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EMPOWERING WOMEN FOR FOOD SECURITY IN ALGERIA: INVESTING IN RURAL LIVELIHOODS

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Abstract

This research explores the nexus between women's empowerment and the attainment of food security in rural Algeria, with a particular focus on the challenges faced by women in the agricultural sector. The study identifies several key obstacles impeding women's full participation in agriculture, including restricted access to resources, prevalent low literacy rates, entrenched traditional gender roles, and pronounced economic vulnerabilities. It underscores the critical role of empowering women through avenues such as educational advancement, skill development, improved healthcare access, and economic opportunities, as essential for bolstering food security at both household and community levels. Despite commendable initiatives by the Algerian government to improve conditions, the study points out the pressing need to confront enduring social norms and resource limitations. It advocates for a holistic strategy that not only promotes women's economic involvement and climate-smart agricultural practices but also addresses structural impediments. The study concludes by affirming that strategic investments in women's empowerment are indispensable for fostering sustainable food security and facilitating rural development in Algeria.

Keywords: Food Security, Women's Empowerment, Rural Development, Algeria, Agricultural Sector

1. Introduction

The intricate link between women's empowerment and food security has gained significant traction in development discourse and academic research. Evidence overwhelmingly suggests that empowering women in rural settings, particularly within the agricultural sector, significantly contributes to enhancing household food security and nutrition. This is particularly relevant in the context of Algeria, where rural women play a crucial role in

agricultural production and household food management, yet face numerous challenges that limit their full potential.

1.1. Research Problem

Despite their vital contributions, rural women in Algeria encounter several obstacles hindering their full participation in the agricultural sector and their ability to contribute effectively to food security. These challenges include limited access to resources like land, credit, and technology, lower literacy rates, traditional gender roles restricting their decision-making power and mobility, and economic vulnerability due to limited income-generating opportunities

1.2. Research Importance

Addressing the challenges faced by rural women and empowering them is not only a matter of gender equality but also a strategic imperative for achieving sustainable food security and rural development in Algeria. By investing in women's education, skills development, healthcare, and economic opportunities, we can unlock their potential as active contributors to agricultural productivity, household food security, and overall community well-being.

1.3. Aim and Objectives

This study aims to investigate the relationship between women's empowerment and the achievement of food security in rural Algeria. The specific objectives are:

- To identify and analyze the specific obstacles rural women face in the agricultural sector.
- To explore the impact of empowering women on household and community food security.
- To evaluate the Algerian government's efforts in promoting women's empowerment in rural areas.
- To propose recommendations and future directions for strengthening women's empowerment and achieving sustainable food security in rural Algeria.

1.4. Research Question(s):

- How do the specific challenges faced by rural women in Algeria hinder their contribution to food security?
- What are the potential impacts of empowering women on household and community food security in rural Algeria?
- To what extent are the Algerian government's current efforts effective in promoting women's empowerment and achieving food security?
- What strategies and interventions can be implemented to further strengthen women's empowerment and ensure sustainable food security in rural Algeria?

2. Literature Review

The intricate relationship between women's empowerment and food security has garnered increasing attention in development discourse and academic research. A robust body of evidence demonstrates that empowering women in rural areas, particularly within the agricultural sector, significantly contributes to improving household food security and nutrition (FAO, 2011). Studies have shown that women with greater control over resources, decision-making power, and access to education and information tend to allocate a larger share of household income toward nutritious food, healthcare, and children's education (Sraboni et al., 2014).

In the context of Algeria, research has highlighted the specific challenges faced by rural women in the agricultural sector. These challenges include limited access to land ownership, credit, extension services, and market information, which constrain their productivity and income-generating potential (World Bank, 2019). Additionally, social and cultural norms often restrict women's mobility and decision-making authority, further hindering their ability to participate fully in agricultural activities and benefit from economic opportunities (Lakhdari, 2016).

Several studies have explored the impact of specific interventions aimed at empowering women in rural Algeria. Microfinance programs, for instance, have shown promise in providing women with access to credit, enabling them to invest in income-generating activities and improve their livelihoods (UN Women, 2017). Similarly, agricultural extension services tailored to the needs of women farmers have been effective in enhancing their knowledge and skills, leading to increased productivity and income (Benmebrouk et al., 2018).

Despite these advancements, research also points to the need for more comprehensive and integrated approaches to address the multifaceted challenges hindering women's empowerment and food security in rural Algeria. This includes tackling discriminatory social norms, promoting gender-responsive land tenure reforms, and ensuring women's equal access to education, healthcare, and economic opportunities (UNDP, 2020).

3. Women and Food Security: A Global Perspective

Women play a crucial role in global food security, constituting a significant portion of the agricultural workforce in many regions. According to the Food and Agriculture Organization (FAO), women comprise approximately 43% of the agricultural labor force in developing countries. Studies indicate that when women have equal access to resources, farm yields can increase by 20-30%, potentially reducing the number of undernourished people by 100-150 million. Therefore, empowering women in agriculture is not only a matter of gender equality but also a critical strategy for achieving global food security and reducing hunger (FAO, 2021).

Access to secure and decent work in conditions of dignity and safety is vital to human welfare and well-being and is a key contributor to food security and nutrition. Women play a crucial role in global food security, yet they often face disproportionate challenges and inequalities (Ciccccarese & Silli, 2016). They are key contributors to agricultural production, particularly in smallholder farming systems prevalent in developing countries (Jafry, 2012). However, they experience limited access to resources such as land, credit, and technology compared to their male counterparts (Oguamanam, 2015). This gender gap in resource access directly impacts agricultural productivity and, consequently, food security (Mukhopadhyay et al., 2018). Further exacerbating these challenges, climate change poses a significant threat to women's livelihoods and food security, particularly in vulnerable regions (Hannah et al., 2013). Addressing these inequalities and promoting women's empowerment is essential for achieving sustainable food security globally (Breman et al., 2015). Investing in gender-sensitive agricultural development programs and policies that address women's specific needs and challenges is crucial for creating a more equitable and food-secure world (Tomori, 2023).

Analyzing global experiences in empowering women in climate-smart agriculture programs is crucial for understanding successful strategies, identifying best practices, and informing future interventions. By learning from these experiences, we can ensure that climate-smart agriculture programs are gender-responsive, equitable, and sustainable, ultimately contributing to global food security and women's empowerment.

Table (01): The Most important global experiences in empowering women in climate-smart agriculture programs

<i>Country</i>	<i>Program Name</i>	<i>Objectives</i>	<i>Year</i>	<i>Other Points</i>
Zimbabwe	Livelihoods and Food Security Program (LFSP)	Improve food security and nutrition; promote gender equality and women's empowerment through climate-smart agriculture.	2015 - 2017	Improve food security and nutrition; promote gender equality and women's empowerment through climate-smart agriculture.
Ethiopia, Tanzania, Uganda	Global Water Initiative East Africa (GWI EA)	Enhance food security through sustainable water access and use, empower women farmers.	2010 - 2015	Action research on water management, Learning and Practice Alliances (LPAs), focus on champion farmers (mostly women).
Malawi, Ghana, India, Mali,	Pathways to Empowerment	Increase productivity and empowerment of female farmers in equitable agriculture	2011 - 2016	Combines agricultural training with gender dialogues, promotes VSLA's, addresses land rights issues,

<i>Tanzania</i>		systems.		and engages men as allies.
<i>Ethiopia, Tanzania, Malawi</i>	WE-RISE	Improve food security and build resilience by empowering women through increased agricultural productivity.	2012 - 2017	Emphasizes VSLAs for economic empowerment, promotes leadership positions for women, and includes men in gender awareness-raising activities.
<i>Ethiopia</i>	Pastoralist Areas Resilience Improvement through Market Expansion (PRIME)	Increase household incomes and enhance resilience to climate change through market opportunities.	2014 - 2019	Promotes women's leadership in rangeland governance and VSLAs, utilizes Social Analysis and Action (SAA) to address social norms hindering adaptation.
<i>Niger</i>	Adaptation Learning Programme for Africa (ALP)	Build capacity of vulnerable households to adapt to climate change, promote community-based adaptation (CBA).	2010 - 2015	Develops innovative CBA approaches, integrates gender analysis into planning, and utilizes warrantage for increased food security and access to credit.
<i>Ethiopia</i>	Graduation with Resilience to Achieve Sustainable Development (GRAD)	"Graduate" households from safety net programs to long-term food security using climate-resilient approaches.	2013 - 2018	Combines gender equality messages with economic opportunities through VESAs, facilitates access to finance and markets, and transforms gender roles within households.

Source: (FAO, 2024)

From the previous table, we observe that global experiences in empowering women in climate-smart agriculture programs are characterized by being:

- **Geographic Focus:** The programs predominantly target Sub-Saharan Africa and South Asia, regions where women play a significant role in agriculture and face numerous challenges due to climate change and gender inequality.
- **Diversity of Approaches:** A wide range of approaches are employed, including capacity building, access to finance and markets, technology development, and community-based

adaptation, reflecting the complex and multifaceted nature of women's empowerment in agriculture.

- **Central Role of Collectives:** Many programs leverage the power of collective action through VSLAs and other groups to empower women economically, build social capital, and foster leadership skills.

- **Focus on Gender-Sensitive Technologies and Practices:** Several initiatives address the gender gap in access to technology and information by promoting technologies that reduce women's labor burden and providing tailored extension services.

- **Engaging Men and Transforming Social Norms:** Recognizing the importance of shifting societal attitudes and behaviors, successful programs actively involve men in promoting gender equality and challenging harmful stereotypes.

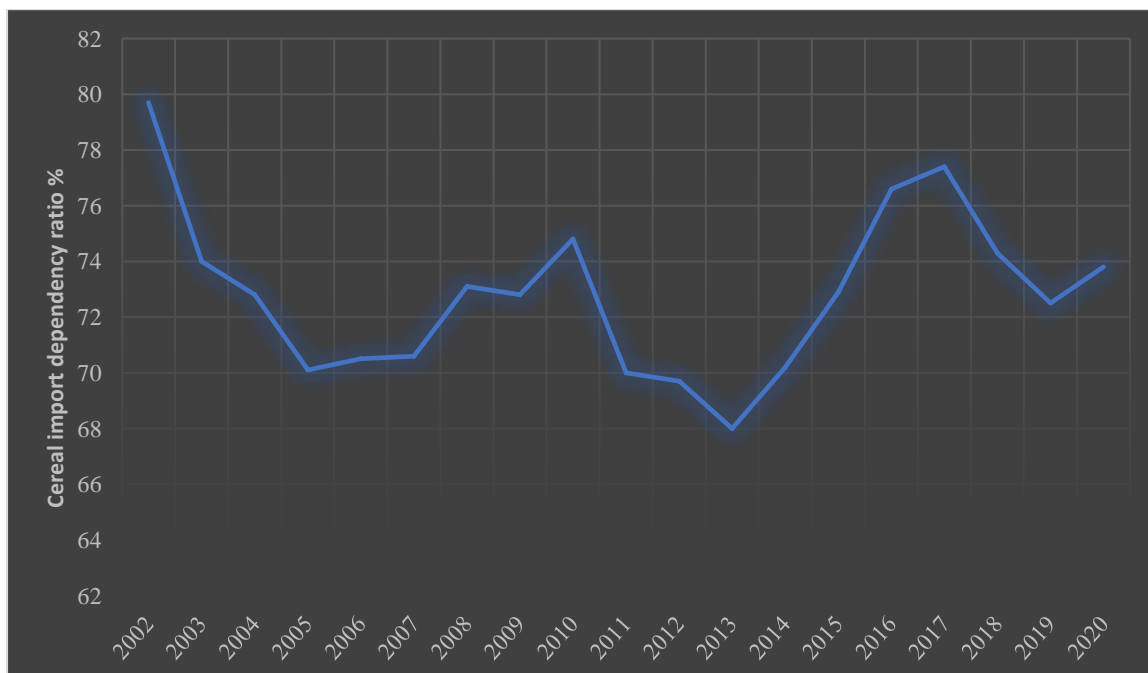
- **Building Resilience and Sustainability:** The programs demonstrate a commitment to long-term impact by focusing on building resilience to climate change and other shocks, promoting sustainable agricultural practices, and engaging with policy processes to create an enabling environment for women's empowerment.

4. Food Security Challenges in Algeria: A Multifaceted Issue

Algeria, like many countries in the Global South, faces significant challenges in achieving food security due to several key factors. One of the primary reasons is the heavy reliance on food imports, especially cereals, which leaves the country vulnerable to fluctuations in global prices and disruptions in supply chains, as evidenced by the impact of the 2007-2008 global food crisis and the Russia-Ukraine war (Abay et al., 2023; Fellmann et al., 2014).

The data on Algeria's cereal import dependency ratio reveals a fluctuating trend with a slight overall increase from 2002 to 2020. While there were periods of decline, such as between 2009 and 2013, the ratio reached a peak of 77.4% between 2015 and 2017, indicating a growing reliance on imports. This dependence poses a potential threat to food security, making Algeria vulnerable to global price fluctuations and supply chain disruptions. Factors such as climate change, population growth, and global market dynamics likely contribute to this trend. To enhance food security, Algeria could consider investing in domestic cereal production, improving water efficiency, diversifying food sources, and establishing strategic grain reserves. Addressing these challenges is crucial for ensuring a stable and sustainable food system in the country.

Figure (01): Cereal import dependency ratio (percent) (3-year average) % in Algeria for the period 2002-2020



Source: (FAO, 2024)

The previous figure shows Algeria's dependence on grain imports during the period from 2002 to 2020. This ratio is expressed as a percentage and reflects the proportion of a country's total grain supply that comes from imports, on a three-year average.

Below is a breakdown of the analysis:

1) Trend Analysis:

- The import dependency ratio started relatively high in 2002 at 79.7%.
- It decreased to a low of 68% by 2013, suggesting a period where Algeria was less reliant on imported cereals.
- From 2013 onwards, there's a fluctuation with a general increasing trend, peaking again in 2017 at 77.4%.
- The final year recorded, 2020, shows a slight decrease to 73.8%.

2) Interpretation:

- The decrease in dependency from 2002 to 2013 could indicate improvements in domestic cereal production, better cereal yield, or changes in food policy and economic conditions favoring reduced imports.
- The increase post-2013 could be due to various factors such as poor harvests, increased domestic demand, or economic conditions affecting local production capabilities.

Algeria heavily relies on cereal imports, with common wheat (soft and durum) being the most prominent. Over the past five years, the country's wheat import requirements have averaged around 7.6 million tons annually, primarily common wheat, which accounts for roughly 70 percent of domestic utilization.

Following a decline in domestic production in 2023, wheat import requirements for the 2023/2024 marketing year (July/June) are anticipated to reach 9 million tons, approximately 8 percent higher than the previous marketing year and 17 percent above the five-year average. Additionally, around 4 million tons of maize and slightly less than 1 million tons of barley are expected to be imported for feed purposes.

Historically, Algeria has primarily sourced its wheat imports from France, Canada, Germany, the United States of America, Spain, and Mexico. However, in the 2022/23 marketing year (July/June), wheat imports from the Russian Federation quadrupled compared to the 2021/22 marketing year, exceeding 2 million tons due to competitive pricing compared to other origins (FAO, 2024).

Several other factors contribute to the complexity of food security issues in Algeria. These include a lack of investment in agricultural research and development, weak storage and distribution infrastructure, and significant food waste. The reliance on traditional crops also increases the vulnerability of agricultural production to climate risks, highlighting the need for crop diversification and the adoption of modern agricultural technologies.

The challenges of food security in Algeria can be summarized in the following elements:

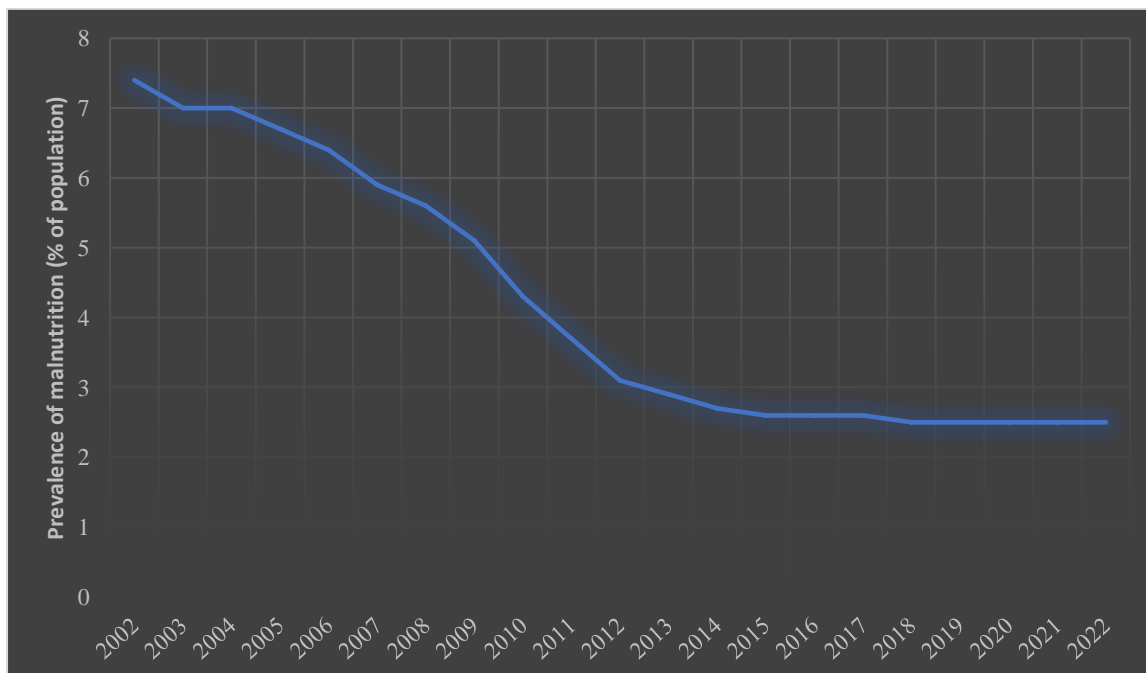
- **Import Dependence:** Algeria is heavily reliant on food imports, particularly for cereal grains, making it vulnerable to global price fluctuations and supply chain disruptions. The country's self-sufficiency ratio for essential commodities like sugar, oils and fats, grains, and wheat is significantly low, averaging around 13% to 28% (Rabehi & Kermia, 2023). This dependence on imports poses a significant challenge to achieving food security.
- **Water Scarcity:** Algeria is situated in a water-scarce region and faces challenges in managing its limited water resources effectively. Agriculture consumes a large portion of the available water, leaving other sectors and the growing population with limited access. This scarcity hinders agricultural productivity and exacerbates food security concerns.
- **Land Degradation:** Desertification and soil erosion are major concerns in Algeria, leading to a decline in arable land and reduced agricultural productivity (Kaabache & Badaoui, 2023). Unsustainable agricultural practices and climate change contribute to this degradation, further jeopardizing food security.
- **Limited Technology Adoption:** The use of traditional agricultural practices and limited access to modern technology hamper productivity and efficiency in the agricultural sector (Kaouther, 2024). This lack of technological advancement impedes Algeria's ability to increase domestic food production and achieve self-sufficiency.

- **Marginalization:** Rural communities, particularly women, face significant marginalization and lack access to resources, technology, and infrastructure, exacerbating their vulnerability to food insecurity (Arieff, A, 2011). Addressing these inequalities and empowering marginalized groups is crucial for achieving sustainable food security for all.

To overcome these challenges, a comprehensive strategy is required, encompassing a range of measures, such as:

- **Agricultural Development and Support:** Algeria has historically emphasized agricultural development as a means of enhancing food security. This involves initiatives such as the National Agricultural and Rural Development Plan (PNDAR), which aims to modernize the agricultural sector, increase productivity, and improve rural livelihoods (Ben Hassen & El Bilali, 2022). Efforts to promote sustainable agricultural practices, including water-use efficiency and soil conservation, are also crucial in the face of climate change (Smerald et al., 2023).

Figure (02): Prevalence of malnutrition (% of population) in Algeria for the period 2002-2022



Source: (FAO, 2024c)

The previous figure shows the prevalence of malnutrition in Algeria from 2002 to 2022. Below we will present a summary as well as an analysis of the data:

- The rate of malnutrition has declined continuously over this 20-year period.
- Starting from 7.4% in 2002, the rate gradually decreases to 2.5% by 2022.
- Noticeable declines were observed in the early years, with the rate falling from 7.4% in 2002 to 5.6% in 2008.

- After 2011, the decline in malnutrition rates slowed, stabilizing at around 2.5% from 2018 onwards.

This trend indicates a significant improvement in nutritional standards or access to food in Algeria during these two decades, especially in the first half of this period. The stabilization of the malnutrition rate at 2.5% in subsequent years may indicate that although great strides have been made, there are continuing challenges that prevent further decline in malnutrition rates below this level.

- **Trade and Market Stabilization:** Given Algeria's dependence on food imports, managing trade policies and ensuring market stability are essential for food security. This may involve measures to control import prices and diversify suppliers, as well as efforts to promote domestic production of key staples such as cereals (Wang et al., 2023).

- **Social Protection and Safety Nets:** Protecting vulnerable populations from food insecurity is a key priority. Programs like the National Solidarity Fund provide financial assistance and food aid to low-income households (Ahmed, 2014). Additionally, initiatives to improve access to nutritious food, such as school feeding programs and nutrition education campaigns, can contribute to better health outcomes.

- **Climate Change Adaptation and Resilience Building:** With climate change posing significant risks to agricultural production, adaptation and resilience-building measures are increasingly important. This may involve investing in drought-resistant crop varieties, improving water management infrastructure, and promoting climate-smart agricultural practices (Zhang et al., 2023).

- **Regional and International Cooperation:** Collaboration with regional and international partners is crucial for addressing food security challenges. This may involve participating in regional trade agreements, sharing knowledge and best practices, and accessing technical and financial assistance from international organizations (Abay et al., 2023).

While the specifics of current policies and programs may evolve, it is evident that Algeria is actively engaged in addressing food security concerns through a multifaceted approach that considers agricultural development, trade management, social protection, climate change adaptation, and international cooperation. As the country navigates a complex and dynamic global landscape, continuous efforts and innovation will be essential for ensuring sustainable food security for all Algerians.

5. Women in Rural Algeria: Roles and Challenges

Women in rural Algeria play a crucial, yet often overlooked, role in their communities. Historically, they have shouldered significant responsibility in maintaining family well-being and contributing to agricultural production (Barka, 2005). They are often the primary caregivers for children and elders, managing household tasks and ensuring food security for their families (Assami et al., 1987). Additionally, they participate actively in agricultural

activities, such as tending to livestock, cultivating crops, and participating in food processing and marketing (Saidj et al., 2013; Zouaoui et al., 2023). This involvement in farming is particularly prominent in regions like Tizi Ouzou and Bouira, where women manage a majority of family rabbit farms (Saidj et al., 2013).

However, women in rural Algeria face numerous challenges stemming from societal expectations, limited access to resources, and economic disparities. Traditional gender roles often confine women to the domestic sphere, limiting their opportunities for education, professional development, and participation in decision-making processes (Chaichian & Sadri, 2019). This is further compounded by lower literacy rates among rural women compared to their urban counterparts, hindering their access to information and resources (El Faquir, 2010). Economic opportunities for rural women are also limited, often characterized by informal and low-paying work in agriculture or craft industries (Chennouf & Hafsi, 2016; El Faquir, 2010). This economic vulnerability is exacerbated by factors like early marriage, which is more prevalent in rural areas and disrupts educational pursuits and career aspirations (Chellai, 2021; Moussouni et al., 2024).

Furthermore, access to healthcare services and education remains a significant challenge for rural women. Limited access to healthcare facilities and specialists, particularly in remote areas, contributes to delayed diagnosis and treatment, impacting their overall health and well-being (Sidibé, 2007). Additionally, educational opportunities for girls in rural areas are often restricted due to cultural norms and a lack of adequate infrastructure. This limits their potential for personal and professional growth and perpetuates cycles of poverty and limited opportunities.

Despite these challenges, women in rural Algeria demonstrate remarkable resilience and resourcefulness. They actively engage in income-generating activities, contributing to household finances and improving their families' living standards (Saidj et al., 2013). Their knowledge of traditional medicine and use of local plants for treating various ailments also plays a vital role in maintaining community health (Meddour et al., 2020) (Derridj et al., 2010). During crises like the COVID-19 pandemic, rural women adapted their practices and developed innovative solutions to overcome challenges, such as establishing virtual labor markets and adopting agro ecological practices (Leonardelli et al., 2021). This adaptability and strength are testament to their crucial role in shaping the social and economic fabric of rural Algeria.

Moving forward, addressing the challenges faced by rural women requires a multi-pronged approach. Promoting education for girls and providing access to vocational training can empower them with the skills and knowledge needed for better employment opportunities (Chennouf & Hafsi, 2016). Improving healthcare infrastructure and access to specialized services in rural areas is crucial for addressing health disparities and ensuring their well-being (Sidibé, 2007). Additionally, supporting women's participation in decision-making processes at the community level can amplify their voices and ensure their needs are addressed in development initiatives (Barka, 2005). Recognizing and valuing the multifaceted

contributions of women in rural Algeria is essential for fostering inclusive and sustainable development in these communities.

6. The Efforts of the Algerian State to Empower Rural Women Socially and Economically

The Algerian state has recognized the crucial role of rural women in the nation's development and has undertaken various initiatives to empower them socially and economically. These efforts aim to address the unique challenges faced by women in rural communities and unlock their full potential as contributors to food security, economic growth, and social progress.

6.1. Promoting Education and Skills Development

Recognizing that education is a cornerstone of empowerment, the Algerian government has made significant strides in improving access to education for girls in rural areas. Initiatives such as building schools, providing transportation, and offering scholarships have encouraged families to send their daughters to school (Algeria., 1985). Additionally, programs focused on vocational training and skills development equip rural women with the necessary tools to participate in income-generating activities and secure better livelihoods (Chennouf & Hafsi, 2016). This focus on education and skills development not only enhances their economic prospects but also fosters greater social inclusion and participation in community life.

6.2. Improving Access to Healthcare

The Algerian government has implemented measures to address the healthcare disparities faced by rural women. Expanding healthcare infrastructure, deploying mobile clinics, and training community health workers have improved access to essential medical services in remote areas (Algeria., 1985). Specific programs targeting prevalent health issues among rural women, such as anemia and vitamin (D) deficiency, have also been implemented. These initiatives contribute to better health outcomes for women, enabling them to actively participate in economic activities and fulfill their roles as caregivers.

6.3. Supporting Rural Livelihoods and Economic Opportunities

The government has introduced various programs to support rural livelihoods and create economic opportunities for women. Microcredit schemes and financial assistance programs provide access to capital for women entrepreneurs to start or expand their businesses (Barka, 2005). Initiatives promoting rural tourism and traditional crafts have also provided avenues for women to leverage their skills and generate income (Saidj et al., 2013). Furthermore, the government has encouraged women's participation in agricultural cooperatives and associations, enabling them to collectively access resources, market their products, and improve their bargaining power (Zouaoui et al., 2023).

6.4. Enhancing Legal and Social Protection

Algeria has made progress in strengthening the legal framework to protect women's rights and promote gender equality. Reforms to the Family Code have addressed discriminatory provisions and granted women greater autonomy in matters of marriage, divorce, and inheritance (Ghurayyib, 1992). Additionally, awareness campaigns and community outreach programs aim to challenge traditional gender roles and promote a more equitable distribution of household responsibilities. These efforts contribute to a more supportive environment for women to pursue their aspirations and participate fully in social and economic life.

6.5. Strengthening government, non-governmental and international organizations' initiatives and programs aimed at empowering women in rural Algeria

There are numerous initiatives and programs, both governmental and non-governmental, as well as from international organizations, aimed at empowering women in rural Algeria. Some examples include:

6.5.1 Joint program for gender equality and the empowerment of women in Algeria

The program was launched on February 26, 2010, with a budget of \$2,043,522. Participating UN agencies include: International Labor Organization (ILO), Joint United Nations Program on HIV/AIDS (UNAIDS), United Nations Development Program (UNDP), United Nations Population Fund (UNFPA), United Nations Children's Fund (UNICEF), United Nations Industrial Development Organization (UNIDO), United Nations Entity for Gender Equality and the Empowerment of Women (UN Women), The Algerian Ministry of National Solidarity, Family, and Women's Issues also participated in the program.

The joint program consisted of three inter-related strategic interventions:(MDG-F, 2024)

- ✓ It supported the establishment of a suitable environment for fair decision-making, strengthening the capacity to gather sex-disaggregated data and studies as well as integrating gender into sectoral programmes.
- ✓ The programme improved women's access to employment by supporting already existing job-creation mechanisms and by developing pilot projects.
- ✓ Public information on gender issues and women's socio-economic rights was promoted through partnerships with the media and Civil Society organisations.

Among the most prominent outcomes of this program, we highlight:

- **Strengthening Institutional Capacities:** Training sessions on database management were conducted to enhance the capacity of national institutions to produce gender-sensitive information.
- **Supporting Rural Women:** A diverse range of initiatives were launched to support vulnerable rural women, including vocational training, access to microcredits, and the establishment of literacy centers and other educational activities.

- **Empowering Women Living with HIV:** Women living with HIV in the municipalities of Djelfa and Tamanrasset, for example, were provided with dedicated support and training, and small credit facilities to help them engage in income-generating activities.
- **Supporting Women's Entrepreneurship:** Training sessions for trainers were held to support the creation and management of small businesses and the development of women's entrepreneurship.
- **Awareness and Media Outreach:** To raise media awareness of women's rights, members of national and local media were involved in all program activities, and journalists from the national radio were trained in this area.
- **Strengthening the Capacities of Civil Society Organizations:** To enhance communication and advocacy capacities for women's rights and improve the image of women in society, 90 individuals from NGO directors working in the field of women's rights across the country benefited from training in this area.

6.5.2 Rural Women's Capacity Building Program in Algeria

Within the framework of the Regional Initiative for Promoting Small-Scale Renewable Energy Applications in Rural Areas of the Arab Region (REGEND), ESCWA launched on October 16, 2023, a program aimed at building capacities in the fields of sustainability, renewable energy, energy efficiency, good agricultural practices, sustainable irrigation, food production, sustainable product marketing, and the water-energy-food nexus. This program is funded by the Swedish International Development Cooperation Agency (Sida) in partnership with the Arab Organization for Agricultural Development and with the support of the Ministry of Agriculture and Rural Development in Algeria (ESCWA, 2023).

6.5.3 Active Labor Market Programs (ALMPs)

Active labor market programs (ALMPs) in Algeria have attempted to address the marginalization of women in the workforce, particularly among young people. The Professional Integration Assistance Device (DAIP) program supports young job seekers through training, integration contracts, and subsidized work opportunities. However, the overall female labor force participation rate remains low at 14.2%, reflecting persistent challenges. The Social Development Agency (ADS) under the Ministry of National Solidarity runs the Insertion program for graduates (PID) which aims to place young graduates and technicians without income, including women, in temporary positions. The National Microcredit Management Agency (ANGEM) under the Ministry of National Solidarity also supports women through microcredit for income-generating activities, with over 600,000 projects financed to date (ETF, 2014).

7. Challenges and Future Directions

Algeria, like many developing nations, faces the challenge of empowering rural women to achieve food security. This issue is compounded by several factors, including deeply

ingrained patriarchal structures that limit women's access to resources, education, and decision-making processes (UN Women, 2023). Traditional gender roles often confine women to domestic tasks and unpaid labor, restricting their participation in income-generating activities and agricultural production (World Bank, 2022). This marginalization hinders women's ability to contribute to household food security and economic stability.

Furthermore, rural women in Algeria often lack access to essential resources such as land ownership, credit, technology, and training (FAO, 2021). This limited access creates a cycle of dependence and vulnerability, further exacerbating food insecurity. Additionally, climate change poses a significant threat to agricultural productivity and rural livelihoods, disproportionately affecting women who rely heavily on natural resources for sustenance and income generation (IPCC, 2022).

Looking ahead, several trends offer potential solutions for empowering rural women and enhancing food security in Algeria. Digital technologies, such as mobile banking and e-learning platforms, can bridge the information and resource gap for rural women, enabling access to financial services, market information, and agricultural training (GSMA, 2023). Promoting gender-responsive policies and programs that address discriminatory practices and provide women with equal opportunities to own land, access credit, and participate in decision-making are crucial steps towards sustainable food security (UN Women, 2023). Additionally, investing in climate-smart agriculture and sustainable land management practices can enhance resilience and mitigate the impacts of climate change on rural livelihoods (FAO, 2021).

By addressing the challenges of marginalization and investing in these future trends, Algeria can empower rural women to become active agents of change in achieving food security and sustainable development for all.

8. Conclusion

This study has explored the critical relationship between women's empowerment and food security in rural Algeria, highlighting the challenges faced by women in the agricultural sector and the potential for targeted interventions to improve their well-being and contribute to overall food security. Despite significant advancements in food availability and accessibility in Algeria, vulnerabilities persist, particularly among rural communities where women often bear the brunt of limited access to resources, land ownership, financial services, and market participation.

Our analysis of existing literature and global experiences reveals that empowering women through education, skills development, healthcare access, and economic opportunities can significantly enhance food security at both the household and community levels. Women with greater agency and control over resources tend to invest more in their families' nutrition, health, and education, leading to improved well-being and resilience.

The Algerian government has implemented various initiatives aimed at empowering rural women, including promoting education for girls, improving healthcare infrastructure, and supporting rural livelihoods through microfinance and agricultural extension services. These efforts, coupled with legal reforms promoting gender equality, demonstrate a commitment to addressing the challenges faced by rural women. However, persistent social norms, limited access to quality education and healthcare, and the need for comprehensive support for rural livelihoods remain significant hurdles.

Recommendations and Future Directions:

- **Comprehensive Approach:** A multi-pronged approach is essential, tackling discriminatory social norms through awareness campaigns and community engagement, while simultaneously investing in girls' education, healthcare infrastructure, and economic opportunities for women.
- **Strengthening Market Linkages:** Facilitating access to markets for women entrepreneurs through infrastructure development, training on marketing and business management, and promoting women's cooperatives can enhance their income-generating potential and contribute to food security.
- **Promoting Participation in Decision-Making:** Ensuring women's representation in decision-making processes at local and national levels is crucial to ensure their needs and priorities are reflected in policies and programs.
- **Focus on Climate-Smart Agriculture:** Investing in climate-smart agricultural practices and sustainable land management techniques is crucial for building resilience to climate change and ensuring long-term food security.
- **Further Research:** Further research is needed to evaluate the effectiveness of existing programs, identify best practices, and inform the design of future interventions tailored to the specific needs of rural women in Algeria.

Empowering women in rural Algeria is not just a matter of gender equality but a strategic imperative for achieving sustainable food security and rural development. By investing in their education, health, and economic opportunities, Algeria can unlock their full potential as agents of change and contribute significantly to building a more equitable and resilient future for all.

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