Adult education’s role in rural development and women’s empowerment in Tunisia and Hungary: exploring cross-regional collaboration, growth opportunities, and gender-inclusive strategies

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Abstract

The paper investigates the role of adult education in fostering rural development and women's empowerment, focusing on Tunisia as a representative country for the MENA region and Hungary, with a focus on cross-regional collaboration, growth opportunities, and gender-inclusive strategies. We utilized a mixed-method approach, combining quantitative data analysis of national education and socioeconomic indicators with qualitative case studies of adult education programs in both countries.

Keywords: education, rural development, women’s empowerment

JEL: I21, I24, I25

Introduction

The Africa-EU Partnership, also known as the Joint Africa-EU Strategy (JAES), is a strategic alliance between the African Union (AU) and the European Union (EU). The partnership was established in 2007 with the aim of fostering closer political, economic, and social links between the two continents, as well as addressing common global challenges like climate change, peace, and security (European Commission, 2023). The collaboration is built on shared values such as democracy, human rights, and sustainable development, focusing on multiple priority areas, which have evolved over time to address emerging needs and priorities. As long as some topics of these common areas regard Human development (Improving access to quality education, health care, and social protection), Democracy, good governance, and human rights (Promoting democratic principles, the rule of law, and respect for human rights), Sustainable and inclusive economic growth (Encouraging investments, trade, and job creation, as well as fostering sustainable agriculture and food security), Climate change and environmental sustainability (Collaborating on climate change mitigation and adaptation, biodiversity conservation, and the sustainable use of natural resources), Digital transformation (Promoting digital infrastructure, innovation, and digital skills to foster economic growth and job creation) and Science, technology, and innovation (Enhancing research and innovation capacities and collaboration between the two continents) was not very complicated to build a parallel between the two countries envisaged by our research, Tunisia, representing MENA region and Hungary (European Council, 2023).
The partnership is implemented through various instruments, including political dialogue, financial assistance, and technical cooperation. The EU supports African countries through various funding programs, such as the European Development Fund (EDF) and the Africa-EU Partnership Support Programme. Over the years, the partnership has led to numerous initiatives and projects aimed at promoting development and addressing common challenges.

Since the 2011 Jasmine Revolution, the EU has increased its support for Tunisia's democratic transition, economic development, and security. As a participant in the EU-Africa Summit 2022 (The World Bank, 2023), Tunisia focused on the following areas:

- Strengthening political and economic ties with the EU, including further integration into the Euro-Mediterranean partnership.
- Seeking financial and technical support for social and economic reforms to foster growth, reduce unemployment, and improve living conditions.
- Enhancing cooperation on migration and mobility, considering Tunisia's strategic location as a transit country for migrants and refugees seeking to reach Europe.
- Addressing security challenges, such as terrorism and radicalization, and promoting regional stability through collaboration on peace and security initiatives.

In Tunisia, in 2017 (the latest statistics available), the agriculture sector was strategic since represented 12% of GDP, 10% of total investments, 11% of total exports and employs 16% of active population, playing an important role in the last decades, even during political transition (The World Bank, 2023).

Regarding Hungary, in 2021 Agriculture sector represents 3,9% of GDP, 4,3 % of total investments in the economy, 8,9% of total exports and accounted 4,3% of the national employment rate (The World Bank, 2023).

From the educational point of view, Tunisia has made significant progress in expanding access to education, with a literacy rate of over 81% (The World Bank, 2023). The country has also implemented several reforms to improve the quality of education, including curriculum updates and teacher training programs. According to Statista, educational system involves around 1400 middle and secondary schools with a number of approx. 1,1 million students in 2020, and almost 270,000 students were enrolled in tertiary education in Tunisia in the 279 tertiary educational institutions. Around 170,000 of these were women, making up roughly 63 percent of the students (Statista, 2023).

However, access to education remains a challenge in some areas, particularly in rural regions. Women's access to education has also improved significantly in recent years, with almost equal numbers of girls and boys enrolled in primary and secondary schools. Women's empowerment has been a key focus in Tunisia (Dorsaf- Farkas- Bruder., 2020), with initiatives aimed at promoting women's economic and political participation.

Coming to Hungary, an EU member state in Central Europe, have as set of priorities after the EU-Africa Summit 2022, the focal points for Hungary including:

- Addressing the root causes of migration from Africa to Europe, including supporting development initiatives and conflict resolution efforts in Africa.
- Encouraging economic investment and trade between the EU and Africa, which could benefit Hungarian businesses and industries.
- Supporting initiatives in areas such as digital transformation, education, and innovation, which can contribute to both European and African development and improve Hungary's competitiveness.
The EU-Africa Summit 2022 would provide an opportunity for both Tunisia and Hungary to engage in multilateral discussions and pursue their respective interests. The event could help strengthen the Africa-EU Partnership, promote mutual understanding, and foster collaboration in addressing shared challenges (European Union External Action Service).

Material and methodology
We started our research by reviewing the national and international literature on the subject, focusing on quantitative data analyses of national educational, social, and economic indicators. We compared adult learning opportunities in the two countries, with a particular focus on the role of women in the rural development area. A SWOT analysis was performed to examine the strengths, weaknesses, opportunities, and threats of adult education in agriculture and rural development.

Agriculture and rural development oriented education
Agriculture and rural development-oriented education in both countries, Tunisia and Hungary can be classified into three categories: formal, informal, and non-formal.

In Tunisia each of these categories contributes to the overall development of the agricultural sector and helps to address rural development challenges such as poverty, unemployment, and environmental sustainability. In Hungary, they play a vital role in promoting sustainable agriculture, rural development, and environmental conservation.

Formal Education (FE):
In Tunisia, formal agriculture and rural development education is provided through a well-structured system that includes institutions and universities that offer specialized degrees and programs in agriculture and related fields. These programs aim to develop skilled professionals who can contribute to the growth and development of the agricultural sector.

Some of the prominent institutions offering FE agricultural related in Tunisia are National Agronomic Institute of Tunisia (INAT), the Higher School of Agriculture of Mograne (ESAM) and the Higher Institute of Agronomy of Chott Meriem (ISA CM). These institutions provide programs in various disciplines such as agronomy, agricultural engineering, animal and plant sciences and more. Students can pursue undergraduate, graduate, and doctoral degrees in these fields (Ministry of Agriculture, 2016).

Formal agricultural education in Hungary is offered through universities, colleges, and vocational schools, providing a structured and accredited educational framework. Students can pursue various degree programs and specializations in agriculture, horticulture, animal sciences, and related fields. Hungary currently has 57 secondary schools and 16 higher education institutions offering training in agriculture and rural development. Some of the prominent institutions offering formal agricultural education in Hungary are Hungarian University of Agriculture and Life Sciences (MATE) and University of Debrecen - Faculty of Agricultural and Food Sciences and Environmental Management (UD). These institutions offer undergraduate, graduate, and doctoral programs in various disciplines such as agronomy, animal husbandry, food sciences, agricultural engineering, and more.
Informal Education (IE):

In Tunisia, IE in agriculture and rural development is often provided through on-the-job training, apprenticeships, and mentorship programs. This type of education allows individuals to learn directly from experienced professionals and gain practical knowledge and skills. Farmers and rural communities may also participate in IE activities such as workshops, seminars, and conferences organized by NGOs, government agencies, and private organizations. These events help participants stay updated on the latest agricultural practices, technologies, and policies (Abrougui, 2019).

IE in agriculture and rural development in Hungary consists of on-the-job training, apprenticeships, mentorship programs, and various learning opportunities provided by experienced professionals in the field, enabling individuals to gain practical knowledge and skills that are directly applicable to their work. Additionally, farmers, rural entrepreneurs, and other stakeholders can participate in workshops, seminars, and conferences organized by NGOs, government agencies, and private organizations. These events help individuals stay updated on the latest agricultural practices, technologies, and policies, as well as providing networking opportunities (Hungarian Central Statistical Office, 2021).

While informal agriculture education has its benefits, there are several reasons why it may not be considered a proper or ideal method for some learners and situations described below:

- Lack of structure and standardization - IE lacks a structured curriculum and standardized learning outcomes, making it difficult to measure and compare the knowledge and skills acquired by different learners, which can lead to inconsistencies in the quality and depth of knowledge acquired by individuals.
- No formal accreditation - IE does not usually provide any formal certification or accreditation, which limits the recognition of the skills and knowledge acquired by learners, being a disadvantage for individuals seeking employment or career advancement in the agricultural sector, as employers may prefer candidates with formal qualifications.
- Limited access to resources and expertise - IE relies on the availability of experienced professionals and resources in the community or workplace, that in some cases, may result in a limited scope of knowledge and skills being passed on, as individuals may only be exposed to the specific practices and techniques used by their mentors or trainers.
- Non-regulated learning environment - IE often takes place in non-academic settings, such as on the job or in community gatherings, these environments not leading to effective learning, as they might lack the necessary tools, resources, and infrastructure to support the learning process.
- Inability to address complex issues: IE may not be sufficient to address complex issues in agriculture and rural development, such as sustainable resource management, advanced technologies, and policy analysis, which often require formal education and research to be fully understood and applied effectively.
- Variable quality of learning experiences - the quality of IE is highly dependent on the expertise and commitment of the mentors, trainers, or community members involved in the process, so the learning experience can vary greatly between individuals and locations, which may lead to disparities in knowledge and skills acquisition.
Despite these limitations, IE education can still play an important role in complementing formal and non-formal education methods, providing valuable practical knowledge and skills, encouraging lifelong learning, and help build strong connections within the agricultural community.

**Non-formal Education:**

Non-formal education in agriculture and rural development in Tunisia focuses on providing skills training and capacity-building programs for farmers, rural entrepreneurs, and other stakeholders. These programs are typically designed and delivered by NGOs, communities, government agencies, and other organizations working in the agricultural sector (United Nations Development Programme, 2021).

Non-formal education programs often include:
- Capacity-building workshops on topics such as agribusiness, farm management, and value addition
- Training programs on sustainable agricultural practices and natural resource management

Non-formal education programs are usually more flexible and accessible compared to formal education programs, allowing individuals with limited resources or educational backgrounds to participate and gain valuable skills and knowledge.

Non-formal education in Hungary focuses on providing skill development, capacity building, and training programs for farmers, rural entrepreneurs, and other stakeholders. These programs are typically organized by NGOs, communities, government agencies, and other organizations working in the agricultural sector.

Some examples of non-formal education programs in Hungary include:
- Capacity-building workshops on topics such as agribusiness, farm management, and marketing
- Training programs on sustainable agricultural practices, organic farming, and natural resource management

Non-formal education programs are usually more flexible and accessible compared to formal education programs, allowing individuals with limited resources or educational background to participate and gain valuable skills and knowledge (Ministry of Agriculture, 2019).

So, agriculture and rural development-oriented education in Tunisia is a combination of formal, informal, and non-formal educational approaches helping to address the diverse needs of the agricultural sector and rural communities, ensuring that individuals receive the necessary skills and knowledge to contribute to the sustainable development of Tunisia's rural areas (Ministry of Agriculture, Water Resources and Fisheries, 2016).

If we refer to Hungary, agriculture and rural development-oriented education encompasses the same formal, informal, and non-formal approaches, supporting the development of skilled professionals and knowledgeable individuals who can contribute to the sustainable growth of the agricultural sector and rural communities (World Bank, 2018).
Gender inclusive challenges and opportunities

Adult education plays a critical role as well as in rural development and women's empowerment in both Tunisia and Hungary. To create effective, gender-inclusive programs, it is important to consider the unique challenges and opportunities that these two countries face.

If we are talking about Access to Education the identified challenge was the way to ensure equal access to adult education for all genders in rural areas, where traditional gender roles and expectations may limit opportunities for women and non-binary individuals. As opportunity emerged to implement policies and programs that promote equitable access, such as targeted outreach, scholarships, and flexible scheduling to accommodate various family and work responsibilities. Also, to develop flexible, locally-based educational programs designed to the unique needs of rural communities, including use of digital technologies to create online learning platforms, offering courses on a flexible schedule solution (United Nations Development Programme, 2021).

In terms of Literacy and Basic Skills, the challenge which our research found reflect that illiteracy and low levels of education are more prevalent in rural areas, with women often experiencing higher rates of illiteracy. Bridging the digital divide in rural areas, where limited access to technology and internet connectivity disproportionately affects women and non-binary individuals. Emerge in this case the opportunity to design, develop and implement gender-inclusive literacy and basic skills programs that target both men and women, promoting lifelong learning and empowering individuals to participate in their communities (Hajdú–Koncz, 2022). Should be in the attention of responsible factors to invest in digital infrastructure and to provide affordable devices to ensure equal access, as well as creating gender-inclusive digital literacy programs to empower individuals to fully participate in the digital age (UNESCO, 2017).

In regard to Cultural and Social Norms, the challenge refers to traditional gender roles and cultural norms in both countries, which can may limit the participation of women in education and community development and to develop of adult education curriculum that is relevant, inclusive, and addresses the specific needs of different genders, cultures, and social contexts. A measure to reduce this challenge stands to encourage community dialogue and awareness campaigns to challenge gender stereotypes, promote gender equality, and support women's access to education and leadership roles (European Training Foundation, 2018).

SWOT analysis

The performed SWOT Analysis regarding the role of Adult Education in Agriculture and Rural Development in Tunisia and Hungary reveals:

**Strengths:**

- Both Tunisia and Hungary have a strong agricultural sector, with significant potential for growth and development.
- Adult education can help farmers, especially women, to gain new skills and knowledge, which can increase their productivity and profitability.
- Both countries have demonstrated a commitment to promoting gender equality and women's empowerment in agriculture and rural development.
Weaknesses:
- In Tunisia, rural areas tend to have lower levels of education and higher rates of poverty and unemployment, which can limit the effectiveness of adult education initiatives.
- Hungary has struggled with declining population and leaving the profession, which could limit the pool of skilled individuals available to participate in adult education programs.
- Women in both countries may face cultural and social barriers to their participation in agricultural activities and education.

Opportunities:
- Adult education can play a crucial role in promoting rural development and empowering women by providing them with the knowledge and skills needed to participate in the agricultural sector.
- There is a growing demand for high-quality, sustainably produced food, which could create opportunities for farmers, especially women, to increase their incomes and improve their livelihoods.
- The use of technology and digital tools can enhance the reach and impact of adult education initiatives, especially in remote rural areas.

Threats:
- Limited funding for adult education programs in both countries could hinder the development and implementation of effective initiatives.
- Climate change and other environmental challenges, such as water scarcity, could affect agricultural productivity and livelihoods, especially in rural areas.
- Political instability and conflict, which have affected Tunisia in recent years, could undermine the effectiveness of adult education initiatives in agriculture and rural development.

Comparing the two countries Tunisia and Hungary, the SWOT Analysis discloses:

Strengths:
- Both Tunisia and Hungary have a strong tradition of adult education, which can be leveraged to promote rural development and women's empowerment.
- Tunisia has a relatively high literacy rate (around 81%) and has made significant progress in improving access to education, including for women.
- Hungary has a well-established network of adult education providers, including universities, community centres, and vocational schools.
- Both countries have shown a commitment to promoting gender equality and women's empowerment through policy initiatives.

Weaknesses:
- In Tunisia, rural areas tend to have lower levels of education and higher rates of poverty and unemployment, which can hinder the effectiveness of adult education initiatives.
- Hungary has struggled with declining population and brain drain, which could limit the pool of skilled individuals available to participate in adult education programs.
- In both countries, there may be cultural and social barriers to women's participation in education, particularly in rural areas.
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**Opportunities:**

- Adult education can play a critical role in promoting rural development and empowering women by providing them with the knowledge and skills needed to participate in the economy and society.
- There is growing recognition of the importance of gender equality and women's empowerment in international development, which could create opportunities for increased funding and support for adult education initiatives.
- The digitalization of education could provide new opportunities for reaching rural populations and women, particularly in remote areas.

**Threats:**

- Limited funding for adult education programs in both countries could hinder the development and implementation of effective initiatives.
- Political instability and conflict, which have affected Tunisia in recent years, could undermine the effectiveness of adult education initiatives.
- Economic challenges, such as high unemployment and low growth, could limit the impact of adult education on rural development and women's empowerment.

**Results**

Based on the quantitative analysis, the share of agricultural employment in Tunisia is almost four times higher (16%) than in Hungary (4.3%), suggesting that the agricultural sector is dominated by sectors with high labor intensity. In our opinion, this phenomenon can be observed in countries where non-formal education (learning from family members) strongly influences young people's intention to continue their education. Both countries have all 3 categories of education but in Hungary, following the accession to the European Union and the changes in the land law, women choosing the agricultural sector prefer formal education.

Our findings reveal distinct, yet complementary strengths in the adult education systems of Tunisia and Hungary (from the SWOT analysis), which can be an advantage for cross-regional collaboration to improve rural development outcomes and enhance women's empowerment. In particular, we identify three opportunities for collaboration and growth: integration of digital technologies and e-learning platforms, analyse development and implementation of context-specific, gender-responsive curricula, and capacity building for educators.

Our research on the role of adult education in rural development and women's empowerment produced significant results.

First, the research highlights the importance of adult education in promoting rural development and empowering women. Adult education can play a crucial role in providing rural communities with the skills and knowledge they need to participate in the economy and society, especially in the agricultural sector. By improving their skills and knowledge, adults, especially women, can increase their productivity and profitability and hence improve their livelihoods.

Second, the study identified several strengths and weaknesses in the adult education systems of Tunisia and Hungary. Both countries have a strong tradition of adult education that can be leveraged to promote rural development and women's empowerment. However, they also face challenges such as limited funding, cultural and social barriers, and economic and environmental challenges.
Third, the research highlighted several opportunities and threats to adult education initiatives in both countries. These opportunities include the growing demand for high-quality, sustainably produced food, increasing use of technology and digital tools, and growing recognition of the importance of gender equality and women's empowerment in international development. These threats include limited funding for adult education programs, climate change and other environmental challenges, and political instability and conflict.

Overall, research on the role of adult education in rural development and women's empowerment in Tunisia and Hungary has provided valuable insights into the challenges and opportunities faced by adult education initiatives in these countries. This has highlighted the need for policymakers, educators, and development practitioners to work together to strengthen adult education systems and promote rural development and women's empowerment. We have also highlighted the importance of a gender-inclusive approach, underlining the need to address sociocultural barriers that hinder women's participation in adult education and promote women's leadership in the design, implementation, and evaluation of such programs. By fostering cross-regional dialogue and knowledge exchange, this study seeks to contribute to ongoing global efforts to enhance rural development and gender equality through adult education.

Conclusions

Hungary has a long history of agricultural heritage, expertise, and innovation success spanning many centuries, and is ready to share its experiences with all African countries and its presence on the African continent in the second half of the twentieth century for processing plants and model plants. As a potential agricultural collaboration, Hungary considers Tunisia as a valuable cooperation partner, and not too many Hungarian economic actors are currently present. However, the number can be considerably increased through agriculture and rural development - diplomacy—paving the way for penetration into the Tunisian market.

Hungary's agricultural expertise and innovation success can provide valuable opportunities for collaboration with Tunisia and other African countries. Tunisia can benefit from the shared Hungarian agricultural knowledge and technology by promoting sustainable agriculture, improving food security, and creating new business opportunities. The ways in which Hungary and Tunisia collaborate in the agricultural sector are as follows:

- **Model farms** - As mentioned, Hungary can replicate the Ghanaian-Hungarian model farm in Tunisia, showcasing Hungarian agricultural innovations, techniques, and products. This can serve as a demonstration center for Tunisian farmers, researchers, and policymakers, promoting the adoption of Hungarian best practices and technologies.

- **Agricultural research and education** - Hungary is offering scholarships and exchange programs for Tunisian students and researchers in the field of agriculture, fostering knowledge sharing and capacity building in Tunisia and contributing to the development of the country's agricultural sector.

- **Climate-resilient agriculture** - Hungary and Tunisia can work together on research and development projects focused on climate-resilient agriculture, including breeding animals and cultivating plants that are better equipped to deal with heat, humidity, and pests. Tunisia's benefits would be to adapt to the impacts of climate change and ensure the sustainability of its agricultural sector.
Technology transfer and innovation - Hungary can support the transfer of agricultural technology and innovation to Tunisia, including advanced machinery, irrigation systems, and digital tools for precision agriculture.

In conclusion, the role of adult education in rural development and women’s empowerment in Tunisia and Hungary is crucial in promoting cross-regional collaboration, growth opportunities, and gender-inclusive strategies.

By focusing on the following key aspects, collaboration between both countries can achieve meaningful outcomes in cross-regional collaboration. Thus, Tunisia-Hungary cooperation can facilitate the sharing of best practices, exchange of ideas, knowledge, technology, experiences, and resources between the two regions (MENA and Europe), fostering mutual understanding and promoting regional integration, and addressing common challenges in rural development and women’s empowerment.

This collaboration can inspire other countries in both regions to engage in similar partnerships to create a network of interconnected relationships that serve as models for other cross-regional partnerships that strengthen the overall cooperation between Africa and Europe, leading to the creation of new programs and initiatives that benefit both countries.

Regarding the Growth opportunities, the transfer of knowledge, expertise, and technology can create new growth opportunities in the agricultural sector and beyond. By adopting advanced techniques and innovations, productivity, quality, and competitiveness can be considerably improved, leading to increased agricultural output, exports, and job creation. Therefore, adult education plays a significant role in rural development by providing individuals with the skills and knowledge needed to participate in the labor market, start businesses, and improve agricultural productivity. By investing in adult education, both Tunisia and Hungary can create growth opportunities for rural communities and contribute to overall economic development and prosperity, resulting in economic growth that can have spillover effects in other sectors.

Finally, collaboration in agriculture, education, and research can provide opportunities to implement gender-inclusive strategies that empower women and promote gender equality. Adult education can be an essential tool for empowering women, especially in rural areas, where access to education and resources may be limited. For instance, capacity-building programs and vocational training can be designed to target women and their empowerment, ensuring that they have equal access to the skills and knowledge needed to participate in the labor market. By designing gender-inclusive adult education programs, both countries can ensure that women have equal opportunities to acquire the skills, knowledge, and confidence required for their personal and professional growth. This has led to the socio-economic development of rural communities. In addition, model farms and other agricultural initiatives can include components that focus on women.

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