal role in equipping women with coding and software development skills. These programs address the skills gap by providing comprehensive training and professional development opportunities. Women who participate in these programs are better positioned to compete in the global tech job market, thus enhancing their economic empowerment and contributing to household income stability (Mutangana, 2022). Such initiatives are vital for building a skilled workforce that can meet the demands of a rapidly evolving digital economy.

Moreover, the Digital Ambassadors Program (DAP) under the Smart Africa initiative has furthered digital literacy in Rwanda by training young Rwandans, including a significant number of women, to promote ICT skills in their communities. This program not only enhances digital literacy but also ensures that women in rural and underserved areas can access and benefit from digital technologies. The social and economic inclusion brought about by DAP contributes to broader development goals by empowering women to participate in and contribute to the digital economy (Smart Africa, 2021).

LITERATURE REVIEW

Post-Genocide Recovery and Gender Equality

Post-Genocide Recovery in Rwanda
The 1994 genocide against the Tutsi left Rwanda in a state of economic ruin and social disarray, necessitating a comprehensive recovery strategy. Initially, efforts focused on rebuilding infrastructure and addressing the immediate humanitarian needs of the population. Over the years, Rwanda has implemented various socio-economic reforms aimed at fostering national unity and economic development (Ansoms & Rostagno, 2012). The government's Vision 2020 and subsequent Vision 2050 plans have played a pivotal role in driving economic growth and reducing poverty. Rwanda's economic growth rate has been consistently high, averaging 7-8% annually over the past two decades, and the country has made significant strides in improving healthcare, education, and infrastructure (World Bank, 2020).

Following the 1994 genocide against the Tutsi, Rwanda embarked on an ambitious path to recovery, emphasizing political stability, economic development, and national unity. The new government, led by the Rwandan Patriotic Front (RPF), established frameworks to restore order and rebuild institutions. Key policies included the decentralization of governance and the promotion of good governance practices to foster transparency and accountability (Ansoms & Rostagno, 2020). Efforts to rebuild the state were complemented by justice initiatives like the Gacaca courts, aimed at addressing the genocide's aftermath while promoting reconciliation (Clark, 2010).

The post-genocide recovery in Rwanda is a multifaceted process encompassing social, economic, and political dimensions. Following the 1994 genocide against the Tutsi, Rwanda has undertaken substantial efforts to rebuild its society and economy. Key to this recovery has been the establishment of a stable and inclusive government, led by the Rwandan Patriotic Front (RPF). The government implemented a series of policies aimed at fostering national unity, promoting reconciliation, and driving economic development (Ansoms & Rostagno, 2020). These efforts have been widely recognized as pivotal in transforming Rwanda into one of Africa's fastest-growing economies and a model for post-conflict reconstruction.

One significant aspect of Rwanda's post-genocide recovery has been its focus on justice and reconciliation. The Gacaca court system, a community-based justice mechanism, was introduced to deal with the massive number of genocide-related cases. This system aimed to deliver justice while fostering reconciliation among Rwandans. Research indicates that while the Gacaca courts had limitations, such as issues of fairness and

consistency, they played a crucial role in addressing the genocide's immediate aftermath and contributed to the broader process of societal healing (Clark, 2019). The process of reconciliation has been further supported by various government and non-governmental programs focused on trauma healing and community rebuilding.

Economic reconstruction has also been central to Rwanda's recovery strategy. The government has prioritized sectors such as agriculture, infrastructure, and information and communication technology (ICT) to stimulate economic growth. Initiatives like Vision 2020 and Vision 2050 outline Rwanda's ambitions to transition from an agrarian-based economy to a knowledge-based economy. Studies have shown that these initiatives have led to significant improvements in GDP growth, poverty reduction, and overall economic stability (World Bank, 2021). The emphasis on ICT, in particular, has positioned Rwanda as a burgeoning tech hub in Africa, attracting foreign investment and fostering innovation.

Another critical area of Rwanda's post-genocide recovery has been the empowerment of women. Recognizing the vital role women play in rebuilding society, the Rwandan government has implemented policies to promote gender equality and women's participation in all sectors. Rwanda boasts the highest percentage of women in parliament globally, a testament to these efforts. Research highlights that women's involvement in governance and economic activities has been instrumental in driving inclusive growth and stability (Burnet, 2020). These gender-focused policies have not only advanced social justice but have also contributed to the nation's overall development.

The role of international aid and cooperation has been another significant factor in Rwanda's recovery. International donors and organizations have provided substantial financial and technical assistance to support various reconstruction and development programs. However, Rwanda's government has been keen on ensuring that aid aligns with its national priorities and fosters self-reliance. Studies suggest that this strategic use of aid has been effective in promoting sustainable development and reducing dependency (Hayman, 2018). The emphasis on accountability and good governance has further enhanced the impact of international support on Rwanda's recovery journey.

Gender Equality as a Pillar of Recovery
Rwanda's strides in gender equality are most visible in its political arena. The 2003 Constitution established a mandatory quota of at least 30% female representation in decision-making bodies, resulting in Rwanda having the highest proportion of women in parliament globally (Inter-Parliamentary Union, 2021). Studies indicate that this political inclusion has not only empowered women but has also led to more inclusive and comprehensive policy-making (Burnet, 2011). Women's leadership in Rwanda has been associated with increased attention to social issues, including education, health, and child welfare, demonstrating the broad impacts of gender-balanced governance (Debusscher & Ansoms, 2013).

Gender equality has been a central component of Rwanda's post-genocide recovery strategy. The Rwandan Patriotic Front (RPF), the ruling political party, recognized early on that inclusive governance was crucial for sustainable peace and development. As a result, the government implemented policies to promote women's participation in political, economic, and social spheres (Burnet, 2008). The constitution, adopted in 2003, enshrined gender equality, mandating that women must hold at least 30% of decision-making positions. This legal framework has facilitated a significant increase in women's representation in government and other sectors.

Gender equality has been a cornerstone of Rwanda's recovery efforts, with significant strides made towards empowering women in various sectors. The government's commitment is evidenced by the high representation of women in parliament and other leadership positions. Policies and programs aimed at women's economic empowerment, such as access to finance and entrepreneurship support, have contributed to narrowing gender disparities (Burnet, 2012). The inclusion of women in peacebuilding and development processes has not only

promoted gender equality but also enhanced social cohesion and community resilience (Debusscher & Ansoms, 2013).

Women's Political Participation

Gender equality in economic participation has been another cornerstone of Rwanda's recovery. The government has implemented various programs to support women's entrepreneurship and employment. Initiatives such as the Women's Opportunity Center and access to microfinance have empowered women economically, contributing to poverty reduction and economic growth (Blumberg, 2015). Research by Newbury and Baldwin (2020) highlights that women's economic empowerment in Rwanda has led to improved household incomes and economic stability, further driving the nation's development agenda.

Rwanda's commitment to gender equality is most evident in its political sphere. Women currently occupy 61% of the seats in the Rwandan parliament, the highest percentage in the world (Inter-Parliamentary Union, 2021). This remarkable representation is attributed to both legal mandates and societal shifts towards recognizing the importance of women's roles in governance. Studies suggest that the inclusion of women in politics has led to more comprehensive and inclusive policy-making, particularly in areas such as healthcare, education, and social welfare (Devlin & Elgie, 2008). Women's political participation has also served as a model for other sectors, promoting broader gender equality across society.

Women's political participation has been extensively studied as a critical component of democratic governance and social equity. Research indicates that the inclusion of women in political processes leads to more representative and effective governance. Krook and Norris (2020) argue that women bring different perspectives and priorities to the political arena, often advocating for policies that address social welfare, education, and healthcare, which may be underrepresented in male-dominated settings. Additionally, female political leaders tend to promote gender equality and work to dismantle systemic barriers that hinder women's rights (Krook & Norris, 2020).

The implementation of gender quotas is a widely recognized strategy for enhancing women's political representation. Quotas have been adopted in various forms, such as reserved seats, candidate quotas, and voluntary party quotas. Studies show that gender quotas significantly increase the number of women in legislative bodies. For instance, Rwanda's adoption of gender quotas has resulted in women holding over 60% of parliamentary seats, making it a global leader in gender parity (Inter-Parliamentary Union, 2021). Dahlerup (2018) notes that quotas are an effective mechanism to overcome structural barriers and ensure women's presence in politics, though their success depends on the political will and enforcement mechanisms.

Cultural norms and societal attitudes toward gender roles play a significant role in shaping women's political participation. In many contexts, traditional views on gender roles can limit women's opportunities to engage in politics. Paxton and Hughes (2016) highlight that in patriarchal societies, women often face resistance when they seek political office, stemming from deeply ingrained beliefs about women's roles in the public and private spheres. Addressing these cultural barriers requires comprehensive strategies, including public awareness campaigns and educational programs that promote gender equality and challenge stereotypes.

The role of political parties is crucial in facilitating or hindering women's political participation. Parties act as gatekeepers to political office, and their candidate selection processes can significantly impact the number of women elected. Kittilson (2011) emphasizes that parties committed to gender equality are more likely to field female candidates and support their campaigns. Moreover, internal party policies and practices, such as mentoring programs and financial support for female candidates, are essential for promoting women's political participation. The comparative study by Kittilson (2011) illustrates that left-leaning parties tend to be more supportive of women's political engagement than their right-leaning counterparts.

International organizations and transnational networks also play a pivotal role in promoting women's political participation. Entities like the United Nations and the Inter-Parliamentary Union provide platforms for sharing

best practices, offer technical assistance, and advocate for policies that support gender equality in politics. True and Mintrom (2001) discuss how international norms and agreements, such as the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), have influenced national policies and created pressure for states to enhance women's political representation. These organizations help to create a global environment that supports and encourages women's active involvement in political processes.

Economic Empowerment of Women

Economic empowerment has been another critical aspect of Rwanda's gender equality initiatives. Programs aimed at enhancing women's economic status have included access to microfinance, vocational training, and support for women entrepreneurs (Newbury & Baldwin, 2000). The government has also promoted gender-responsive budgeting to ensure that economic policies address the needs of both men and women. As a result, women's participation in the labor force has increased significantly, contributing to economic growth and poverty reduction. Furthermore, women's economic empowerment has been linked to broader societal benefits, including improved health and education outcomes for families (Hunt, Samman, & Mansour-Ille, 2018).

Access to education and vocational training is foundational to the economic empowerment of women. Studies show that educational attainment significantly influences women's ability to participate in the labor market and secure higher-paying jobs (OECD, 2017). For instance, Psaki, McCarthy, and Mensch (2018) highlight that educational programs targeting girls have led to improved literacy rates and better job prospects in many developing countries. Vocational training programs tailored to market needs are equally important, as they equip women with practical skills that enhance their employability and ability to start businesses (International Labour Organization, 2019).

Employment is a critical avenue for economic empowerment, yet women often face barriers to equal participation in the labor market. Gender discrimination, occupational segregation, and work-life balance challenges limit women's employment opportunities (Kabeer, 2016). The Global Gender Gap Report 2020 by the World Economic Forum reveals that the economic participation and opportunity gap remains significant, with women earning only 63% of what men earn (World Economic Forum, 2020). Initiatives such as flexible work arrangements, maternity leave policies, and anti-discrimination laws are essential in promoting gender equality in employment (UN Women, 2020).

Economic recovery has been a critical component of Rwanda's post-genocide strategy. The government implemented extensive reforms to stabilize the economy, attract foreign investment, and promote sustainable development. Initiatives such as Vision 2020 outlined ambitious goals for transforming Rwanda into a middle-income country by enhancing human capital, infrastructure, and private sector growth (Government of Rwanda, 2020). Notably, Rwanda's economic policies have focused on sectors such as agriculture, tourism, and information and communication technology (ICT), fostering diversification and resilience (World Bank, 2021).

Education has played a crucial role in advancing gender equality in Rwanda. The government's commitment to universal primary education has resulted in near gender parity in primary school enrollment (UNESCO, 2021). Furthermore, targeted programs to encourage girls' participation in STEM (Science, Technology, Engineering, and Mathematics) fields have been implemented to address gender disparities in higher education and technical fields (Williams, 2017). These educational advancements have equipped women with the skills necessary to participate effectively in Rwanda's growing economy and tech industry.

Entrepreneurship offers a path to economic empowerment by allowing women to create their own income-generating opportunities. Research indicates that women entrepreneurs contribute significantly to economic growth and innovation (Terjesen, Bosma, & Stam, 2016). However, women often face obstacles such as limited access to capital, networking opportunities, and market information (Brush, de Bruin, & Welter,

2019). Programs that provide mentorship, financial support, and business training have been successful in fostering female entrepreneurship (Elam et al., 2021). For example, the Goldman Sachs 10,000 Women initiative has provided business education to women entrepreneurs worldwide, enhancing their business skills and financial acumen (Goldman Sachs, 2021).

Financial inclusion is a key driver of women's economic empowerment, as it enables women to save, borrow, and invest money. Despite progress, a gender gap in financial inclusion persists, with women less likely than men to have access to financial services (Demirgüç-Kunt et al., 2018). Digital financial services, such as mobile banking, have emerged as effective tools for increasing women's financial inclusion, particularly in developing countries (Suri & Jack, 2016). Policy efforts to improve financial literacy and provide tailored financial products for women are crucial in closing the financial inclusion gap (Global Partnership for Financial Inclusion, 2020).

Government and institutional policies play a vital role in promoting the economic empowerment of women. Policies that address gender disparities in education, labor markets, and access to resources are essential for creating an enabling environment for women's economic participation (Chopra & Zambelli, 2017). The implementation of gender-responsive budgeting and affirmative action policies has been effective in some contexts, ensuring that women benefit equitably from economic growth (Budlender, 2015). International frameworks, such as the Sustainable Development Goals (SDGs), emphasize the importance of gender equality and women's economic empowerment as key to achieving broader development objectives (United Nations, 2015).

Social Rebuilding and Education

Rebuilding the social fabric of Rwanda involved addressing the profound trauma and societal disruptions caused by the genocide against the Tutsi. Education has been pivotal in this process, with reforms aimed at increasing access, quality, and inclusiveness. The introduction of free primary education and investments in secondary and tertiary education have significantly improved literacy rates and educational attainment (Williams, 2021). Additionally, the curriculum has been reformed to include genocide education, promoting awareness and fostering a culture of peace among younger generations (Freedman et al., 2008).

The promotion of gender equality has also led to significant social and cultural changes in Rwanda. Traditional gender roles are being challenged, and there is a growing acceptance of women in leadership and professional roles (Debusscher & Ansoms, 2013). The media and civil society organizations have played a vital role in reshaping societal attitudes towards gender equality. According to Hogg (2010), the visibility of successful women in various sectors serves as a powerful tool for changing perceptions and inspiring the younger generation to pursue their ambitions.

The aftermath of the 1994 genocide against the Tutsi in Rwanda necessitated profound efforts in social rebuilding and education reform. A substantial body of literature underscores the pivotal role education plays in post-conflict recovery. Education is not only crucial for individual development but also serves as a foundation for societal cohesion and economic growth. According to Sommers (2012), rebuilding the education sector was central to Rwanda's national healing process, aimed at fostering unity and reconciliation. The Rwandan government's strategic emphasis on education reform has sought to eliminate ethnic divisions by promoting a unified national identity through a revised curriculum that emphasizes peace and reconciliation (Freedman *et al.,* 2008).

The introduction of the "One Laptop per Child" (OLPC) initiative in Rwanda is a notable example of leveraging education to rebuild society. This program aimed to bridge the digital divide and foster a culture of innovation and learning among young Rwandans (Warschauer & Ames, 2010). By providing children with access to technology, the OLPC initiative not only enhanced educational outcomes but also equipped students with essential skills for participating in a globalized economy. Studies indicate that such initiatives have had a

positive impact on student engagement and learning, though challenges related to infrastructure and teacher training remain (Ndagijimana, 2018).

Higher education institutions in Rwanda have also played a critical role in social rebuilding. The establishment of the University of Rwanda in 2013, through the merger of several public institutions, was aimed at improving the quality of higher education and making it more responsive to national development needs (MINEDUC, 2013). Higher education reforms have focused on expanding access, particularly for marginalized groups, and aligning curricula with the country's economic priorities. Research by Tushabe (2015) highlights the significant progress made in increasing enrollment rates and enhancing research capacity, contributing to Rwanda's development goals.

Furthermore, non-formal education programs have been instrumental in addressing the psychosocial needs of genocide survivors and fostering social cohesion. These programs often include components of trauma healing, civic education, and vocational training, which are crucial for community rebuilding and economic empowerment (Staub et al., 2005). For instance, the Aegis Trust's Peace Education Program has been effective in promoting reconciliation and preventing future violence by educating young people about the genocide and the importance of human rights and social justice (Aegis Trust, 2020).

Despite these advancements, challenges persist in fully realizing the potential of education as a tool for social rebuilding in Rwanda. Issues such as inadequate funding, disparities in access between urban and rural areas, and the need for continuous teacher training and curriculum development are highlighted in the literature (Williams, 2017). Addressing these challenges is essential for sustaining the gains made and ensuring that education continues to contribute to Rwanda's ongoing process of national reconciliation and development.

Challenges and Ongoing Efforts

Despite these achievements, challenges remain in fully realizing gender equality in Rwanda. Deep-seated cultural norms and gender stereotypes continue to pose obstacles to women's full participation in economic and social life (Debusscher & Ansoms, 2013). Additionally, women in rural areas and those from lower socio-economic backgrounds often face greater barriers to accessing opportunities. To address these issues, ongoing efforts focus on education, advocacy, and community engagement to shift societal attitudes and ensure that the benefits of gender equality are widely shared. Programs aimed at supporting women's leadership and entrepreneurship are also being expanded to reach more women across the country (Bauer et al., 2017).

Despite the significant progress, the Rwandan tech industry faces several challenges that need to be addressed to sustain its growth. These include the need for continuous investment in ICT infrastructure, addressing the digital skills gap, and overcoming socio-cultural barriers that limit the participation of women in tech (Uwamaliya et al., 2020). Furthermore, ensuring data privacy and cybersecurity remains a critical concern as the tech industry expands. Addressing these challenges requires a multi-stakeholder approach involving the government, private sector, and civil society. Looking forward, the continued commitment to innovation and inclusive growth will be essential for the tech industry to achieve its full potential in contributing to Rwanda's socio-economic development.

Despite substantial progress, Rwanda continues to face challenges in its recovery journey. Issues such as poverty, unemployment, and regional instability remain pressing concerns (Reyntjens, 2016). Addressing these challenges requires sustained efforts and adaptive policies to ensure inclusive and sustainable development. Continued investment in education, economic diversification, and social inclusion will be crucial for Rwanda's long-term stability and prosperity (Ansoms & Rostagno, 2020).

Despite these achievements, challenges remain in fully realizing gender equality in Rwanda. Persistent cultural norms and gender-based violence continue to impede progress (Slegh & Kimonyo, 2010). Additionally, women often face barriers in accessing higher-level economic opportunities and resources necessary for entrepreneurship (Uwamaliya et al., 2020). Addressing these challenges requires sustained

efforts, including stricter enforcement of gender equality laws, continued promotion of girls' education, and broader societal engagement to change deep-rooted cultural attitudes.

The Tech Industry in Rwanda

The Growth of Rwanda's Tech Sector

The Rwandan tech industry has witnessed remarkable growth over the past two decades, driven by strategic government policies and significant investments in ICT infrastructure. The implementation of the National Information and Communication Infrastructure (NICI) plans and the Smart Rwanda Master Plan has played a pivotal role in this development (Government of Rwanda, 2020). These policies aim to transform Rwanda into a knowledge-based economy by promoting ICT as a key driver of socio-economic development. The establishment of the Kigali Innovation City and other tech hubs has further cemented Rwanda's position as a burgeoning tech hub in East Africa (Ndemo & Weiss, 2017).

Rwanda's tech industry has experienced significant growth over the past decade, driven by a combination of government initiatives, private sector investment, and international partnerships. The government's Vision 2020 and Vision 2050 plans have been pivotal in setting the framework for this development, emphasizing the creation of a knowledge-based economy (Government of Rwanda, 2020). The establishment of Kigali Innovation City, a technology hub intended to attract global technology companies and foster local innovation, exemplifies the country's commitment to becoming a regional tech leader (World Bank, 2019). These initiatives have laid the groundwork for a robust tech ecosystem that supports startups and promotes technological advancement.

Government Initiatives and Policy Frameworks

Rwanda's government has been instrumental in fostering the growth of the tech sector through various initiatives and regulatory frameworks. Vision 2020, later extended to Vision 2050, outlines the country's long-term development goals, emphasizing ICT as a critical sector (Government of Rwanda, 2020). Additionally, the Smart Rwanda Master Plan aims to harness the power of ICT to improve public service delivery, boost economic growth, and enhance the quality of life for citizens (UNCTAD, 2018). These frameworks have created a conducive environment for tech innovation and entrepreneurship, attracting both local and international investments.

The Rwandan government's strategic initiatives have been central to the development of the tech sector. The National Information and Communication Infrastructure (NICI) plans have provided a comprehensive roadmap for ICT development, focusing on areas such as infrastructure, education, and e-governance (Kenny, 2019). The Smart Rwanda Master Plan further outlines strategies to enhance digital literacy, promote ICT in education, and develop a vibrant ICT industry (Ministry of ICT and Innovation, 2015). These policies are designed to ensure that ICT becomes an integral part of Rwanda's socio-economic development, thereby positioning the country as a technology-driven economy.

Private Sector Contributions and Innovation

The private sector has also played a crucial role in the development of Rwanda's tech industry. Companies such as Mara Group and Andela have established significant operations in Rwanda, focusing on building tech talent and fostering innovation (Andela, 2021). Mara Group, for instance, launched the first African-made smartphone, highlighting the potential for high-tech manufacturing in Rwanda (Mara Group, 2020). Similarly, Andela's training programs have been pivotal in developing skilled software engineers who contribute to the global tech ecosystem. These private sector contributions have not only spurred economic growth but also positioned Rwanda as a competitive player in the global tech landscape.

Education and capacity-building programs have been crucial in developing the necessary skills for the tech industry. Institutions like the Rwanda Coding Academy and the African Institute for Mathematical Sciences (AIMS) provide specialized training in ICT and related fields (NISR, 2021). These programs aim to bridge the

skills gap and produce a workforce capable of driving technological innovation. Additionally, initiatives such as Girls in ICT Rwanda focus on increasing female participation in tech, reflecting the broader national agenda of gender equality and empowerment (Girls in ICT Rwanda, 2021). These educational efforts are essential for sustaining the growth of the tech industry and ensuring inclusivity.

Impact of Tech on Socio-Economic Development

The growth of the tech industry in Rwanda has had profound socio-economic impacts. It has created numerous job opportunities, particularly for the youth, and has been a significant factor in reducing unemployment rates (World Bank, 2020). Moreover, the tech sector has facilitated improvements in education, healthcare, and financial services through the adoption of innovative solutions (Davis et al., 2018). For instance, mobile banking and e-health services have increased accessibility and efficiency, contributing to overall social welfare. The integration of ICT in various sectors underscores the transformative potential of the tech industry in driving sustainable development in Rwanda.

The private sector and international collaborations have played a significant role in the expansion of Rwanda's tech industry. Companies like MTN Rwanda and Mara Group are key players in the telecom and technology sectors, contributing to infrastructure development and digital services (Mara Group, 2022). Furthermore, partnerships with international organizations such as the World Bank and the African Development Bank have provided funding and technical support for various ICT projects (World Bank, 2021). These collaborations have facilitated the transfer of knowledge, technology, and best practices, enhancing the overall capacity of the tech industry in Rwanda.

Initiatives for Increasing Women's Participation in Tech

The global push towards increasing women's participation in the technology sector is reflected in numerous studies and reports highlighting the benefits of gender diversity in tech. Gender diversity in the tech industry leads to increased creativity, better decision-making, and improved financial performance for companies (Hunt et al., 2020). However, despite these benefits, women remain underrepresented in tech, especially in leadership roles. Initiatives aimed at increasing women's participation in tech have been essential in addressing these disparities and fostering an inclusive tech environment.

One significant initiative is the Girls in ICT Rwanda program, which focuses on encouraging young girls to pursue education and careers in ICT. According to a report by the Ministry of ICT and Innovation (2021), this program has significantly increased the number of female students enrolling in ICT courses at both secondary and tertiary levels. The report highlights that mentorship and role models play a crucial role in inspiring young girls to pursue tech careers. This finding aligns with broader research that emphasizes the importance of female role models in breaking down gender stereotypes in STEM fields (Cheryan et al., 2017).

KLab (Knowledge Lab) in Kigali is another pivotal initiative that supports tech entrepreneurship among women. KLab provides a collaborative space where female tech entrepreneurs can access resources, mentorship, and networking opportunities. A study by Nduwayezu (2019) found that women participating in KLab's programs were more likely to start their own tech ventures and secure funding compared to their counterparts without such support. The success of KLab underscores the importance of providing targeted support to female entrepreneurs to foster innovation and economic growth.

In addition to entrepreneurship support, coding academies like SheCanCODE and WeCode have made significant contributions to increasing women's tech skills. These programs offer intensive training in software development, which is crucial for equipping women with the skills needed in the modern tech job market. Research by Mutangana (2022) indicates that graduates of these programs have higher employment rates and better job satisfaction. The study suggests that skill development programs tailored for women not only enhance their employability but also contribute to a more gender-diverse tech workforce.

The Digital Ambassadors Program (DAP) under the Smart Africa initiative further highlights the impact of digital literacy programs on women's participation in tech. By training young Rwandans, including a significant number of women, to promote ICT skills in their communities, DAP addresses the digital divide and ensures inclusive access to digital technologies (Smart Africa, 2021). This initiative has been effective in increasing digital literacy among women in rural areas, thereby promoting social and economic inclusion. The program's success demonstrates the critical role of community-based initiatives in empowering women and integrating them into the digital economy.

Government Policies and Programs

1. **Girls in ICT Rwanda**: Launched in 2011, this initiative encourages young women to pursue careers in ICT through mentorship, workshops, and competitions.

Since its inception in 2011, Girls in ICT Rwanda has been at the forefront of efforts to promote gender equality and women's empowerment in the field of Information and Communication Technology (ICT). The initiative has garnered attention for its comprehensive approach, which includes mentorship, workshops, and competitions aimed at encouraging young women to pursue careers in ICT. Studies have shown that such targeted interventions play a crucial role in addressing the gender gap in STEM fields by providing support and guidance to aspiring female technologists (Ceci & Williams, 2011).

Mentorship programs are a cornerstone of Girls in ICT Rwanda, offering young women valuable guidance and support from experienced professionals in the tech industry. Research suggests that mentorship can significantly impact career development by providing access to networks, role models, and opportunities for skill development (Eby et al., 2008). By pairing young women with mentors who have succeeded in ICT careers, Girls in ICT Rwanda aims to inspire confidence and ambition in the next generation of female technologists (Fagenson-Eland et al., 2006).

In addition to mentorship, Girls in ICT Rwanda organizes workshops and training sessions to equip young women with the technical skills and knowledge needed to thrive in ICT careers. These workshops cover a range of topics, from coding and programming to cybersecurity and digital literacy. Research has shown that hands-on learning experiences are effective in boosting confidence and interest in STEM subjects among women and girls (Blickenstaff, 2005). By providing access to such educational opportunities, Girls in ICT Rwanda seeks to break down barriers to entry and create a more inclusive tech industry (Archer *et al.,* 2010).

Competitions and hackathons are another key component of Girls in ICT Rwanda's strategy to encourage young women to pursue careers in ICT. These events provide participants with the opportunity to showcase their skills, collaborate with peers, and gain recognition for their achievements. Research suggests that participation in competitions can increase motivation and engagement in STEM subjects, particularly among underrepresented groups like women and girls (Flanagan & Caren, 2011). By organizing competitions that specifically target young women, Girls in ICT Rwanda aims to foster a sense of belonging and empowerment in the male-dominated tech industry (Hewlett et al., 2008).

In conclusion, Girls in ICT Rwanda has emerged as a leading force in the promotion of gender equality and women's empowerment in the ICT sector. Through its mentorship programs, workshops, and competitions, the initiative has succeeded in inspiring young women to pursue careers in technology and equipping them with the skills and confidence needed to succeed. However, further research is needed to assess the long-term impact of Girls in ICT Rwanda and identify strategies for scaling up its success to reach more young women across Rwanda and beyond.

2. **Rwanda Coding Academy**: Established in 2019, it aims to develop high-level ICT skills among young Rwandans, with a focus on gender parity in student intake.

The Rwanda Coding Academy (RCA), established in 2019, represents a significant initiative in the country's efforts to develop high-level ICT skills among its youth population. With a specific focus on gender parity in student intake, RCA has emerged as a flagship institution in Rwanda's broader strategy to position itself as a regional tech hub (Rwanda Development Board, 2019). This section reviews the existing literature on the Rwanda Coding Academy, examining its objectives, curriculum, impact, and challenges.

The establishment of RCA reflects Rwanda's recognition of the pivotal role that technology plays in driving economic growth and fostering innovation (Ngabonziza & Tuyishime, 2020). By providing specialized training in coding and ICT skills, RCA aims to equip young Rwandans with the competencies needed to thrive in the digital economy. The academy offers a rigorous curriculum that combines theoretical knowledge with practical hands-on experience, preparing students for careers in software development, data science, and other tech-related fields (Rwanda Coding Academy, 2021).

A key feature of RCA is its commitment to gender parity in student intake, a recognition of the importance of inclusivity in driving sustainable development (Rwanda Gender Monitoring Office, 2021). Efforts to promote gender equality in STEM education have been shown to enhance innovation and contribute to economic growth (UNESCO, 2017). By actively recruiting and supporting female students, RCA seeks to address gender disparities in the tech industry and create a more diverse and inclusive workforce (Nyirabukeye et al., 2022).

The impact of RCA extends beyond individual students to encompass broader socio-economic outcomes. Graduates of the academy are well-positioned to contribute to Rwanda's growing tech sector, fueling entrepreneurship, job creation, and innovation (Rwanda ICT Chamber, 2020). Moreover, by prioritizing gender parity, RCA is helping to break down barriers to women's participation in STEM fields, thereby promoting gender equality and empowering women economically (Kamanzi et al., 2021).

Despite its achievements, RCA faces several challenges that warrant attention. These include ensuring the sustainability of its funding model, maintaining the quality and relevance of its curriculum in a rapidly evolving tech landscape, and addressing systemic barriers to women's participation in STEM education and careers (Murenzi, 2021). By addressing these challenges, RCA can continue to play a pivotal role in advancing Rwanda's digital transformation agenda and promoting inclusive growth and development.

In conclusion, the Rwanda Coding Academy represents a commendable effort to develop high-level ICT skills among young Rwandans while promoting gender parity in STEM education. By providing specialized training, fostering innovation, and empowering women, RCA is contributing to Rwanda's emergence as a regional tech hub and driving socio-economic development in the country.

3. **The Smart Rwanda Master Plan**: This plan includes specific measures to increase female participation in ICT through training and capacity-building programs.

The Smart Rwanda Master Plan represents a comprehensive strategy aimed at leveraging Information and Communication Technology (ICT) to drive socio-economic development in Rwanda (Government of Rwanda, 2019). Central to this plan is the recognition of the importance of gender parity in ICT education and employment, with specific measures implemented to increase female participation in the sector. This section reviews existing literature on the Smart Rwanda Master Plan, focusing on its initiatives to promote gender equality and enhance women's representation in ICT through training and capacity-building programs.

The Smart Rwanda Master Plan underscores the crucial role of education in preparing individuals, particularly women, for meaningful participation in the digital economy. By prioritizing ICT education and training programs, the plan seeks to equip women with the skills and knowledge necessary to thrive in a technology-driven world (Munyegera et al., 2020). These initiatives encompass various educational levels, from primary

and secondary schools to tertiary institutions and vocational training centers, ensuring a holistic approach to capacity building.

One of the key components of the Smart Rwanda Master Plan is its emphasis on gender parity in student intake within ICT-related fields. By actively promoting equal opportunities for both men and women in ICT education, the plan aims to address gender disparities and foster a more inclusive tech ecosystem (Habyarimana & Asiimwe, 2018). This focus on gender balance not only enhances women's access to ICT education but also creates a supportive environment conducive to their long-term success in the field.

In addition to increasing female participation in ICT education, the Smart Rwanda Master Plan recognizes the importance of creating supportive frameworks and conducive environments for women in the tech industry. This includes initiatives such as mentorship programs, networking opportunities, and targeted support for women-led startups (Women in Tech Rwanda, 2021). By providing women with the necessary support and resources, these efforts aim to overcome systemic barriers and empower women to excel in ICT-related careers.

Despite the progress made under the Smart Rwanda Master Plan, challenges remain in achieving full gender parity in the ICT sector. Cultural norms, societal expectations, and structural inequalities continue to pose obstacles to women's participation and advancement in technology-related fields (Karekezi & Rwendeire, 2019). Addressing these challenges requires a multi-faceted approach that combines policy interventions, institutional reforms, and community engagement to create an inclusive and equitable tech ecosystem.

In conclusion, the Smart Rwanda Master Plan represents a significant step towards promoting gender equality and enhancing women's participation in ICT in Rwanda. Through targeted training and capacity-building programs, along with a focus on gender parity in student intake, the plan aims to create opportunities for women to thrive in the digital economy. However, sustained efforts are needed to overcome remaining challenges and ensure that women have equal access to and representation in the ICT sector.

Non-Governmental Organizations and Private Sector Efforts

1. **SheCanCODE**: An NGO that provides coding classes and tech boot camps for women and girls. SheCanCODE is a non-governmental organization (NGO) dedicated to providing coding classes and tech boot camps specifically designed for women and girls in Rwanda. Founded in [insert founding year], SheCanCODE aims to address the gender gap in the tech industry by equipping women with the skills and knowledge needed to thrive in tech-related fields. This literature review examines the existing research and literature surrounding the SheCanCODE initiative, highlighting its significance in promoting gender diversity and inclusion in the tech sector.

SheCanCODE plays a crucial role in addressing the gender disparity in tech education by providing specialized coding classes and boot camps tailored to the needs and interests of women and girls. Research indicates that women are often underrepresented in STEM (Science, Technology, Engineering, and Mathematics) fields due to various socio-cultural factors and lack of access to relevant educational opportunities (UNESCO, 2017). Initiatives like SheCanCODE are essential in breaking down these barriers and empowering women to pursue careers in technology.

The SheCanCODE initiative empowers women and girls by equipping them with valuable coding and tech skills that are in high demand in today's digital economy. Research has shown that women who participate in coding programs and tech boot camps experience increased confidence, self-efficacy, and career opportunities (Huebner et al., 2020). By providing hands-on learning experiences and mentorship opportunities, SheCanCODE helps women build the skills and networks necessary to succeed in the tech industry.

SheCanCODE creates a supportive community where women and girls can connect with like-minded individuals, share experiences, and access mentorship and support networks. Research has emphasized the

importance of community-building initiatives in promoting gender diversity and inclusion in male-dominated fields like technology (Cheryan et al., 2017). By fostering a sense of belonging and camaraderie, SheCanCODE encourages women to persist in their tech education and pursue career opportunities in the industry.

Through its advocacy efforts and collaboration with industry partners, SheCanCODE works to promote gender-inclusive policies and practices in the tech sector. Research has highlighted the importance of organizational diversity and inclusion initiatives in attracting and retaining women in STEM fields (Hill et al., 2010). By raising awareness about the importance of gender diversity and advocating for change within the tech industry, SheCanCODE contributes to creating a more inclusive and equitable environment for women in tech.

While SheCanCODE has made significant strides in promoting gender diversity and inclusion in the tech sector, ongoing research is needed to assess its impact and effectiveness. Longitudinal studies tracking the educational and career outcomes of SheCanCODE participants could provide valuable insights into the initiative's long-term effects on women's empowerment and economic advancement. Additionally, qualitative research exploring the experiences and perspectives of SheCanCODE participants could shed light on the factors that contribute to program success and inform future program development and implementation.

2. **Girl Effect Rwanda**: Focuses on using technology to empower adolescent girls through mobile platforms and digital media.

Girl Effect Rwanda is a pioneering initiative aimed at harnessing the power of technology to empower adolescent girls through mobile platforms and digital media. Founded on the principle that investing in girls can catalyze transformative change within communities and societies, this initiative seeks to address the unique challenges faced by adolescent girls in Rwanda and equip them with the skills and resources needed to thrive in the digital age.

Central to Girl Effect Rwanda's approach is the recognition of the profound impact that technology can have on girls' lives. In a rapidly digitizing world, access to information and digital tools is increasingly vital for socio-economic empowerment (Wodon et al., 2018). By leveraging mobile platforms and digital media, Girl Effect Rwanda provides girls with opportunities for learning, skill development, and connection, thereby expanding their horizons and enabling them to participate more fully in society.

Research indicates that initiatives like Girl Effect Rwanda play a crucial role in promoting girls' education and empowerment, particularly in low-resource settings (Burke et al., 2017). Through mobile-based educational content and interactive platforms, girls can access information on health, education, entrepreneurship, and other critical topics, empowering them to make informed decisions about their lives and futures.

Moreover, Girl Effect Rwanda's emphasis on digital media as a tool for social change aligns with broader trends in development communication and social marketing (Rice & Atkin, 2013). By using compelling narratives, engaging storytelling, and culturally relevant content, the initiative effectively communicates messages of empowerment, gender equality, and positive behavior change to its target audience of adolescent girls.

Despite its innovative approach and potential impact, Girl Effect Rwanda faces challenges in ensuring equitable access to technology and digital literacy skills among adolescent girls, particularly those from marginalized communities (Hosman & Janowski, 2019). Addressing these challenges requires a multi-faceted approach that involves partnerships with local communities, governments, and private sector stakeholders to bridge the digital divide and create an enabling environment for girls' empowerment through technology.

In conclusion, Girl Effect Rwanda represents a promising model for using technology to empower adolescent girls in Rwanda and beyond. By leveraging mobile platforms and digital media, the initiative addresses key

barriers to girls' education and empowerment, fostering positive social change and contributing to broader efforts to achieve gender equality and sustainable development.

3. **Private Sector Initiatives**: Companies like Mara Group and Andela have programs aimed at hiring and training women in tech roles.

Private sector initiatives play a crucial role in increasing women's participation in the tech industry, contributing to gender diversity and fostering inclusive work environments. Companies like Mara Group and Andela have implemented programs specifically aimed at hiring and training women in tech roles, recognizing the importance of gender-inclusive strategies in driving innovation and economic growth.

Mara Group, a pan-African conglomerate, has been at the forefront of promoting women's empowerment in the tech sector. Through its Mara Mentor program, the company provides mentorship opportunities for aspiring female technologists, offering guidance and support in navigating career pathways (Mara Group, 2022). Additionally, Mara Group has implemented targeted recruitment strategies to increase the representation of women in technical roles within the organization, demonstrating a commitment to fostering gender diversity at all levels of the company.

Similarly, Andela, a global technology company specializing in talent development, has launched initiatives to attract and retain women in tech roles. The company's Women in Tech program provides scholarships, training, and professional development opportunities for women pursuing careers in software engineering and related fields (Andela, 2023). By investing in the education and skill development of women in tech, Andela aims to create a more inclusive workforce and address the gender gap prevalent in the tech industry.

These private sector initiatives not only benefit individual women but also contribute to broader socio-economic development goals. By increasing women's participation in tech roles, companies like Mara Group and Andela are tapping into a diverse talent pool, driving innovation, and enhancing competitiveness in the global market (McKinsey & Company, 2020). Moreover, by providing women with opportunities for career advancement and leadership roles, these initiatives promote gender equality and empower women to become agents of change in their communities.

Despite the progress made by private sector initiatives, challenges persist in achieving gender parity in the tech industry. Women continue to face barriers such as unconscious bias, lack of access to networking opportunities, and limited representation in leadership positions (National Center for Women & Information Technology, 2021). Addressing these challenges requires a concerted effort from both public and private stakeholders, with a focus on promoting inclusive policies, fostering supportive work environments, and providing mentorship and professional development opportunities for women in tech.

In conclusion, private sector initiatives led by companies like Mara Group and Andela are instrumental in increasing women's participation in the tech industry. By implementing targeted recruitment strategies, providing mentorship and training programs, and promoting gender diversity within their organizations, these companies are driving positive change and contributing to the advancement of women in tech. However, continued efforts are needed to overcome existing barriers and create truly inclusive workplaces where women can thrive and succeed.

FINDINGS

Rwandan women have achieved remarkable milestones across various sectors, contributing significantly to the nation's socio-economic development and global recognition. One notable achievement is the high representation of women in politics, with Rwanda boasting the highest proportion of women in parliament globally. As of [2021], women hold over 60% of the seats in the Rwandan Parliament (Inter-Parliamentary

Union, 2021). This achievement reflects Rwanda's commitment to gender equality and women's empowerment, as well as the effectiveness of policies promoting women's political participation.

In addition to political leadership, Rwandan women have excelled in entrepreneurship and business. The country has witnessed a surge in women-led startups and enterprises, with women entrepreneurs playing a pivotal role in driving innovation and economic growth. Initiatives like the Rwanda Women Entrepreneurs' Chamber of Commerce have provided support and resources to women-owned businesses, facilitating their success and contributing to job creation and wealth generation (Rwanda Women Entrepreneurs' Chamber of Commerce, n.d.).

Furthermore, Rwandan women have made significant strides in the field of education. Gender parity in education has been a priority for the Rwandan government, resulting in increased enrollment and retention rates for girls in schools. Today, girls outnumber boys in secondary and tertiary education, with female students excelling in STEM (Science, Technology, Engineering, and Mathematics) subjects (National Institute of Statistics of Rwanda, 2021). This achievement not only empowers women with knowledge and skills but also enhances their prospects for employment and economic independence.

Rwandan women have also played crucial roles in peacebuilding and reconciliation efforts, contributing to the country's healing and recovery from the 1994 genocide against the Tutsi. Women's organizations and grassroots movements have been instrumental in fostering dialogue, promoting social cohesion, and advocating for justice and reconciliation. Their resilience and determination have been central to rebuilding trust and promoting unity among Rwandans, laying the foundation for a peaceful and prosperous future (United Nations Women, 2021).

Valentine Rugwabiza is a distinguished diplomat and leader with over 30 years of experience in development and security issues in Africa. She currently serves as the Special Representative of the Secretary-General for the Central African Republic and Head of the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA). Appointed to this position in February 2022, she succeeded Mankeur Ndiaye of Senegal. Before her current role, Rugwabiza held numerous significant positions. From 2016 to 2022, she was Rwanda's Permanent Representative to the United Nations and also served as the non-resident Ambassador to Colombia and Jamaica. Earlier, she was the Minister for East African Community Affairs and a Member of the East African Legislative Assembly from 2014 to 2016. Rugwabiza has also been the CEO of the Rwanda Development Board and a member of the Rwandan Cabinet from 2013 to 2014. Her international experience includes serving as Deputy Director-General of the World Trade Organization (WTO) in Geneva from 2005 to 2013.

Fanfan Rwanyindo Kayirangwa, the new Regional Director for Africa and Assistant Director-General of the International Labour Organization (ILO) since October 1, 2023, has brought her extensive experience and dedication to the promotion of decent work and social justice to her new role. As the former Minister of the Civil Service and Labor in Rwanda, Kayirangwa has been instrumental in shaping national employment and labor policies, demonstrating a commitment to advancing labor rights and opportunities. Her initiatives have included efforts to improve working conditions, enhance skills development, and promote gender equality in the workforce, aligning with the ILO's mission to foster social justice and decent work opportunities globally. Kayirangwa's leadership signifies a promising step towards advancing labor rights and employment opportunities across the African region (ILO, 2023).

Moreover, Rwandan women have demonstrated leadership and excellence in various professions, including the military, law enforcement, diplomacy, and the arts. Women serve as army officers, police officers, diplomats, and cultural ambassadors, representing Rwanda on the global stage and breaking barriers in traditionally male-dominated fields. Their achievements inspire future generations and showcase Rwanda's commitment to gender equality, diversity, and inclusion (United Nations Development Programme, 2021).

In Rwanda, notable women have risen to prominent positions across various sectors, contributing significantly to the country's development and international relations. One such figure is Jeanette Kagame, who serves as the First Lady of Rwanda. Beyond her role as the wife of President Paul Kagame, Jeanette Kagame is actively involved in social and humanitarian causes, advocating for women's empowerment, healthcare, and education initiatives. Her dedication to uplifting marginalized communities and promoting gender equality has made her a respected figure both domestically and internationally.

First Lady Jeannette Kagame has spearheaded numerous initiatives to increase women's participation in the tech industry and broader socio-economic sectors in Rwanda. One notable initiative is the African Girls Can Code Initiative (AGCCI), which aims to empower young girls to become proficient in coding and robotics, thus paving the way for careers in ICT and STEM fields. This program, supported by UN Women, includes intensive bootcamps where participants engage in hands-on activities and receive mentorship from industry leaders (UN Women, 2023).

Additionally, Mrs. Kagame has been a vocal advocate for women's inclusion in all areas of development, emphasizing the importance of women's health and their roles in biopharmaceutical research and manufacturing. She has highlighted the necessity of creating a collaborative environment that promotes inclusivity and the overall effectiveness of advancements in these fields (KT Press, 2022). Through her leadership in organizations such as Imbuto Foundation, she has also supported educational programs and initiatives that focus on the holistic development of women and youth, reinforcing the government's commitment to gender equality (Commonwealth, 2017). These efforts have contributed significantly to Rwanda being recognized as one of the top countries globally for gender equality.

As the President of the Rwandan Parliament, Donatile Mukabalisa plays a pivotal role in shaping the country's legislative agenda and ensuring that the voices of all citizens are heard. Her leadership and commitment to democratic governance have been instrumental in advancing Rwanda's political stability and socio-economic development. Under her stewardship, the Parliament has enacted laws and policies aimed at promoting inclusive growth, protecting human rights, and fostering accountability and transparency in governance. Donatile Mukabalisa, a prominent Rwandan leader and the Speaker of the Chamber of Deputies, has been instrumental in promoting women's participation in the tech industry in Rwanda. She has championed several initiatives aimed at fostering gender equality in the tech sector. These include advocating for policies that support women's education and professional development in STEM fields, and collaborating with organizations to create mentorship and networking opportunities for women in tech. Her efforts have contributed significantly to increasing the visibility and involvement of women in technology, thereby driving social and economic development in Rwanda by harnessing the potential of a diverse and inclusive workforce (New Times, 2024; PwC, 2021; RwandaTechNews, 2024).

Agnes Binagwaho, MD, M(Ped), PhD, is a prominent figure in global health and Rwanda's public health landscape. She currently serves as the Minister of Health in Rwanda and is a Senior Lecturer at the Department of Global Health and Social Medicine at Harvard Medical School. With extensive experience in pediatrics and public health, Binagwaho has significantly contributed to Rwanda's healthcare system, particularly in improving maternal and child health services. Her leadership has been instrumental in advancing health policy reforms, enhancing healthcare delivery, and increasing access to essential health services for underserved populations (Binagwaho, 2023; Harvard Medical School, 2023).

Louise Mushikiwabo, as the Secretary-General of the Organisation Internationale de la Francophonie (OIF), represents Rwanda on the global stage, advocating for Francophone countries' interests and promoting cultural and linguistic diversity. Her diplomatic acumen and strategic vision have elevated Rwanda's profile within the international community, strengthening its partnerships and fostering dialogue and cooperation across borders. Mushikiwabo's leadership exemplifies Rwanda's commitment to multilateralism and constructive engagement on global issues.

Rose Kanyange Kabuye is a prominent Rwandan politician and businesswoman known for her significant contributions to Rwanda's post-genocide recovery and development. She has held several key positions, including serving as the Mayor of Kigali and as a Member of Parliament. Kabuye has been instrumental in advocating for women's empowerment and gender equality in Rwanda, leveraging her roles to push for policies that support these causes. She has also been involved in various initiatives aimed at increasing women's participation in politics and business, thereby contributing to the socio-economic advancement of the country. Kabuye's efforts have been recognized both locally and internationally, underscoring her impact on Rwanda's progress (Kaitesi, 2019; New Times, 2020). Rose Kanyange Kabuye is a notable figure in Rwanda's history, being the first woman to attain the rank of Lieutenant Colonel in the Rwandan army. Her groundbreaking achievement highlights her significant role in the military, particularly in a post-genocide era where Rwanda has strived for gender equality and empowerment across various sectors. Kabuye's leadership and service are emblematic of the strides Rwanda has made in integrating women into positions of authority and responsibility within the military, thereby challenging traditional gender roles and contributing to the country's broader socio-political transformation (Seymour, 2013).

Sylvie Kayitesi, a prominent figure in Rwanda's tech industry, has spearheaded several initiatives aimed at empowering women and promoting their participation in technology. One notable initiative is the "Tech Women Rwanda" program, which provides mentorship, training, and networking opportunities for women in STEM fields (Kayitesi, 2019). Another initiative, "Girls in ICT Rwanda," focuses on encouraging young girls to pursue careers in ICT through workshops and educational programs (Kayitesi, 2020). Additionally, Kayitesi has been involved in advocating for gender equality in the tech sector through her work with organizations like RWiT (Rwanda Women in Technology), which offers support and advancement opportunities for women in tech (Kayitesi, 2021). These initiatives have had a significant impact on increasing the representation of women in the tech industry in Rwanda, fostering economic development and social inclusion (Kayitesi, 2022).

Hon. Hajabakiga Patricia, Hon. Gasinzigwa Oda, and Hon. Amb. Fatuma Ndangiza, as chairs of the Rwanda chapter of the East African Legislative Assembly (EALA), have initiated several impactful programs aimed at enhancing women's participation in technology and leadership. Hon. Patricia Hajabakiga focused on legislative frameworks promoting gender equality and ICT education for women, leading to policy reforms and increased funding for tech training programs. Hon. Gasinzigwa Oda spearheaded initiatives targeting the reduction of the digital gender divide by launching community-based digital literacy projects, particularly for rural women, thus fostering inclusive digital growth. Hon. Amb. Fatuma Ndangiza emphasized regional cooperation and the development of partnerships between public and private sectors to support women's tech startups, significantly boosting women's entrepreneurship and innovation within the tech industry. These combined efforts have not only empowered women in Rwanda but have also set a precedent for gender-inclusive policies in the East African region.

Agnes Matilda Kalibata, as the President of the Alliance for a Green Revolution in Africa (AGRA), has spearheaded various initiatives aimed at agricultural transformation and food security across the African continent. One notable initiative is the "Africa Agriculture Status Report" (AASR), an annual publication by AGRA that provides comprehensive analysis and insights into the state of African agriculture, highlighting challenges and opportunities for growth (AGRA, 2023). Additionally, Kalibata has championed the "Seeds of Change" podcast, which features discussions with agricultural experts, policymakers, and entrepreneurs to promote knowledge sharing and innovation in African agriculture (AGRA, 2022). These initiatives reflect Kalibata's commitment to leveraging research, advocacy, and digital platforms to advance sustainable agricultural development in Africa, aligning with AGRA's mission to catalyze agricultural transformation for the benefit of smallholder farmers and rural communities (AGRA, 2021).

Moreover, Rwandan women excel in diplomatic missions, representing their country abroad and advancing Rwanda's interests on the world stage. Carrying out roles as ambassadors and diplomats, these women serve

as effective advocates for Rwanda's priorities, contributing to diplomacy, trade, and international cooperation. Their presence in diplomatic circles underscores Rwanda's commitment to gender parity and the recognition of women's leadership in diplomacy and international affairs.

Furthermore, Rwandan women break barriers in various professions, including aviation, with female pilots making strides in the airline industry. These pioneering women defy gender stereotypes and inspire future generations by showcasing their skills and determination in traditionally male-dominated fields. Their achievements highlight Rwanda's commitment to promoting gender equality and creating opportunities for women to excel in all areas of society.

RECOMMENDATIONS

Strengthening policy implementation is paramount to ensure the effective enforcement of gender equality policies within the tech sector. By rigorously enforcing existing policies and introducing new measures where necessary, governments and industry stakeholders can create an environment that fosters equal opportunities for women in tech. This includes implementing measures to address workplace discrimination, promoting pay equity, and ensuring that recruitment and advancement processes are free from bias. By holding organizations accountable for their commitment to gender equality, policy enforcement can drive meaningful change and create a more inclusive tech industry.

Increasing investment in women-led tech initiatives and startups is essential to provide the necessary funding and resources for these ventures to thrive. By allocating dedicated funds and establishing support mechanisms such as grants, incubators, and venture capital opportunities, governments and investors can empower women entrepreneurs to innovate and succeed in the tech sector. Investing in women-led startups not only drives economic growth but also promotes diversity and innovation, as research shows that companies with diverse leadership teams outperform their counterparts (McKinsey & Company, 2020).

Promoting STEM education for girls from a young age is critical to building a robust pipeline of female tech talent. By encouraging girls to pursue STEM subjects in school and providing access to educational resources and opportunities, governments and educational institutions can help bridge the gender gap in tech-related fields. Initiatives such as coding camps, robotics clubs, and mentorship programs can inspire and empower girls to pursue careers in technology, laying the foundation for a more diverse and inclusive tech workforce in the future.

Expanding mentorship programs and networking opportunities for women in tech is essential to build supportive communities and facilitate professional growth and advancement. By connecting women with mentors who can provide guidance, support, and career advice, organizations can help women navigate the challenges they may face in the tech industry and develop the skills and confidence needed to succeed. Networking events, conferences, and online communities also play a crucial role in fostering connections and creating opportunities for collaboration and mentorship. By investing in mentorship and networking initiatives, stakeholders can empower women in tech to reach their full potential and contribute to the continued growth and success of the industry.

CONCLUSION

Thirty years after the genocide against the Tutsi, Rwanda's concerted efforts to increase women's participation in the tech industry have yielded remarkable results, significantly impacting both social and economic development. Initiatives such as Girls in ICT Rwanda, the Rwanda Coding Academy, and private sector programs have empowered women to pursue careers in technology, thus fostering greater gender equality and representation in a traditionally male-dominated field. This increased participation has not only provided women with opportunities for personal and professional growth but has also contributed to Rwanda's broader socio-economic goals.

The progress achieved in increasing women's participation in the tech industry underscores the transformative potential of gender-inclusive development strategies. By breaking down barriers and providing women with equal access to education, training, and employment opportunities in the tech sector, Rwanda has demonstrated a commitment to harnessing the talents and potential of all its citizens. This inclusive approach not only strengthens the workforce but also promotes diversity, innovation, and economic resilience, positioning Rwanda as a leader in gender equality and technology-driven development.

While challenges persist, such as cultural norms and access to resources, Rwanda's ongoing efforts to address these issues underscore the country's commitment to sustainable and inclusive development. By continuing to invest in initiatives that promote women's participation in the tech industry, Rwanda can further unlock the untapped potential of its female population, driving even greater social and economic progress in the years to come. In conclusion, Rwanda's journey towards gender-inclusive development in the tech industry serves as a testament to the transformative power of equality and opportunity, offering valuable lessons for other nations striving to build more inclusive and prosperous societies.

REFERENCES

Aegis Trust. (2020). Peace education program. Retrieved from https://www.aegistrust.org/peace-education

Alliance for a Green Revolution in Africa [AGRA]. (2021). About AGRA. https://agra.org/about/

Alliance for a Green Revolution in Africa [AGRA]. (2022). Seeds of Change Podcast. https://agra.org/news/seeds-of-change-podcast/

Alliance for a Green Revolution in Africa [AGRA]. (2023). Africa Agriculture Status Report. https://agra.org/aasr/

Andela. (2021). Building Africa's future: The Andela story. Retrieved from https://www.andela.com

Andela. (2023). Diversity and Inclusion Report. New York: Andela.

Ansoms, A., & Rostagno, D. (2012). Rwanda's Vision 2020 halfway through: What the eye does not see. *Review of African Political Economy*, 39(133), 427-450.

Ansoms, A., & Rostagno, D. (2020). Rwanda's Post-Genocide Recovery: Social and Economic Perspectives. Routledge.

Archer, L., Dewitt, J., Osborne, J., Dillon, J., Willis, B., & Wong, B. (2010). "Doing" science versus "being" a scientist: Examining 10/11-year-old schoolchildren's constructions of science through the lens of identity. *Science Education*, 94(4), 617-639.

Bauer, G., & Burnet, J. E. (2017). Gender quotas, democracy, and women's representation in Africa: Some insights from democratic Botswana and autocratic Rwanda. Politics & Gender, 9(3), 379-403.

Bauer, G., & Burnet, J. E. (2017). Gender quotas, democracy, and women's representation in Africa: Some insights from democratic Botswana and autocratic Rwanda. *Politics & Gender*, 9(3), 379-403.

Binagwaho, A. (2023). Global Health and Social Medicine Faculty. Harvard Medical School. Retrieved from Harvard Medical School

Blickenstaff, J. C. (2005). Women and science careers: Leaky pipeline or gender filter? *Gender and Education*, 17(4), 369-386.

Blumberg, R. L. (2015). Gender bias in textbooks: A hidden obstacle on the road to gender equality in education. UNESCO.

Brush, C. G., de Bruin, A., & Welter, F. (2019). A gendered look at entrepreneurship ecosystems. *Small Business Economics*, 53(2), 393-408.

Budlender, D. (2015). Budgeting for Women's Rights: Monitoring Government Budgets for Compliance with CEDAW. UN Women. Retrieved from https://www.unwomen.org/en/digital-library/publications/2015/12/budgeting-for-womens-rights

Burke, K., Orcutt, M., & Robertson, M. (2017). Digital Education for Adolescent Girls: The Potential of Mobile Technology to Transform the Learning Environment. Washington, DC: Brookings Institution Press.

Burnet, J. E. (2008). Gender balance and the meanings of women in governance in post-genocide Rwanda. *African Affairs*, 107(428), 361-386.

Burnet, J. E. (2011). Women have found respect: Gender quotas, symbolic representation, and female empowerment in Rwanda. *Politics & Gender*, 7(3), 303-334.

Burnet, J. E. (2012). Genocide Lives in Us: Women, Memory, and Silence in Rwanda. University of Wisconsin Press.

Burnet, J. E. (2020). Genocide lives in us: Women, memory, and silence in Rwanda. University of Wisconsin Press.

Ceci, S. J., & Williams, W. M. (2011). Understanding current causes of women's underrepresentation in science. Proceedings of the National Academy of Sciences, 108(8), 3157-3162.

Cheryan, S., Plaut, V. C., Handron, C., & Hudson, L. (2017). The stereotypical computer scientist: Gendered media representations as a barrier to inclusion for women. *Sex Roles*, 78(1-2), 5-18.

Cheryan, S., Ziegler, S. A., Montoya, A. K., & Jiang, L. (2017). Why are some STEM fields more gender balanced than others? *Psychological Bulletin*, 143(1), 1-35.

Chopra, D., & Zambelli, E. (2017). No Time to Rest: Women's Lived Experiences of Balancing Paid Work and Unpaid Care Work. IDS Evidence Report. https://doi.org/10.19088/IDS.2017.102

Clark, P. (2010). The Gacaca Courts, Post-Genocide Justice and Reconciliation in Rwanda: Justice without Lawyers. Cambridge University Press.

Clark, P. (2019). The Gacaca courts, post-genocide justice and reconciliation in Rwanda: Justice without lawyers. Cambridge University Press.

Commonwealth. (2017). Empowering Rwandan women and youth essential: First Lady Jeannette Kagame. Retrieved from https://thecommonwealth.org/news/empowering-rwandan-women-and-youth-essential-first-lady-jeannette-kagame

Dahlerup, D. (2018). Gender quotas and women's representation in Africa: Some insights from democratic Botswana and autocratic Rwanda. *Politics & Gender*, 14(4), 629-653.

Davis, M. K., David, P. A., & Heller, M. S. (2018). ICT and socio-economic development in Rwanda: A case study. *Journal of Information Technology & Economic Development*, 9(2), 15-30.

Debusscher, P., & Ansoms, A. (2013). Gender equality policies in Rwanda: Public relations or real transformations? *Development and Change*, 44(5), 1111-1134.

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-1259-0

Des Forges, A. (1999). Leave none to tell the story: Genocide in Rwanda. Human Rights Watch.

Devlin, C., & Elgie, R. (2008). The effect of increased women's representation in parliament: The case of Rwanda. Parliamentary Affairs, 61(2), 237-254. https://doi.org/10.1093/pa/gsn007

Eby, L. T., Allen, T. D., Evans, S. C., Ng, T., & Dubois, D. (2008). Does mentoring matter? A multidisciplinary meta-analysis comparing mentored and non-mentored individuals. *Journal of Vocational Behavior*, 72(2), 254-267.

Elam, A. B., Brush, C. G., Greene, P. G., Baumer, B., Dean, M., & Heavlow, R. (2021). Global Entrepreneurship Monitor 2020/21: Women's Entrepreneurship Report. Global Entrepreneurship Research Association. Retrieved from https://gemconsortium.org/report/gem-2020-21-womens-entrepreneurship-report

Fagenson-Eland, E. A., Marks, M. A., & Amendola, K. L. (2006). Perceptions of mentoring relationships. *Journal of Vocational Behavior*, 69(1), 1-15.

Flanagan, C., & Caren, N. (2011). "What is a hackathon?": Genre innovation and the formation of new media publics. *New Media & Society*, 14(9), 1339-1357.

Freedman, S. W., Weinstein, H. M., Murphy, K., & Longman, T. (2008). Teaching history after identity-based conflicts: The Rwandan experience. *Comparative Education Review*, 52(4), 663-690.

Global Partnership for Financial Inclusion. (2020). Advancing Women's Digital Financial Inclusion. Retrieved from https://www.gpfi.org/sites/gpfi/files/documents/GPFI%20Policy%20Paper%20Advancing%20Women%27s%20Digital%20Financial%20Inclusion.pdf

Goldman Sachs. (2021). 10,000 Women: Empowering Women Entrepreneurs. Retrieved from https://www.goldmansachs.com/citizenship/10000women/

Government of Rwanda. (2019). Smart Rwanda Master Plan. Kigali: Government of Rwanda.

Government of Rwanda. (2020). Vision 2020. Kigali: Government of Rwanda. Retrieved from https://www.rwandavision2020.gov.rw

Habyarimana, P., & Asiimwe, S. (2018). Gender gaps in technology access and use in Rwanda. Information *Technologies & International Development*, 14(4), 1-15.

Harvard Medical School. (2023). Agnes Binagwaho, MD, M(Ped), PhD. Retrieved from https://globalhealth.harvard.edu/people/agnes-binagwaho

Hayman, R. (2018). The complexity of aid: Government strategies, donor agendas and the coordination of development assistance in Rwanda. Palgrave Macmillan.

Hewlett, S. A., Luce, C. B., Servon, L. J., Sherbin, L., Shiller, P., Sosnovich, E., & Sumberg, K. (2008). The Athena Factor: Reversing the brain drain in science, engineering, and technology. Harvard Business Review Research Report.

Hill, C., Corbett, C., & St. Rose, A. (2010). Why so few? Women in science, technology, engineering, and mathematics. Washington, DC: American Association of University Women.

Hogg, N. (2010). Women's participation in the Rwandan genocide: Mothers or monsters? *International Review of the Red Cross*, 92(877), 69-102.

Hosman, L., & Janowski, T. (2019). Gender, Technology and Development: On the Deployment of "User-Experience" (UX) Research for Girls' Empowerment Initiatives in Rwanda. New York: Routledge.

Huebner, T., Guder, C., & Friesike, S. (2020). What drives women to participate in the digital economy? Exploring coding bootcamps as a pathway to tech careers. *Information, Communication & Society*, 23(1), 111-128.

Hunt, A., Samman, E., & Mansour-Ille, D. (2018). Women in the gig economy: Paid work, care and flexibility in Kenya and South Africa. Overseas Development Institute. Retrieved from https://odi.org/en/publications/women-in-the-gig-economy-paid-work-care-and-flexibility-in-kenya-and-south-africa/

Hunt, V., Yee, L., Prince, S., & Dixon-Fyle, S. (2020). Diversity wins: How inclusion matters. McKinsey & Company.

International Labour Organization. (2019). Women in Business and Management: The Business Case for Change. Retrieved from https://www.ilo.org/global/publications/books/WCMS_700953/lang--en/index.htm

International Labour Organization. (2023). Appointment of Fanfan Rwanyindo Kayirangwa as ILO Regional Director for Africa and Assistant Director-General.

Inter-Parliamentary Union. (2021). Women in national parliaments. Retrieved from https://data.ipu.org/women-ranking

Kabeer, N. (2016). Gender equality, economic growth, and women's agency: The "endless variety" and "monotonous similarity" of patriarchal constraints. *Feminist Economics*, 22(1), 295-321.

Kaitesi, M. (2019). The role of Rose Kabuye in Rwanda's transformation. *Rwanda Journal of Political Science and International Relations*, 12(3), 45-60.

Kamanzi, E., Mugisha, E., & Ingabire, M. (2021). Gender disparities in technology education in Rwanda. *Journal of Science and Technology Education Research*, 12(2), 101-112.

Karekezi, C., & Rwendeire, A. (2019). Gender digital divide and its implications for social inclusion in Rwanda. *Journal of Development Studies*, 55(10), 2161-2176.

Kayitesi, S. (2019). Tech Women Rwanda: Empowering Women in STEM.

Kayitesi, S. (2020). Girls in ICT Rwanda: Bridging the Gender Gap in Technology.

Kayitesi, S. (2021). Rwanda Women in Technology (RWiT): Advancing Gender Equality in Tech.

Kayitesi, S. (2022). The Impact of Women in Tech Initiatives on Rwanda's Development.

Kittilson, M. C. (2011). Women, parties and platforms in post-industrial democracies. Party Politics, 17(1), 66-92.

Krook, M. L., & Norris, P. (2020). Gender equality in elected office: A six-step action plan. *Political Studies*, 68(3), 510-526.

KT Press. (2022). Women Empowerment Should Be A Global Moral Issue – First Lady Jeanette Kagame. Retrieved from https://www.ktpress.rw/2022/06/women-empowerment-should-be-a-global-moral-issue-first-lady-jeanette-kagame/

Mara Group. (2020). Mara Phone: Africa's first smartphone factory. Retrieved from https://www.maraphone.com

Mara Group. (2022). Corporate Social Responsibility Report. Kigali: Mara Group.

McKinsey & Company. (2020). Diversity wins: How inclusion matters. Retrieved from https://www.mckinsey.com/featured-insights/diversity-and-inclusion/diversity-wins-how-inclusion-matters

MINEDUC. (2013). Education Sector Strategic Plan 2013/14–2017/18. Kigali: Ministry of Education, Rwanda. Retrieved from https://www.mineduc.gov.rw/strategic-plan

Ministry of ICT and Innovation. (2021). Annual report 2020-2021. Kigali: Republic of Rwanda.

Munyegera, G., Karekezi, S., & Uwizeyimana, D. (2020). Digital divide in Rwanda: Determinants and policy implications. *Cogent Social Sciences*, 6(1), 1814064.

Murenzi, R. (2021). Challenges and opportunities for ICT education in Rwanda. International Journal of Computer Applications, 181(16), 31-35. https://doi.org/10.5120/ijca2021919379

Mutangana, J. (2022). The impact of coding bootcamps on women's employment in Rwanda. *Journal of African Development Studies*, 18(2), 45-62.

National Center for Women & Information Technology. (2021). Women in tech: The facts. Retrieved from https://www.ncwit.org/resources/women-tech-facts

National Institute of Statistics of Rwanda (NISR). (2021). Rwanda Statistical Yearbook 2021. Kigali: NISR. Retrieved from https://www.statistics.gov.rw/publication/statistical-yearbook-2021

Ndagijimana, C. (2018). The impact of One Laptop per Child program on student learning in Rwanda: A qualitative study. Rwandan Journal of Education, 4(1), 23-37.

Ndemo, B., & Weiss, T. (2017). Digital Kenya: An entrepreneurial revolution in the making. London: Palgrave Macmillan. https://doi.org/10.1057/978-1-137-57878-5

Nduwayezu, J. (2019). Promoting female entrepreneurship in Rwanda's tech sector: The role of KLab. Rwanda Journal of Innovation and Development, 6(1), 78-91.

New Times. (2020). Women leaders: Rose Kabuye's legacy in Rwandan politics. The New Times Rwanda. Retrieved from https://www.newtimes.co.rw

New Times. (2024, June 7). Donatille Mukabalisa is new Speaker. The New Times. Retrieved from https://www.newtimes.co.rw/article/98592/National/donatille-mukabalisa-is-new-speaker

Newbury, C., & Baldwin, H. (2000). Aftermath: Women in post-genocide Rwanda. Working Paper No. 303. Center for Development Information and Evaluation, USAID.

Newbury, C., & Baldwin, H. (2020). Aftermath: Women in post-genocide Rwanda. Cambridge University Press.

Ngabonziza, C., & Tuyishime, M. (2020). The role of Rwanda Coding Academy in developing ICT skills for youth employment in Rwanda. International Journal of Scientific and Research Publications, 10(8), 525-531.

Nyirabukeye, M., Uwamariya, E., & Karimunda, J. (2022). Enhancing gender parity in ICT education: Lessons from Rwanda Coding Academy. Gender & Development, 30(1), 77-93.

OECD. (2017). The Pursuit of Gender Equality: An Uphill Battle. Paris: OECD Publishing.

Paxton, P., & Hughes, M. M. (2016). Women, politics, and power: A global perspective (3rd ed.). CQ Press.

Powley, E. (2006). Rwanda: The impact of women legislators on policy outcomes affecting children and families. UNICEF.

Psaki, S. R., McCarthy, K. J., & Mensch, B. S. (2018). Measuring gender equality in education: Lessons from trends in 43 countries. Population and Development Review, 44(1), 117-142.

PwC. (2021, August 2). Leveraging Rwanda's position as a tech hub. PwC. Retrieved from https://www.pwc.com

Republic of Rwanda. (2020). Vision 2050: A long-term development strategy for Rwanda. Kigali: Government of Rwanda.

Reyntjens, F. (2016). Political Governance in Post-Genocide Rwanda. Cambridge University Press.

Rice, R. E., & Atkin, C. K. (2013). Public Communication Campaigns (4th ed.). Thousand Oaks, CA: SAGE Publications.

Rwanda Coding Academy. (2021). Curriculum overview. Retrieved from https://www.rcacademy.rw/curriculum-overview/

Rwanda Development Board. (2019). Rwanda launches coding academy to bridge digital skills gap. Retrieved from https://rdb.rw/rwanda-launches-coding-academy-to-bridge-digital-skills-gap/

Rwanda Gender Monitoring Office. (2021). Annual report on gender equality. Kigali: Rwanda Gender Monitoring Office.

Rwanda ICT Chamber. (2020). The role of ICT in driving Rwanda's economic development. Kigali: Rwanda ICT Chamber.

RwandaTechNews. (2024). Rwanda Emerges as Africa's Tech Hub. RwandaTechNews. Retrieved from https://www.rwandatechnews.com

Seymour, L. (2013). Women in Rwanda's post-genocide society: Female leaders and their role in reconstruction. Journal of Modern African Studies, 51(3), 465-487.

Slegh, H., & Kimonyo, A. (2010). Masculinity and gender-based violence in Rwanda: The potential contribution of community-based strategies to make a change. Oxfam International.

Sommers, M. (2012). Stuck: Rwandan youth and the struggle for adulthood. University of Georgia Press.

Staub, E., Pearlman, L. A., Gubin, A., & Hagengimana, A. (2005). Healing, reconciliation, forgiving and the prevention of violence after genocide or mass killing: An intervention and its experimental evaluation in Rwanda. Journal of Social and Clinical Psychology, 24(3), 297-334.

Suri, T., & Jack, W. (2016). The long-run poverty and gender impacts of mobile money. Science, 354(6317), 1288-1292. https://doi.org/10.1126/science.aah5309

True, J., & Mintrom, M. (2001). Transnational networks and policy diffusion: The case of gender mainstreaming. International Studies Quarterly, 45(1), 27-57.

Tushabe, F. (2015). Higher education in Rwanda: The opportunities and challenges of governance and planning. International Journal of African Higher Education, 2(1), 23-45.

UN Women. (2020). Gender Equality and Women's Empowerment: A Decade of Progress and Action. Retrieved from https://www.unwomen.org/en/news/stories/2020/10/feature-gender-equality-and-womens-empowerment-a-decade-of-progress-and-action

UN Women. (2023). Empowering girls through robotics and coding in Rwanda. Retrieved from https://africa.unwomen.org/en/news-and-events/stories/2023/02/empowering-girls-through-robotics-and-coding-in-rwanda

UNCTAD. (2018). Science, Technology and Innovation Policy Review: Rwanda. United Nations Conference on Trade and Development. Retrieved from https://unctad.org/webflyer/science-technology-and-innovation-policy-review-rwanda

UNESCO. (2017). Cracking the code: Girls' and women's education in STEM. Paris: UNESCO. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000247444

UNESCO. (2017). Cracking the code: Girls' and women's education in STEM. Paris: UNESCO.

UNESCO. (2021). Gender parity index (GPI) in primary education. Retrieved from http://data.uis.unesco.org

United Nations. (2015). Transforming Our World: The 2030 Agenda for Sustainable Development. Retrieved from https://sdgs.un.org/2030agenda

Uwamaliya, V., Walker, M., & Johnson, H. (2020). Women's participation in higher education in post-genocide Rwanda: Living with gender inequalities and deprivations. *International Journal of Educational Development*, 73, 102130.

Warschauer, M., & Ames, M. (2010). Can One Laptop per Child save the world's poor? *Journal of International Affairs*, 64(1), 33-51.

Williams, T. P. (2017). The political economy of primary education: Lessons from Rwanda. World Development, 96, 550-561.

Williams, T. P. (2021). Education and empowerment: The politics of literacy in post-genocide Rwanda. Journal of African Studies, 60(3), 391-411.

Wodon, Q., Onagoruwa, A., & Walker, Q. (2018). Missed Opportunities: The High Cost of Not Educating Girls. Washington, DC: World Bank Group.

Women in Tech Rwanda. (2021). Annual Report. Kigali: Women in Tech Rwanda.

World Bank. (2020). Rwanda economic update: Lighting Rwanda. Washington, DC: World Bank. Retrieved from https://www.worldbank.org/en/country/rwanda/publication/rwanda-economic-update-lighting-rwanda

World Bank. (2021). Gender Equality and Development in Rwanda. Washington, DC: World Bank. Retrieved from https://www.worldbank.org/en/country/rwanda/publication/gender-equality-development

World Bank. (2021). Rwanda Economic Update: Lighting Rwanda. Washington, DC: World Bank. Retrieved from https://www.worldbank.org/en/country/rwanda/publication/rwanda-economic-update-lighting-rwanda