

**Can Women Achieve Sustainable Integration into Agricultural Services
Markets? Evidence from an Exploratory Study in Torbeck, Haiti**
**Les femmes peuvent-elles intégrer durablement le marché des services
agricoles ? Résultats d'une étude exploratoire à Torbeck, en Haïti**

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Date de soumission : 04/04/2026

Date d'acceptation : 05/06/2026

Pour citer cet article :

Balthazar-Accou, K. & al. (2026) « Can Women Achieve Sustainable Integration into Agricultural Services Markets? Evidence from an Exploratory Study in Torbeck, Haiti », Revue Française d'Economie et de Gestion « Volume 7: Numéro 6 » pp: 156- 179.

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Abstract

Women's empowerment necessarily involves their socioeconomic integration. Yet, they are generally absent from certain income-generating activities. This is particularly true in Haiti, where the sale of agricultural services is dominated by men. The FADEKA2 intervention in a predominantly agricultural area of southern Haiti (Torbeck) offers an opportunity to study the following questions: Are the women supported by the FADEKA2 project better prepared to enter the stereotypical market of agricultural mechanization services? Will they be able to sustainably integrate into this male-dominated sector? Are farmers willing to purchase agricultural services sold by women? Analysis of comparative data from both sexes, based on a sample of approximately 80 people, shows that the women benefiting from the FADEKA2 project feel ready to face competition and male dominance in the sale of agricultural mechanization services. However, men active in this market are not enthusiastic about the integration of women. Farmers, however, are receptive to the idea of purchasing veterinary care or plowing services offered by women, which suggests a degree of sustainability for women's integration into this market.

Keywords: Women's empowerment, agricultural mechanization, service sales, Torbeck, Haiti.

Résumé

L'autonomisation des femmes passe nécessairement par leur intégration socioéconomique. Pourtant, elles sont généralement absentes de certaines filières d'activités génératrices de revenus. C'est particulièrement le cas en Haïti où la vente de services agricoles est dominée par les hommes. L'intervention du FADEKA2 dans une zone essentiellement agricole du Sud d'Haïti (Torbeck) offre l'opportunité d'étudier les questions suivantes : Les femmes appuyées par le projet FADEKA2 sont-elles mieux préparées à intégrer le marché stéréotypé de la vente des services de mécanisation agricole ? Pourront-elles s'intégrer durablement dans cette filière d'activité dominée par les hommes ? Les agriculteurs sont-ils prêts à acheter les services agricoles vendus par des femmes ? L'analyse des données comparatives des deux sexes, à partir d'un échantillon d'environ 80 personnes, montre que les femmes bénéficiaires du projet FADEKA2 se sentent prêtes à affronter la concurrence et la domination des hommes dans la vente de services de mécanisation agricole. Cependant, les hommes actifs sur ce marché ne sont pas enthousiastes à l'intégration des femmes. Les agriculteurs sont toutefois favorables à l'idée d'acheter les services de soins vétérinaires ou de labourage offerts par des femmes, ce qui laisse entrevoir une certaine durabilité de l'intégration des femmes sur ce marché.

Mots-clés : Autonomisation des femmes, mécanisation agricole, vente de services, Torbeck, Haïti.

1. Introduction

Women's economic empowerment is recognized as a key driver of sustainable development (Dias, 2021). Its effectiveness largely depends on their socio-economic integration, particularly through financial inclusion (Moghadam and Senftova, 2005; Sery and Aka, 2025). In developing countries, this inclusion frequently involves the development of income-generating activities. These activities are often deployed in the informal sector and in peripheral rural areas neglected by the central government, referred to in Haiti as "countryside" and "countryside," terms that reflect a historical territorial segregation from the capital. While significant legislative progress has been made regarding women's access to rights in recent decades, financial inclusion remains structurally weak in rural Haiti (FinMarkTrust, 2019; Paul and Ciguino, 2025). Faced with the unattainable collateral requirements of the formal banking system and the high interest rates charged by traditional microfinance organizations (Paul et al., 2011; Paul et al., 2012), alternative financial mechanisms have emerged. Community-based loan and contribution associations (ABCPs), and more specifically solidarity mutuals (MUSOs), have gradually established themselves as key community financing mechanisms in the agricultural sector (Gabellus and Paul, 2023). This participatory dynamic has created openings in a system that has traditionally excluded rural Creole-speaking populations, without, however, resolving all the structural inequalities that affect women.

Agriculture is a strategic sector in Haiti, both economically and socially. It employs nearly 50% of the population and contributes a quarter of the GDP, although it only covers 45-50% of food needs (World Bank, 2019). Women play a central role in agriculture, but they face multiple forms of discrimination: limited access to land, irrigation, mechanization, and quality inputs (Joseph, Gabellus, and Paul, 2025). They also receive less technical training and agricultural extension than their male counterpart (Paul and Lamarque, 2026). Because of their lack of control over highly productive resources and weak decision-making power particularly on productive capacities, they are mostly relegated to processing and marketing activities where they try to develop certain market power through the Madan Sara network of market women (Steckley et al., 2023; Jean-Gilles, Paul, and Soussi, 2025).

This gendered division of agricultural labor, reinforced by persistent stereotypes in which men are predominantly involved in production and women in sales, limits their opportunities for economic empowerment (Steckley et al., 2023; Jean Gilles, Paul, and Soussi, 2025). Haiti is undoubtedly not the only country where the agricultural sector is dominated by men. Christine

Delphy (1999) argued that such struggle to maintain women in an inferior social position and the social obstacles erected to prevent their full development are part of a form of political economy of patriarchy. The latest hampers women's economic empowerment which refers to women's equal participation in markets and access to basic productive resources, incomes, and opportunities of economic development (Mauconduit et al., 2013; Steckley et al., 2023). This situation reduces the possibility to achieve the United Nations Sustainable Development Goals (SDGs), particularly the goal number 5 regarding the commitment to remove gender-based discrimination.

Faced with the persistence of restrictive social norms, rural Haitian women managed to develop different forms of collective actions to compensate for the shortcomings of formal institutions that could help empowering them, whether in the marketing of fish products (Pierre, 2025) or fruits (Ciguino and Paul, 2022), among other downstream products agricultural value chains. In the upstream of the agricultural value chains, women remain formally excluded; particularly in the agricultural services market. In this context, the Phase II of the UN Women project "Fanm nan Agrikilti se Devlopman Ekonomi Ayiti (FADEKA2)", implemented by the Haitian Association for Women, Science and Technology (AHFST), in the municipality of Torbeck (South Department), initiated an unprecedented socioeconomic experiment. The project aimed to support a group of rural women in acquiring technical skills and providing agricultural services (veterinary care and plowing) traditionally performed by men. Therefore, it created a unique situation conducive to the analysis of gender dynamics in this sector.

This research pursued a dual objective. Firstly, it aimed to assess the impact of the FADEKA 2 project on the socioeconomic conditions of the women beneficiaries and, secondly, to analyze the perceptions of the various stakeholders (beneficiaries, non-beneficiaries, established service providers, and clients) regarding the feminization of a market that was previously male-dominated. More specifically, the research question was: Can FADEKA2's female beneficiaries in Torbeck achieve sustainable integration into the agricultural services market? We aimed to understand whether the acquisition of technical skills and the provision of agricultural services by women constitute an effective lever for empowerment, and will the women be able to overcome cultural and structural barriers. The originality of this research lies in its multi-stakeholder approach, which allows for an understanding of the complex dynamics at play in this social innovation. By combining the perspectives of the different

stakeholders, it offers a balanced understanding of the obstacles and drivers that determine the sustainable integration of women into this sector.

The rest of the article is structured into four sections. First, we briefly review the existing literature on women's empowerment and gender stereotypes in agriculture. Second, we explain the comparative survey methodology adopted to carry out the research, involving a sample of 114 individuals divided into four categories of stakeholders. Third, the results are presented and discussed in light of the broader challenges of women's economic inclusion in rural Haiti. In the last section, the conclusion addresses the practical implications of this experience for agricultural development and gender equality policies, while also suggesting avenues for future research.

2. Brief literature review

2.1. The evolution of women's rights in developing countries

Women's empowerment is often presented as a central lever for sustainable development. Since the 1970s, women's rights have made significant progress in many developing countries, driven by transnational feminist movements and international conventions such as CEDAW and the Beijing Conference (Duplessis, 2021). However, this progress has been uneven. Urban women, better integrated into educational and institutional systems, have benefited more quickly from legislative reforms. In contrast, rural women continue to face a persistent gap: limited access to land ownership, weak representation in local bodies, and constraints linked to customary norms (UN Women, 2024). This territorial divide illustrates the difficulty of translating legal advances into tangible social transformations in rural areas. In 2023, The World Bank observed an untapped potential after the assessment of the barriers to gender equality in Haiti (World Bank, 2023).

2.2. Women's socioeconomic empowerment: a two-speed movement

Targeted interventions aimed at women's financial inclusion have advanced their economic and social rights. Microfinance policies, vocational training programs, and the increasing integration of women into the formal sectors of the economy have enabled some to strengthen their economic independence (FAO, 2023). However, this process is occurring at two speeds. Rural and agricultural women remain largely excluded from these dynamics due to structural constraints: limited access to credit, dependence on informal networks, and increased vulnerability to climate and economic shocks (Ouattara, 2022). Even in the feminist movement, this rural-urban discrepancy persists. This marginalization of rural women

contributes to reproducing socioeconomic inequalities and limiting the overall impact of empowerment policies (Beans for Women Empowerment Project, 2024).

In Haiti, despite national trend of feminization of head of households, data analysts demonstrated that households in urban areas were 2.6 times more likely to be headed by women compared to those in rural areas (Jean Simon et al., 2023). In their quest for more power, rural women have been more able to integrate the commercial activities than the productive ones (Paul, Daméus and Garrabé, 2010). Aside from development programs specifically targeting women or initiatives led by women (Gabellus and Paul, 2003), empirical studies have shown that Haitian women farmers are disadvantaged compared to male farmers, having more limited access to land, irrigation, mechanization, and quality services (Joseph et al., 2025). Furthermore, they suffer from a lack of training in farming, as most technical capacity-building projects target men (Joseph et al., 2024; Gabellus and Paul, 2023). Recent research on agricultural extension has also revealed that women are also disadvantaged in terms of access to training, inputs and other innovation (Paul and Lamarque, 2026)

2.3. The persistence of gender stereotypes in agricultural activities

The literature also shows that certain agricultural activities have historically been perceived as the domain of men. This has created stereotypes that have become barriers to women's integration into agricultural service provision in particular. Jean Gilles, Paul, and Soussi (2025) remind us that the informal environment of Haitian agriculture is marked by male domination. To carve out a place for themselves, women have had to resist through social innovations—the *sistèm pratik*—leading to the creation of an economic, identity-based, and political space where they survive by accumulating useful institutional capital linked to both social capital and financial capital (Jean Gilles, Paul and Soussi, 2025).

With different waves of rural migration, more women have become head of households in the rural areas. This raised their decision-making power at the level of the farm. However, this social status is not already valued in the local farmers' organizations and the women are still perceived for the reproductive role (Lamaute-Brisson, 2012; Jean Simon et al., 2023). Because of the socio-institutional reproduction of such stereotype, Padgett and Warnecke (2011) considered Haitian women as "Diamonds in the Rubble".

The market for agricultural services remains marked by gendered segmentation: men are perceived as the primary beneficiaries of technical advisory, credit, and mechanization services, while women are relegated to activities considered "secondary" or "domestic" (BKT, 2022). Agricultural mechanization particularly illustrates this inequality: equipment and

technological innovations are designed to meet the needs of male-owned farms, leaving women dependent on more time-consuming and less productive traditional methods (Terre de Liens, 2024). These social representations reinforce the sexual division of labor and limit the ability of rural women to fully benefit from the opportunities offered by agricultural modernization (Pionetti, 2022). In Haiti, as in other developing countries, cash crops and highly profitable activities are generally practiced by men, leaving women relegated to informal sales activities (Jean-Gilles and Paul, 2023; Gabellus and Paul, 2023) or post-harvest processing activities (Adedeji et al., 2019). However, integrating women into the socioeconomic fabric requires access to significant income-generating activities for a genuine rebalancing of decision-making power and socioeconomic empowerment (Steckley et al., 2023). Women empowerment in agricultural sector could be an effective strategy in terms of household food security achievement (Ibnouf, 2011). Asadullah and Kambhampati (2021) argued that feminization of farming is good for food security.

3. Methodology

This research was carried out using a mixed method: both qualitative and quantitative. It focuses on a case study of a project implemented in the commune of Torbeck, Haiti, a country located in the Caribbean. Torbeck is one of several municipalities or communes where the "Women's Empowerment for the Recovery of Southern Haiti" project, known as "Fanm nan Agrikilti se Devlopman Ekonomi Ayiti" (FADEKA), is in its second phase of implementation (2022-2025). FADEKA2 has undertaken several activities, two of which have focused on supporting women in creating income-generating activities through the sale of agricultural services (veterinary care and plowing services). This specific project activity has benefited 30 people, mostly women.

First, we reviewed the project reports. Then, to further our understanding of the intervention, 6 individual interviews were conducted with the leaders of the local organizations to which the female beneficiaries belong. In a third time, and for comparative purposes, we collected data from 18 female beneficiaries of the project and 30 non-beneficiaries of both sexes who were expected to compete in the same agricultural services market. Fourth, we collected data from 28 men and 2 women already active in this services market. Finally, to analyze the farmers' perceptions of those new women entrepreneurs, we surveyed a sample of 30 farmers considered as potential clients for these types of services.

The information, both qualitative and quantitative, was collected via questionnaires administered in person by interviewers or surveyors trained by the research team (4 surveyors

with bachelors in agronomy, 2 assistant researchers with master degree in management, 1 agro-economist) and supervised by a senior agricultural economist. Data collection activities took place in the fall of 2025, just after the project's implementation had concluded. The information collected covered perceptions, activities, expenditures, income, feelings of autonomy, and intentions (willingness to purchase services offered by women) as well as potential gender-based barriers to entry.

Data collected via the KoboCollect platform were transferred to SPSS software (version 20) for processing and analysis. Statistical analyses were conducted using a p-value of 5% as the significance threshold.

4. Results

4.1. The respondents' profile

All 18 beneficiaries surveyed were women living in the Torbeck municipality which is an agricultural plain that serves as the breadbasket for the South Department (Russo et al., 2021). The 30 non-beneficiaries (14 women and 16 men) used as a control group also all live in the same municipality, with a similar socioeconomic profile.

The 30 potential clients of the women selling agricultural services include 11 women and 19 men. The remaining 30 competitors (mostly men, with only 2 women) who regularly sell agricultural services, all based in Torbeck, were surveyed to study the perceptions of existing vendors regarding the arrival of the female service sellers, beneficiaries of the project.

Most of the women beneficiaries of the FADEKA2 project hold decision-making positions within their households, as 55.56% of them are heads of household. The average age of these beneficiaries is 38.89 years (standard deviation: 14.40 years; minimum: 22, maximum: 75), while non-beneficiaries are significantly older, with an average of 49.17 years (standard deviation: 14.78 years; minimum: 28, maximum: 82).

The education level of beneficiaries of agricultural services is rather high, with 38.9% university graduates compared to only 10% for non-beneficiaries, 20% of whom are illiterate (Figure 1). This result differs from national figure and may be due to the project targeting strategy.

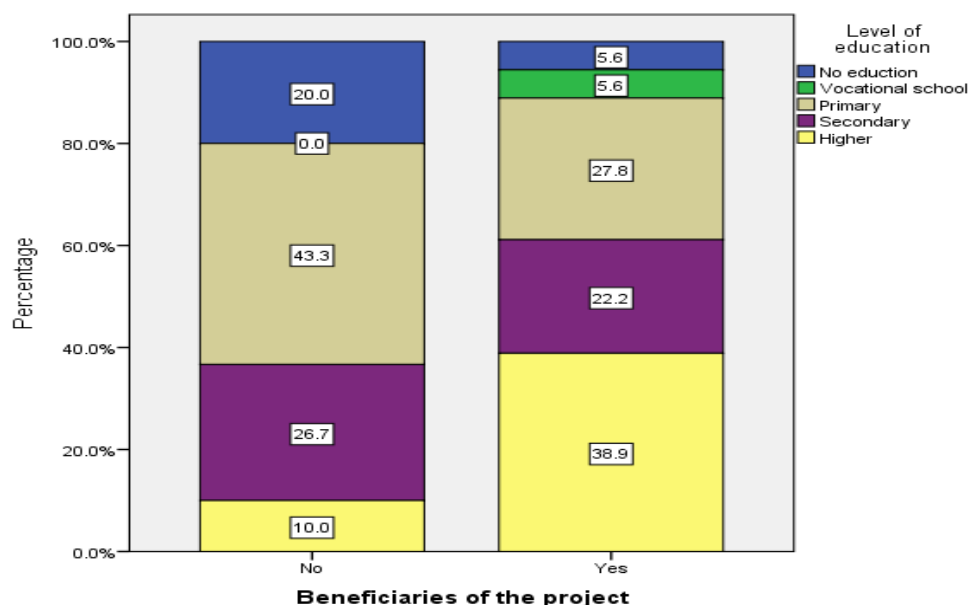


Figure 1. Respondents' education level

The beneficiaries and the non-beneficiaries are at the same level in terms of percentage (83.3%) of them who have another income-generating activity (most often in retail). They are mostly single or in common-law relationships (Figure 2). Their number of dependents is relatively high, averaging 7.33 people (standard deviation: 3.61), while their non-beneficiary counterparts have an average of 6.00 (standard deviation: 2.61). This result reflects recent study on the feminization of the head of households in Haiti, including farming households (Jean Simon et al., 2023).

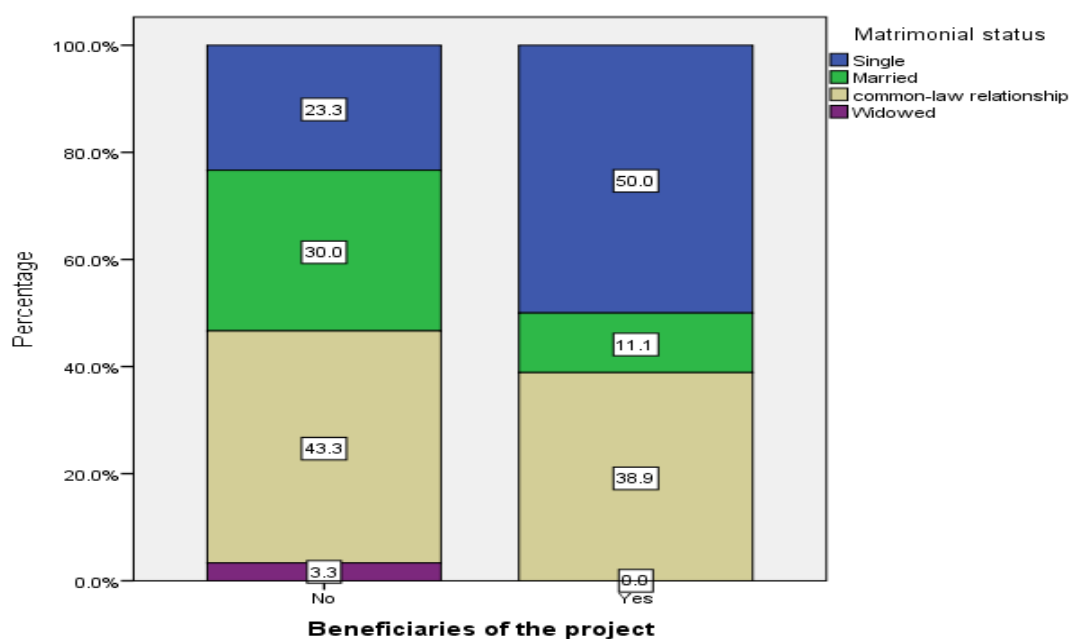


Figure 2. Marital status of beneficiaries of agricultural services

4.2. Pre-project situation of the beneficiaries

With no significant difference between the two groups, the level of agricultural training was very low among the respondents (Figure 3). Only 4 beneficiaries (22.2%) had attended a specific seminar related to plowing or veterinary care, compared to 5 among the non-beneficiaries.

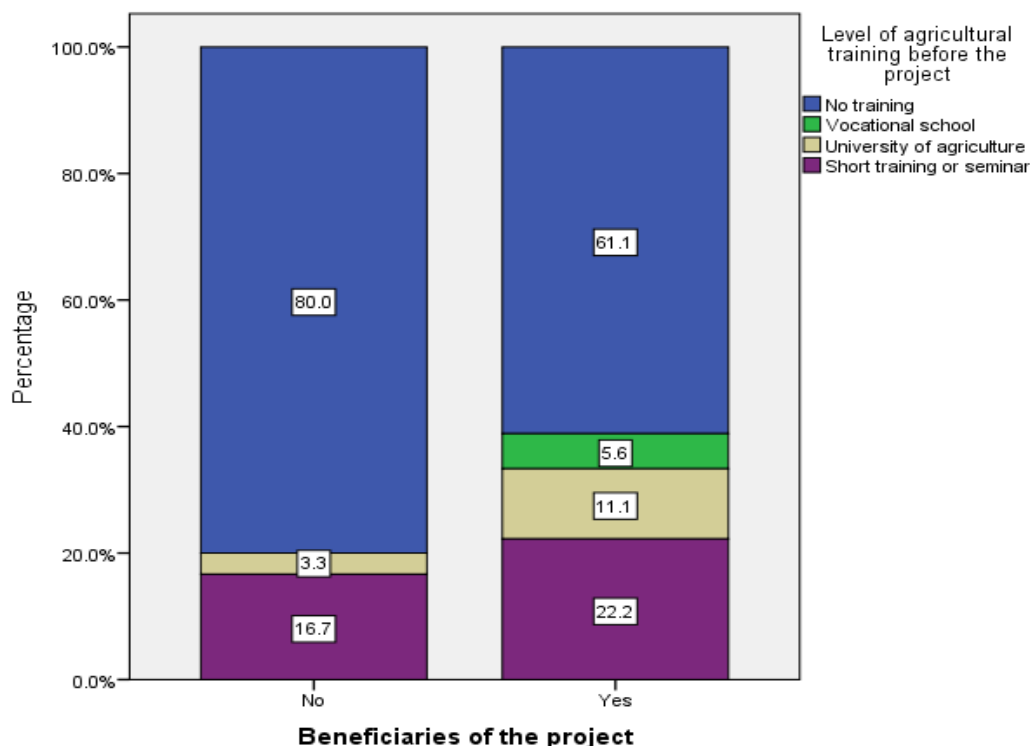


Figure 3. Level of beneficiaries' agricultural training in agricultural services before the project

Yet, these people have been farming for quite some time. It must be said that, pending the professionalization of agriculture in Haiti, no specific knowledge is required to practice farming. For example, among the beneficiaries, 94.4% reported raising livestock for an average of fifteen years; some (72.2%) have been providing veterinary care for about a year and a half, while others (27.8%) have been selling plowing services for a year. It is clear that the project's intervention is bringing significant change in two respects: 1) in agricultural training in general, and 2) in the integration of women into these service-selling activities, which are generally reserved for men. Therefore, this is in line with recent claim for targeted agricultural extension in favor of marginalized rural groups (Paul and Lamarque, 2026).

4.3. Post-project situation of the beneficiaries

At the end of the project, all beneficiaries received 2 to 3 days of training in administering veterinary care or conducting plowing activities. In the Torbeck Plain, a renowned

agricultural area in the country, these services are in high demand, and their sale represents a significant income-generating activity.

As an example of this early agricultural entrepreneurship, 6 of the 18 beneficiaries reported selling plowing services for the past year to a growing clientele of up to 15 people, whereas previously none of them offered this type of service. It is important to note that even among the 12 other beneficiaries who have not yet started, 2 stated that they hope to begin this activity soon in order to increase their income. Among the women receiving specific training in veterinary care, while only 3 out of 18 had previously sold these services before the project, now 12 out of 18 sell them to clients ranging from 4 to 30 people. Half (3/6) of the beneficiaries who are not yet selling these services want to be involved in their distribution. The desire for entrepreneurship in agricultural services is clearly strong among the women beneficiaries. We will later examine the perceptions of competitors and clients regarding their entry into this stereotypical market.

4.4. Comparative improvement in the situation of the project beneficiaries

The arrival of women in agricultural mechanization is a particularly recent phenomenon in Haitian agriculture (Paul and Régis, 2023). Similarly, the profession of veterinary agent has been exclusively reserved for men. Indeed, while women's presence in agricultural activities is increasingly strong, it remains confined to either marketing activities or the exploitation of subsistence sectors (Paul and Régis, 2023). One may consider the integration of women in the veterinary service as the reproduction of stereotype that confine women in the care service. However, in the case of Haiti, this represents a step forward women entrepreneurship in the restricted agricultural service market. Although, there is risk for this type of entrepreneurship to remain informal (Mauconduit et al., 2013).

The total monthly income from livestock farming and the sale of agricultural services is significantly higher for non-beneficiaries than for beneficiaries (Figure 4). This is likely because the beneficiaries were already more vulnerable, but also because they have not yet fully developed their service offerings, particularly in the area of plowing, where they lacked the necessary equipment and materials (which were provided late by the project). For market reasons, this gap may persist for some time before women establish and expand their businesses and build a loyal clientele.

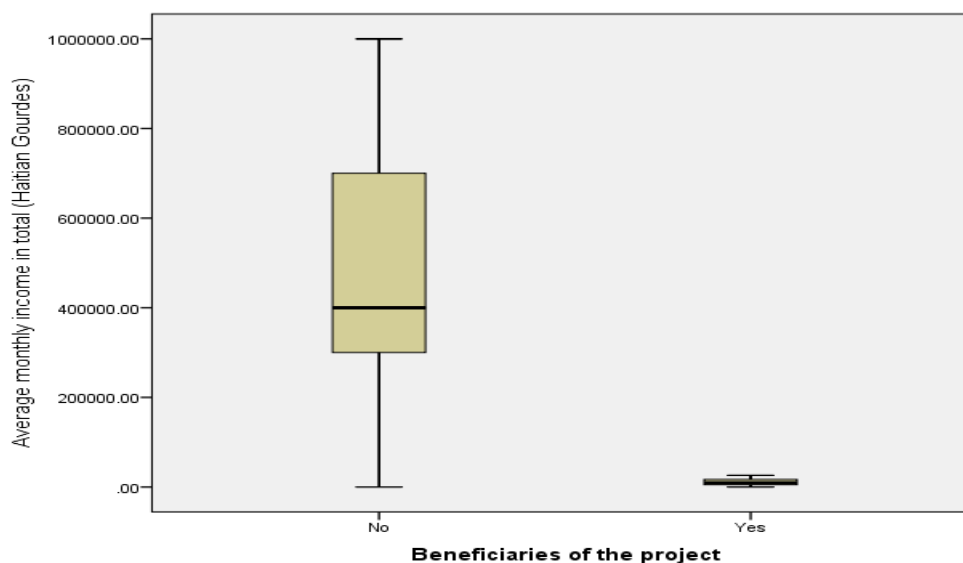


Figure 4. Comparison of beneficiaries in relation to the total monthly income level

If we compare only the income generated from the sale of veterinary care services (Figure 5), we see that the difference between the two categories (beneficiaries and non-beneficiaries) diminishes. Indeed, the women beneficiaries are new and have not yet expanded their clientele or begun a customer loyalty strategy; however, they have acquired skills that can allow them to integrate the market and position themselves effectively in it. In the contrary, beneficiaries of the plowing skills program, whose equipment was delivered late by the project, were not able to show proper integration in the agricultural service market. The women beneficiaries of veterinary care skills were already beginning to provide viable competition to their non-beneficiary counterparts.



Figure 5. Comparison of respondents with respect to income derived from the sale of veterinary care services

As a consequence of the project intervention, we also studied the change in socioeconomic status. We noted that project beneficiaries are still just as exposed to food insecurity as non-beneficiaries. The level of food security was estimated using the methodology popularized by Coates et al. (2007), which measures household access to food using a series of nine questions. Responses to these binary (yes/no) questions allow us to calculate a score known as the Household Food Insecurity Access Scale (HFIAS). This score (ranging from 0 to 27) establishes the four levels of food security for a household over the two months preceding the survey. The tests (Chi-square test on the security levels or t-test on the score) did not demonstrate a statistically significant difference between the two population groups (Figure 6). This result shows that project beneficiaries are not yet in a better socioeconomic situation than non-beneficiaries. This result may be due to the fact that it is too early to observe this type of effect of the project, as the income-generating activities have only just begun.

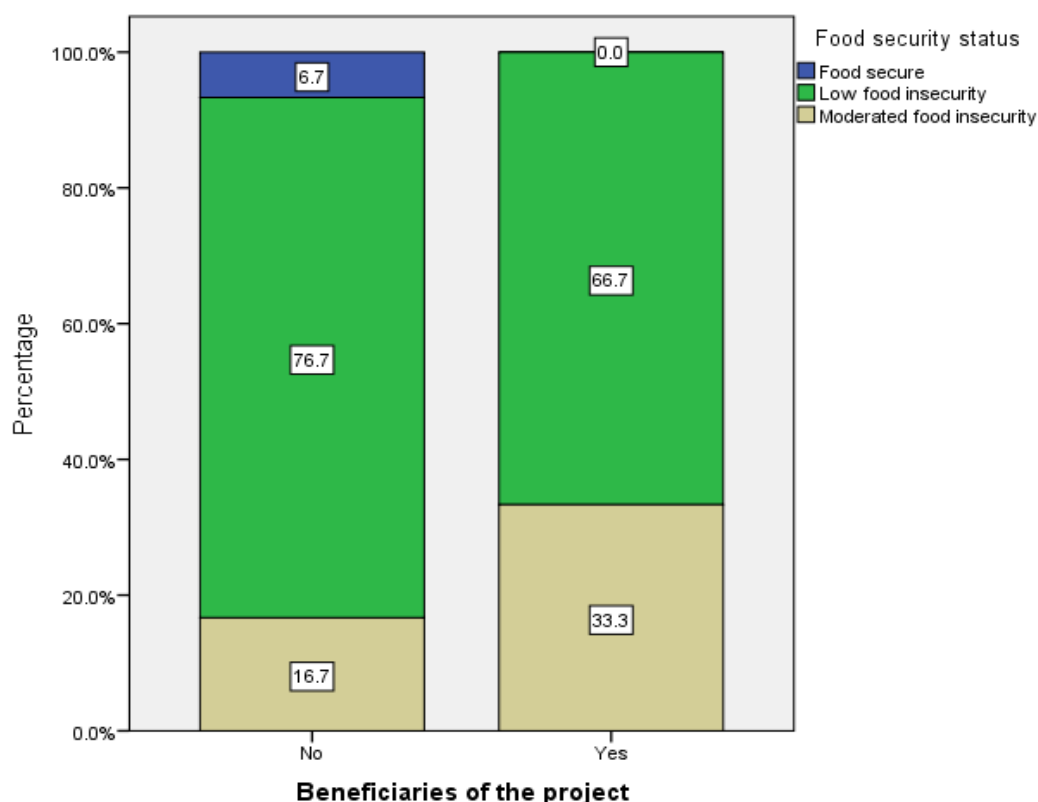


Figure 6. Food security status of respondents

It is important to note, however, that none of the respondents were experiencing severe food insecurity. Furthermore, the fact that respondents with food security were primarily found among non-beneficiaries also indicates that the project effectively targeted the most vulnerable people in the area.

4.5. Acquisition of technical skills and feelings of empowerment and competitiveness

The vast majority of beneficiaries of agricultural services report having gained a good understanding of animal care and a desire to sell these services to generate income. This reported change in behavior is good news for the post-project period. In total, 94.4% of agricultural service beneficiaries anticipate a lasting impact from the project on their situation. This result is consistency to Asadullah and Kambhampati (2021).

When asked whether the women supported by the FADEKA2 project are or feel better prepared to enter the stereotypical market of selling agricultural services, the analysis of responses shows that beneficiaries report being "better trained in good practices for livestock farming, veterinary care distribution, and plowing services," while non-beneficiaries report suffering from "lack of training and awareness, limited access to financing and credit, lack of institutional support, etc." Among the non-beneficiary women surveyed, the argument of "unequal distribution of domestic workload, lack of autonomy, and limited participation in household decisions" was also raised.

Almost all beneficiaries who received support in selling veterinary care services (9 out of 11) reported feeling much more prepared to offer these services effectively. Similarly, the vast majority of beneficiaries who received support in selling plowing services (8 out of 10) reported feeling much more prepared to sell these services effectively. Based on these statements, and supported by the fact that some have already begun selling these services successfully, this confirms the project has transferred technical skills to the beneficiaries. Such technical skills are appropriate to support sustainable market integration and competition.

4.6. Social acceptance and a real possibility of socioeconomic development

After acquiring technical agricultural skills, the following question remains: will the women beneficiaries be able to sustainably integrate into this male-dominated market? The first answer lies in the largely positive self-assessment of the beneficiaries themselves. Only 4 out of 18 beneficiaries were hesitant or did not believe in it. Similarly, they believe that men will be willing to pay (10 out of 18) or even encourage others to pay (7 out of 18) for their services. Only one beneficiary was skeptical of this perception of men's willingness to pay (Figure 7). This perception appears to be a foundation for the women empowerment and their preparation for market competition.

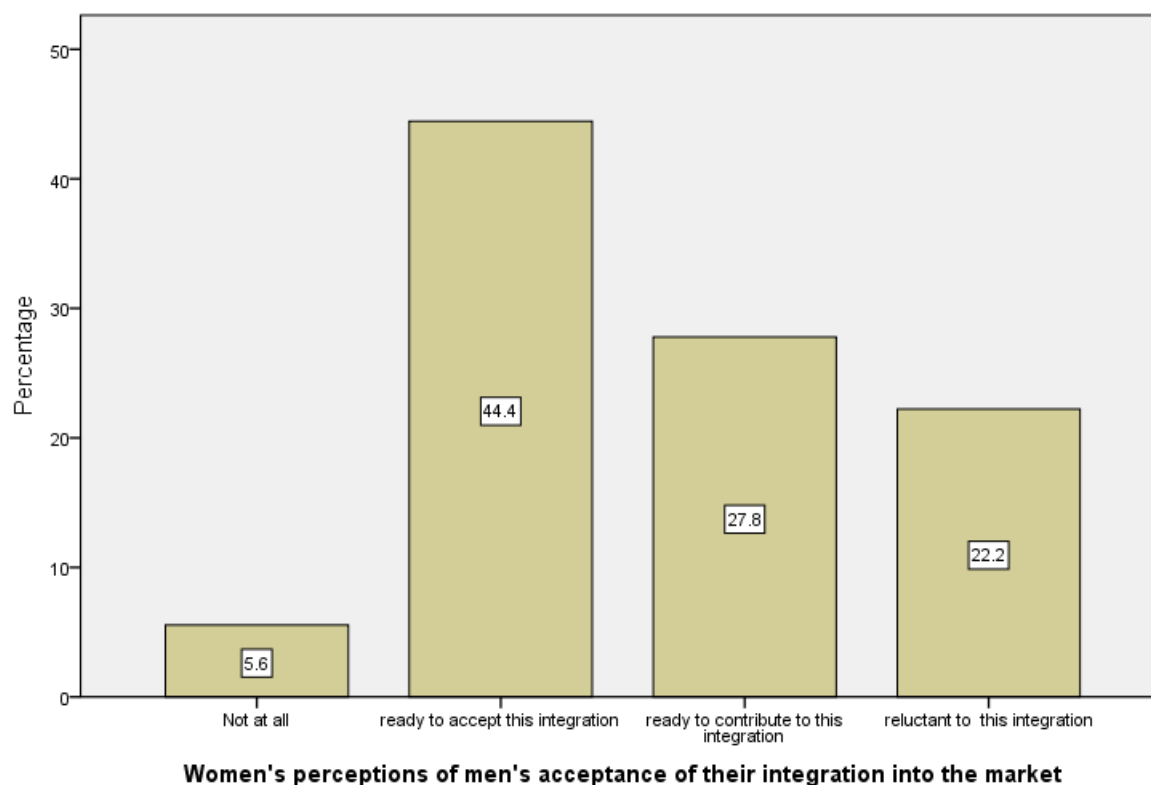


Figure 7. Women's perception of men's willingness to accept their integration

The second question we raised was: Are men who are already selling these services to farmers willing to accept competition from women in this market? First, out of 30 men surveyed, only one did not believe that women were equally capable of performing the same work. However, more than half (17 out of 30) thought it was a matter of qualifications, not gender. Thus, some men began to state that they were in favor of integrating women into these services. However, when asked about their perception of women's integration, only 5 out of 30 viewed it favorably. The others viewed it either negatively or very negatively. Those with this negative perception justified their response by saying affirmation like, "We have never seen women do this kind of work," or "This kind of work can be dangerous for a woman," etc. In other words, what competitors are declaring reflects the existing stereotypes.

We already know that market competition is not always fair in Haiti (Pop, 2016), as in many developing countries where there is no anti-trust authority. When cultural stereotypical restrictions are added to existing lack of competition, the agricultural services market might be difficult for women. However, beneficiaries' skills and confidence, seen in the previous section, seem to be appropriate ingredients for the women to integrate and compete in such a market where social and cultural barriers still exist (World Bank, 2023).

All the surveyed competitors agreed that clients should pay men and women the same for veterinary services. Regarding plowing services, 8 out of 30 competitors believe that women should be paid less than men, even though almost all of them (29 out of 30) declared their support for the social and financial inclusion of women in agriculture and their empowerment. Overall, it can be said that women can carve out a place for themselves in the market for agricultural services in the Torbeck Plain. Above all, 9 out of 30 competitors felt there were not enough veterinary service providers in the commune, and 12 out of 30 stated there were not enough plowing service providers. This result brings a positive answer to our research question.

The remaining question concerns clients' willingness to pay: Are farmers willing to purchase agricultural services offered by women? The question was posed to a sample of 30 potential client farmers (11 women and 19 men), 25 of whom were already engaged in livestock farming. Half of them believe there are not enough veterinary service providers in the commune, and nearly two-thirds believe there are not enough plowing service providers. Consequently, they are very much in favor of integrating women into the sale of these services (Figure 8). As previously studied by Russo et al. (2021), the local demand for mechanization is mostly for cereal producers who are the largest part of Torbeck farmers.



Figure 8. Perception of potential clients regarding the integration of women into the sale of veterinary services.

However, this is less the case for plowing services. Figure 9 below shows very mixed opinions, even though more than half think it is good or very good for women to be involved in selling plowing services. Indeed, we have observed that this type of service is generally stereotyped as being for men. It is even possible that women who have the skills and equipment to carry out these activities will recruit men as operators. Obviously, farm size may nuance farmers' enthusiastic and favorable perception. The price of the service will also matter, however the beneficiaries are already aware of the local price.

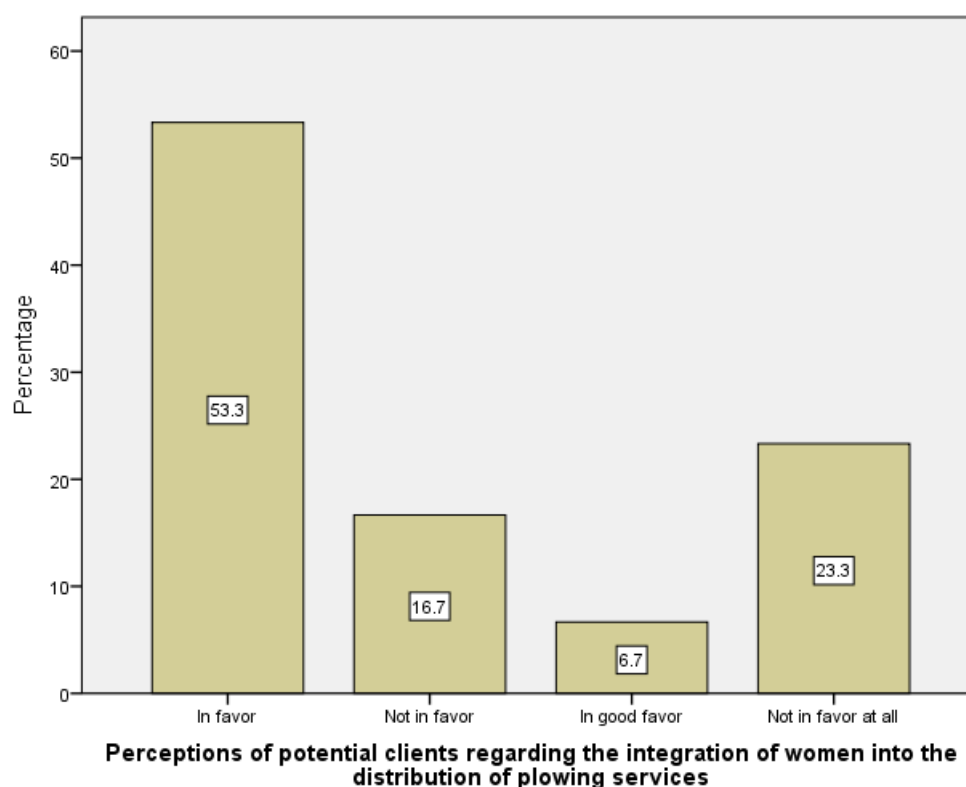


Figure 9. Perceptions of potential clients regarding the integration of women into the distribution of plowing services

In terms of empowerment, the women beneficiaries are far better equipped than non-beneficiaries to make financial decisions, and some even manage their income independently. This is a significant achievement of the project. Now, more than half of them reported saving regularly, which prepares them to meet their financial needs. All the women are involved in household decisions, both before and after the project's intervention. These results testify the project helped it beneficiaries in terms of socioeconomic empowerment.

Regarding the opportunities for genuine personal growth through integration into the agricultural services market, the women beneficiaries declared they now possess the technical skills and preparation necessary to offer quality services. Furthermore, 17 out of the 18

women beneficiaries surveyed feel more valued within their households and communities. They reported feeling better able to manage their income. Of the 17 women who reported such a positive change in their empowerment, 15 attributed the effect to the project's intervention, and they unanimously stated that "the FADEKA2 project has contributed to improving the situation of livestock farmers in the area." Furthermore, they believe the project's effects will be lasting. The analysis can be summarized in Table 1 below, which outlines the perceptions and impacts of women's integration into agricultural services in Torbeck, according to the different categories of stakeholders within the FADEKA2 project.

Table 1. Summary of analysis results

Respondents	Sale of veterinary care	Sale of plowing services	Societal impact
Training beneficiaries (n = 18)	9/11 (82%) feel ready to offer these services, therefore to integrate the existing market	8/10 (80%) feel ready to offer these services, therefore to integrate the existing market	17/18 women (94%) feel more valued and empowered
	12/18 (67%) started these services at the end of the project.	6/18 (33%) started these services at the end of the project (due to delay in equipment distribution).	15/17 (88%) attribute this positive change to the project.
Potential clients (n=30)	They are very supportive of integrating women.	Mixed opinions on the integration of women.	An economic opportunity to seize in the face of an identified demand.
	50% perceive a lack of plowing service providers.	67% perceive a lack of plowing service providers.	
Male competitors (n=30)	30/30 (100%) are in favor of equal pricing.	8/30 (27%) are for a lower price.	Discrepancy between the theoretical recognition of skills and the practical acceptance of their presence.
	29/30 (97%) recognize the aptitude of women.		
	5/30 (17%) view the integration of women favorably. 25/30 (83%) are reluctant to accept the integration of women (never seen it + perceived danger).		
Non-beneficiaries (n=30)	Barriers mentioned: Lack of training/awareness, Limited access to financing and credit, Lack of institutional support, Unequal distribution of domestic workload, Lack of autonomy, Low participation in household decisions.		Persistent male preeminence in agricultural services in rural areas in Haiti.

Conclusion

This research aimed to analyze the effects of a project supporting the economic empowerment of rural women in Haiti, through the case study of the FADEKA2 project in the Torbeck plain. Adopting an original multi-stakeholder approach, it sought to assess the extent to which the acquisition of technical skills and the integration of women into a traditionally male-dominated agricultural services market effectively generate socioeconomic emancipation.

The results highlighted three main findings. First, the intervention did indeed strengthen the beneficiaries' technical capacities: the trained women overwhelmingly declared themselves ready to offer good quality veterinary care and plowing services, reflecting a genuine desire

for agricultural entrepreneurship. Second, the study reveals a contrasting evolution in social perceptions: while potential client farmers are open to purchasing services from women, particularly for veterinary care, male service providers already present in the market express greater resistance to the integration of women into the sale of plowing services. Third, the comparative analysis, at this early stage, does not reveal any significant difference between beneficiaries and non-beneficiaries in terms of income or food security.

These results contribute to the literature on women's economic empowerment in rural areas (Kabeer, 2012; Verschuur, 2013). They demonstrate that acquiring technical skills can modify self-perceptions and remove psychosocial barriers, but that male resistance varies according to the type of service and the actors' positions. This granularity invites us to move beyond homogenous interpretations of "cultural barriers" to better understand the complexity of gender dynamics.

In terms of practical implications, the FADEKA2 experience suggests that agricultural development policies must go beyond simple technical training. They must include awareness-raising efforts targeting men (competitors and clients) and ensure sufficiently long-term post-project follow-up. The alignment between training received and equipment provided also appears crucial, as illustrated by the faster start-up of veterinary care activities, in comparison to beneficiaries of animal plowing services.

This study, however, has limitations that nonetheless open avenues for future research: the Cross-sectional nature of the survey and the modest sample size due to the limited number of the project beneficiaries. Longitudinal studies would allow for an assessment of the sustainability of the observed effects, while comparisons with other Caribbean initiatives would help identify contextual factors that promote or hinder the feminization of agricultural service markets. The results of the FADEKA2 project in Torbeck revealed that the integration of women into traditionally male-dominated agricultural activities leads to positive transformations. However, it also serves as a reminder that these processes of social innovation are lengthy and require comprehensive support. They will need to consider not only technical and economic dimensions, but also the gendered social relations within which they operate. The emerging field of women's agricultural entrepreneurship, however nascent, nonetheless represents a promising innovation that aligns with the recommendations of Mauconduit et al. (2013) for more inclusive agricultural development in Haiti.

Acknowledgement

The authors would like to thank the FADEKA II project implementation consortium (UniQ/AHFST, ROPAGA, OFEDED), as well as to the cooperation of Norway and UN Women.

1. Bibliography

Asadullah, M. N., & Kambhampati, U. (2021). Feminization of farming, food security and female empowerment. *Global Food Security*, 29, 100532. <https://doi.org/10.1016/j.gfs.2021.100532>.

Adedeji, O., Sudarkasa, M., Rowan-Campbell, D., and Reynier, A. 2019. (2019). Un indice pour l'accès des femmes à l'agrobusiness. CTA. CTA Technical Brief 23. Wageningen: CTA. Available at: <https://hdl.handle.net/10568/103808>. (Accessed on March 12, 2026).

Banque Mondiale (2019). *Financement agricole en Haïti : Diagnostic et recommandations*. Washington DC, The World Bank Group. Available at: <https://documents1.worldbank.org/curated/en/769961578034240941/pdf/Agricultural-Financing-in-Haiti-Diagnosis-and-Recommendations.pdf> (Accessed on March 12, 2026).

Beans for Women Empowerment Project. (2024). *Autonomisation des femmes rurales dans l'est de la RDC*. Alliance Biodiversity & CIAT. Available at: <https://alliancebioversityciat.org/fr/stories/autonomisation-femmes-rurales-rdc-grace-chaine-valeur-haricot>. (Accessed on March 12, 2026).

BKT (2022). Stéréotypes de genre et agriculture : les femmes défiant les règles. Available at: <https://www.bkt-tires.com/fr/fr/blog/agriculture-blog/stereotypes-de-genre-et-agriculture-les-femmes-defiant-les-regles>. (Accessed on March 12, 2026).

Ciguino, H. & Paul, B. (2022). Entrepreneuriat féminin et littératie financière : cas des marchands de fruits à travers l'aire métropolitaine de Port-au-Prince, *Proceedings of the 2nd LACCEI International Multiconference on Entrepreneurship, Innovation and Regional Development - LEIRD 2022: "Exponential Technologies and Global Challenges: Moving toward a new culture of entrepreneurship and innovation for sustainable"*. December 5-7. FP203. <http://dx.doi.org/10.18687/LEIRD2022.1.1.203>.

Coates, J., Swindale, A., & Bilinsky, P. (2007). Household Food Insecurity Access Scale (HFIAS) for measurement of food access: Indicator guide: version 3. FHI 360/FANTA. <https://psycnet.apa.org/get-pe-doi.cfm?doi=10.1037/e576842013-001>. (Accessed on March 12, 2026).

Dias, F. (2021). Achieving Sustainable Development Goals Through Women's Economic

Empowerment. In: Leal Filho, W., Marisa Azul, A., Brandli, L., Lange Salvia, A., Wall, T. (eds) *Gender Equality. Encyclopedia of the UN Sustainable Development Goals*. Springer, Cham. https://doi.org/10.1007/978-3-319-95687-9_22.

Delphy, C. (1999). *L'ennemi principal 1. Économie politique du patriarcat*. Paris, Syllepse (Nouvelles Questions Féministes).

Duplessis, I. (2021). Les droits des femmes et les Nations Unies : d'hier à aujourd'hui. *Revue québécoise de droit international*, 183–198. <https://doi.org/10.7202/1087387ar>.

FAO. (2023). *Favoriser l'autonomisation des femmes pour renforcer l'agriculture*. Rome, Organisation des Nations Unies pour l'alimentation et l'agriculture.

FinMarkTrust (2019). *FinScope Consumer Survey Haiti 2018—Demand for financial services*. FMT: FinMark Trust. Available at: <https://policycommons.net/artifacts/1616587/finscope-consumer-survey-haiti-2018/2306514/>. (Accessed on March 12, 2026).

Gabellus, K. et Paul, B. (2023). Determinants of solidarity financing of agriculture in remote areas: The case study of Jean Rabel, Haiti, *Revue Études Caribéennes*, 56, <https://doi.org/10.4000/etudescaribeennes.29818>.

Ibnouf, F.O. (2011). Challenges and possibilities for achieving household food security in the Western Sudan region: the role of female farmers. *Food Security*, 3, 215–231 <https://doi.org/10.1007/s12571-011-0118-3>.

Jean-Gilles, S., Paul, B. & Soussi, S. A (2025). Une économie informelle méta-institutionnalisée en Haïti ; Le cas du « Sistèm Pratik » et des Madan Sara. *Interventions Economiques*, 73. <https://doi.org/10.4000/157iw>.

Jean-Gilles, S., & Paul, B. (2023). Crise sécuritaire et transformation des places marchandes traditionnelles dans l'économie informelle en Haïti. *Études caribéennes*, (56). <https://doi.org/10.4000/etudescaribeennes.29039>.

Jean Simon, D., Joissaint, K., N'Gou, M. D., Joseph, G., & Tokpovi, V. C. K. (2023). La féminisation de chefs de ménage à Haïti. *Études caribéennes*, (56). <https://doi.org/10.4000/etudescaribeennes.29921>.

Joseph, M., Gabellus, K., Paul, B. (2024). Situation socio-économique des exploitations agricoles dirigées par les femmes dans les départements Sud et Artibonite (Haïti), *Études caribéennes*, 59. <https://doi.org/10.4000/132zo>.

Lamaute-Brisson, N. (2012). Enquête auprès des ménages en Haïti et perspective de genre (1999-2005) (No. 113). Naciones Unidas Comisión Económica para América Latina y el

Caribe (CEPAL). Available at:

https://repositorio.cepal.org/bitstream/handle/11362/5838/S1200017_fr.pdf?sequence=1&isAllowed=y. (Accessed on March 26, 2026).

Mauconduit, N., Emile, E. et Paul, B. (2013). Women and Economic Development: Women Entrepreneurship Situation in Haiti, *Haïti Perspectives*, 2(3), 61-67. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2375608.

Moghadam, V. M., & Senftova, L. (2005). Mesurer l'autonomisation des femmes: participation et droits dans les domaines civil, politique, social, économique et culturel. *Revue internationale des sciences sociales*, 184(2), 423-449. <https://doi.org/10.3917/riss.184.0423>.

ONU Femmes. (2024). *Étude mondiale sur le rôle des femmes dans le développement*. <https://www.unwomen.org/fr/digital-library/world-survey-on-the-role-of-women-in-development>.

Ouattara, S. (2022). *Les femmes rurales face à leur autonomisation*. Les Cahiers de l'ACAREF. 64-87. <https://revues.acaref.net/wp-content/uploads/sites/3/2021/06/3Seydou-OUATTARA.pdf>.

Padgett, A., & Warnecke, T. (2011). Diamonds in the Rubble: The Women of Haiti: Institutions, Gender Equity and Human Development in Haiti. *Journal of Economic Issues*, 45(3), 527-558. <https://doi.org/10.2753/JEI0021-3624450301>.

Paul, B. (2020). What is the correlation between institutions and access to credit in alternative finance? *Études caribéennes* 45. <https://doi.org/10.4000/etudescaribeennes.18227>.

Paul, B. & Ciguino, H. (2025). Does Agricultural Assets Ownership Matter for Financial Inclusion in Developing Countries? Empirical Evidence Using Bank Inclusion in Haiti, *Études caribéennes*, 60. <http://dx.doi.org/10.4000/14fem>.

Paul, B. & Lamarque, H. G. (2026). Does Agricultural Extension Help Improve Farmers' Socioeconomic Conditions? Empirical Evidence Using Large Survey Data from Haiti, *Science Technology Development*, 6(1): 26-49. <https://doi.org/10.21494/ISTE.OP.2026.1456>.

Paul, B. et al. (2021). Diagnostic agro-socio-économique de la Commune de Saint-Michel de l'Attalaye, Port-au-Prince, MARNDR/CIRAD, Chibas, Université Quisqueya.

Paul, B., Daméus, A., & Fleuristin, L. (2012). Le développement de la microfinance en Haïti: Un bref aperçu historique. *Recherche, Études et Développement*, 5(1), 34-44.

Paul, B., Garrabé, M. et Daméus, A. (2011). Impact de la politique d'octroi de crédits sur les comportements des emprunteurs : étude du cas de l'intermédiation microfinancière en Haïti, *Revue Management & Avenir*, n° 46, pp. 277-297. <https://doi.org/10.3917/mav.046.0298>.

Paul, B., Daméus, A. et Garrabé, M. (2010). La tertiarisation de l'économie haïtienne, *Études caribéennes*, 16. <https://doi.org/10.4000/etudescaribeennes.4757>.

Pierre, A. V. D. (2025). La « sororité des commerçantes » de la filière pêche face à la crise économique à Haïti. Fondation Maison des Sciences de l'Homme. Available at: <https://www.fmsh.fr/parutions/conservation-marine-solidarite-feminine-et-solutions-durables-pour-haiti> (Accessed on February 26, 2026).

Pionetti, C. (2022). Si l'agriculture était menée par les femmes, en serions-nous là ? Transformer les inégalités femmes-hommes et laisser émerger des systèmes agroécologiques plus justes. Oxfam France. Available at: <https://www.oxfamfrance.org/app/uploads/2023/02/Si-lagriculture-etait-menee-par-les-femmes-Rapport-de-recherche-Oxfam-Fevrier-2023.pdf>. (Accessed on March 12, 2026).

Pop, G. (2016). *Haiti - Let's Talk Competition. A Brief Review of Market Conditions*, World Bank, Washington, DC. Available at: <https://documents1.worldbank.org/curated/en/951621468197998092/pdf/103950-PUB-PUBLIC-pubdate-3-22-16-ADD-DOI-10-1596K8613-AND-10-1596K8613.pdf>. (Accessed on March 12, 2026).

Russo, G., Bernadin, J. W., Spada, A., Aristil, J., Assante, G., & De Marinis, P. (2021). An investigation about the agricultural system in Torbeck plain, Haiti: a statistically driven SWOT analysis. *Journal of Agriculture and Environment for International Development*, 115(1), 97-124. <https://doi.org/10.12895/jaeid.20211.1465>.

Sery, B. M., & Aka, B. E. (2025). L'impact de l'inclusion financière sur l'autonomisation économique des femmes en Côte d'Ivoire. *Revue Française d'Economie et de Gestion*, 6(3). <https://www.revuefreg.fr/index.php/home/article/view/2016>.

Steckley, M., Steckley, J., Osna, W., Civil, M. & Sider, S. (2023). Food sovereignty for health, agriculture, nutrition, and gender equity: Radical implications for Haiti. *Development Policy Review*, 41, e12711. <https://doi.org/10.1111/dpr.12711>.

Terre de Liens. (2024). *Genre et mécanisation : pour la souveraineté technique des femmes sur leur outil de production*. Available at: <https://ressources.terredeliens.org/les-ressources/genre-et-mecanisation-pour-la-souverainete-technique-des-femmes-sur-leur-outil-de-production>. (Accessed on March 12, 2026).

World Bank (2023). *Haiti's Untapped Potential : An Assessment of the Barriers to Gender Equality*. World Bank, Washington, DC. Available at:

[https://thedocs.worldbank.org/en/doc/4b69af839b59351a5d7a245d71a57c13-](https://thedocs.worldbank.org/en/doc/4b69af839b59351a5d7a245d71a57c13-0370012023/original/Full-report-Haiti-GA-EN.pdf)

[0370012023/original/Full-report-Haiti-GA-EN.pdf](https://thedocs.worldbank.org/en/doc/4b69af839b59351a5d7a245d71a57c13-0370012023/original/Full-report-Haiti-GA-EN.pdf) . (Accessed on March 4, 2026).

World Bank (2019). *Agricultural Financing in Haiti: Diagnosis and Recommendations*.

World Bank, Washington, DC. Available at:

[https://documents1.worldbank.org/curated/en/580191578033510449/pdf/Agricultural-](https://documents1.worldbank.org/curated/en/580191578033510449/pdf/Agricultural-Financing-in-Haiti-Diagnosis-and-Recommendations.pdf)

[Financing-in-Haiti-Diagnosis-and-Recommendations.pdf](https://documents1.worldbank.org/curated/en/580191578033510449/pdf/Agricultural-Financing-in-Haiti-Diagnosis-and-Recommendations.pdf). (Accessed on March 4, 2026).