

Impact Evaluation of the Nigeria for Women Project

Midline Findings

Thomas de Hoop, Adria Molotsky, Christopher Paek, Rosa Castro-Zarzur, Philomena Panagoulas, Cody Bock, Garima Siwach, Olayinka Adegbite, and Emily Mutea

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Acronyms

AIR	American Institutes for Research
DHS	Demographic and Health Survey
DID	Difference-in-Differences
EA	Enumeration Area
ECWG	Evidence Consortium on Women's Groups
FPCU	Federal Project Coordinating Unit
FGD	Focus Group Discussion
GBV	Gender-Based Violence
HH	Household
IDI	In-Depth Interview
IGA	Income-Generating Activity
ICBA	Institutional Capacity Building Advisor
JEEVIKA	Bihar Rural Livelihoods Project
KII	Key Informant Interview
LFP	Labor Force Participation
LGA	Local Government Area
MIS	Management Information System
MOWASD	Ministry of Women and Social Development
NGN	Nigerian Naira
NFWP	Nigeria for Women Project
NRLP	National Rural Livelihoods Project
OPM	Oxford Policy Management
RCT	Randomized Controlled Trial
SHG	Self-Help Group
SPCU	State Project Coordinating Unit
ToC	Theory of Change
VSLA	Village Savings and Loan Associations

WAG

Women Affinity Group



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Executive Summary

Background

Women in Nigeria face significant barriers to accessing savings, credit, livelihoods, and markets, constraining their ability to achieve economic empowerment. Traditional gender norms and other social norms, information asymmetries, and limited access to finance all contribute to gender inequality in Nigeria (World Bank, 2018).

The Nigerian government has developed various policies and has started a number of programs to improve gender equality. The Federal Ministry of Women and Gender Affairs has, for example, refined its gender policy (2021-2026), which places gender mainstreaming at the core of the policy), in addition to an objective to eliminate gender discriminatory policies and laws (Federal Ministry of Women and Gender Affairs, 2021). The policy recognizes that patriarchy limits the ability of women and girls to achieve empowerment and the need for social investments and the spread of social safety nets to improve financial inclusion (Federal Ministry of Women and Gender Affairs, 2021). The Federal Ministry of Women Affairs (2023) also developed a national women's economic empowerment policy and action plan, which aims to leverage diverse approaches to redefine the Federal Government of Nigeria's approach to women's economic empowerment. Against this background, formalized savings groups and other women's groups with economic objectives may have the potential to improve women's economic empowerment in Nigeria (e.g., Desai et al., 2018; de Hoop et al., 2022a). Members of savings groups pool small weekly savings into a common fund, which members can then borrow against (Adegbite et al., 2022). "Women's groups" is an umbrella term referring to different models of economic, health, and community groups, including but not limited to savings groups, with a primarily female membership (Anderson et al., 2019). Various impact evaluations show evidence for positive effects of savings groups and other women's groups, including in various settings in sub-Saharan Africa (e.g., Blattman et al., 2016; Brody et al., 2015; Karlan et al., 2017; Desai et al., 2019; de Hoop et al., 2020; de Hoop et al., 2022a).

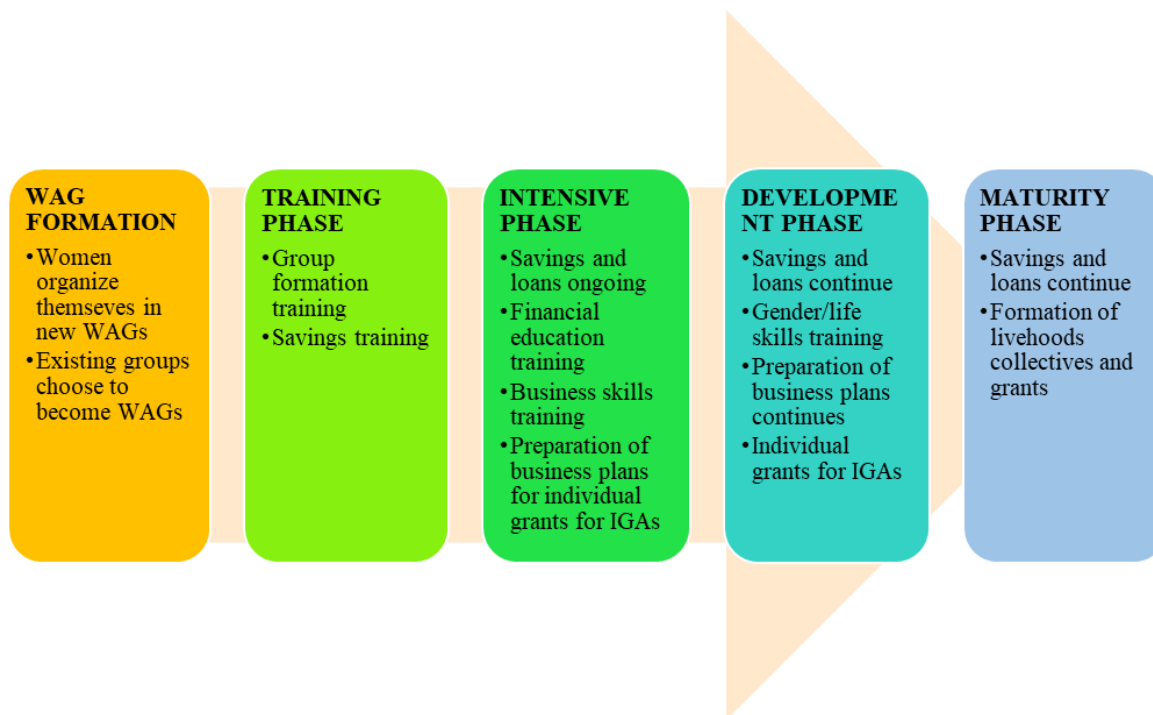
The American Institutes for Research (AIR) is conducting a quasi-experimental impact evaluation to determine (a) the gendered impacts of the Nigeria for Women Project (NFWP), a large women's savings groups program implemented by the government of Nigeria, on financial inclusion, asset ownership, consumption, income, and decision-making power; and (b) the impact of the NFWP on group functioning and inclusiveness. The impact evaluation uses a mixed-methods design that includes a formative assessment, a process evaluation, and an assessment of the cost-effectiveness of the NFWP.

Program Description and Theory of Change

The NFWP aims to achieve improvements in women's economic empowerment by establishing new women's groups and transforming existing informal savings groups and other women's or mixed-gender groups into formal, women-only savings groups, called Women Affinity Groups (WAGs). WAGs are formal savings groups that follow established savings group implementation models (e.g., Village Savings and Loan Associations [VSLAs]) to support women's financial inclusion. The NFWP aims to improve women's livelihood opportunities and facilitate their access to economic markets by mobilizing women into WAGs and providing additional trainings and financial support for improving their livelihoods.

The NFWP implementation focuses on the formation and strengthening of WAGs through a five-phase process (see Figure 1).

Figure 1. Formation and Strengthening of WAGs



Source: Community Operations Manual (COM) – Nigeria For Women Project

The NFWP uses WAGs as platforms for providing opportunities in four areas: the development of social capital, the building of livelihoods, the creation of partnerships, and messaging about gender and other social norms. The WAGs receive training in savings and credit, financial literacy, gender and life skills, and business skills. In addition, the program selects WAG members to receive individual grants to create or expand their income-generating activities. The program also aims to create and expand livelihoods collectives to form livelihoods

partnerships at the end of the formation process. The livelihoods collectives are eligible to receive grants from the project. Concurrently, the program carries out a series of activities related to behavior change and awareness raising, targeted to gatekeepers as well as all women and men in the community, with the aim of influencing social norms and gender beliefs and behaviors at the community level.

The NFWP is being implemented gradually, starting with six states and 22 local government areas (LGAs).¹ During the first phase of the program, the NFWP sought to expand the participation of women in women's groups by reaching 324,000 women through approximately 21,600 WAGs in Ogun, Taraba, Kebbi, Abia, Niger, and Akwa Ibom states, located in each of the six geopolitical zones of the country.

The WAGs receive training in savings and credit, financial literacy, gender and life skills, and business skills. In addition, the program selects WAG members to receive individual grants to create or expand their income-generating activities. The program also aims to create and expand livelihoods collectives to form livelihoods partnerships at the end of the formation process. The livelihoods collectives are eligible to receive grants from the project. Concurrently, the program carries out a series of activities related to behavior change and awareness raising, targeted to gatekeepers as well as all women and men in the community, with the aim of influencing social norms and gender beliefs and behaviors at the community level.

The NFWP is modeled after the National Rural Livelihoods Project (NRLP) in India, which is the world's largest livelihoods program focused on women. Women's self-help groups under the NRLP engage in regular savings, and currently include approximately 100million women, who over time get connected to the formal banking system (Ministry of Rural Development, 2024).

The theory of change presents several pathways through which the NFWP can achieve improvements in women's economic empowerment. Trainings focused on savings can lead to increases in individual and collective savings, which can in turn enable women to gain access to credit. Combining increased access to credit with improved business skills can then help women start or expand their income-generating activities. Livelihoods grants and group credit could enable women to invest in existing or new enterprises (individual or collective), which could generate profits and additional household income. These enterprises could also enable women to accumulate assets, particularly once livelihoods trainings and the preparation of business plans have helped them to make productive investments across diversified agricultural and non-agricultural income-generating activities. The creation and expansion of women's

¹ The impact evaluation covers 18 of these LGAs.

individual and collective businesses could increase women's income and asset ownership, which could stimulate their bargaining power within the household.

At the time of the midline data collection, the focus of the program had started to shift from WAG formation and savings mobilization towards livelihoods and linkages with markets and innovations. In 2022 and 2023, livelihoods programming had the largest share in total costs of the program, and the program had just begun making major expenditures on innovation starting in 2023. At the time of the midline data collection, the program had made some investments in individual livelihoods grants, but this happened relatively shortly before the midline data collection. In addition, payments for individual livelihoods activities had not yet happened in Abia state, and members of WAGs in Akwa Ibom did not receive individual livelihoods grants. The program had not yet made investments in livelihoods collectives at the time of the midline data collection. The program has also only had a limited focus on market linkages.

Based on the program's focus at the time of the midline data collection and the theory of change, we anticipated that the program would continue to have positive impacts on financial inclusion, with some evidence for positive effects on livelihoods. While program participants have received trainings on gender, negotiations, gender-based violence, personal effectiveness and holistic life skills training (except for WAGs in Akwa Ibom), we hypothesized that it was likely too early to detect effects on health outcomes. We did examine effects on social norms and gender-based violence.

Impacts one year after the start of the program

In line with the theory of change, the findings of the quasi-experimental impact evaluation one year after the start of the program implementation (when the baseline survey took place) suggested positive impacts on financial inclusion, but only limited effects on asset ownership, women's labor force participation, consumption, income, or women's decision-making power (de Hoop et al., 2022b).² Specifically, the evaluation findings suggested a 12 percentage points increase in the likelihood of saving and a 9 percentage points increase in the likelihood of receiving credit, along with some indications of positive impacts of women's ownership of smaller assets. While we found positive impacts on the likelihood of saving and on savings in women's groups and other savings groups, we did not find positive effects on cumulative savings. We also did not find positive impacts on an asset index.

² As discussed in our description of the methodology, we used a difference-in-differences analysis (which compares the average change over time for the treatment group with the average change over time for the comparison group) and a three-stage matching approach for outcomes for which we had recall data available, and a three-stage matching approach for variables for which we did not have recall data available (with a single-difference comparison between the treatment and comparison group instead of a DID analysis) to determine the program impacts.

These findings are consistent with the existing evidence, suggesting that evidence on the impact of large-scale savings and self-help groups is mixed yet promising, with positive short-term effects on financial inclusion (Hoffmann et al., 2022). Systematic reviews on the impact of self-help and savings groups suggest positive effects of women's self-help groups on women's empowerment (Brody et al., 2015) and positive effects of savings groups on consumption and food security (Steinert et al., 2018). However, these effects may not happen in the short term, with an impact evaluation of the largest self-help group program in India (the NRLP) indicating that women's self-help groups operating at scale may not achieve positive effects on consumption until seven years after program implementation (Kochar et al., 2020). While some of the most rigorous studies of self-help groups and savings groups only find limited short-term effects of self-help groups on outcomes other than financial inclusion (Hoffmann et al., 2022), self-help groups may still generate larger benefits than costs because of large cost savings when programs operate at scale (Siwach et al., 2022).

Impacts of self-help and savings groups after large covariate shocks

Economic and other large shocks create challenges and opportunities that change the mechanisms through which savings and other women's groups can achieve impacts. It is uncertain whether savings groups will achieve these same impacts in a context of economic crisis. Nonetheless, various studies indicate that households with savings group members in Africa were less likely to experience food insecurity and had a lower likelihood of suffering income shocks than households without savings group members during COVID-19 (Anderson et al., 2022; Siwach et al., 2023), indicating that savings groups can also have positive impacts in a context of large covariate shocks.

These different pathways are critical because Nigeria has recently faced the highest inflation in nearly three decades, resulting in a large economic crisis, creating challenges for women and women's groups in Nigeria. The country's annual inflation was close to 30 percent, with higher food prices resulting in increased food insecurity, with many going hungry (CNBC, 2024; IMF, 2024). In addition, the value of the Nigerian naira has plunged by more than two-thirds, resulting in an all-time low in February 2024 (CNBC, 2024, IMF, 2024). The economic crisis compounds other crises the country experienced since the start of COVID-19. Amankawah & Gourlay (2021) report that food price increases after COVID-19 had substantial effects on households' purchasing power and likely led to reductions in food expenditures, especially for the poorest households.

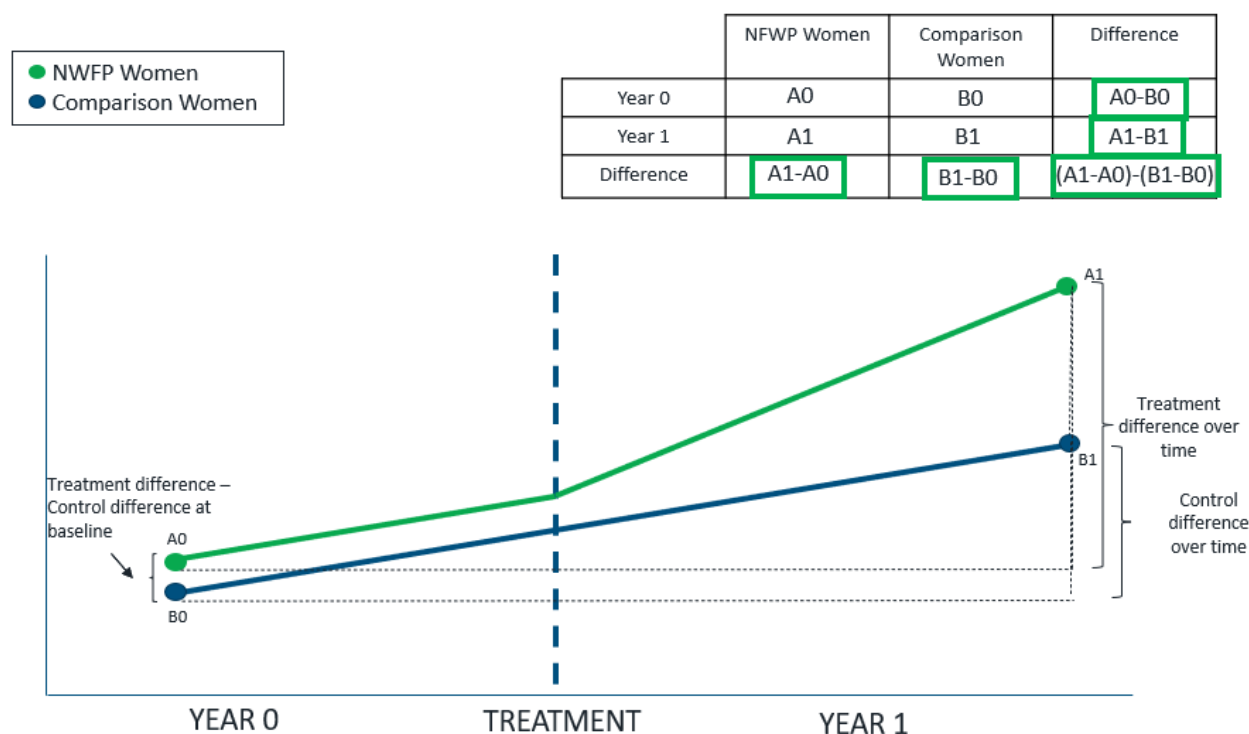
Impact Evaluation Design

This report presents the results of the impact evaluation after 2.5 years of program implementation.

DiD analysis with matching

To determine the impact of the NFWP after 2.5 years of implementation, we used a quasi-experimental difference-in-differences (DID) analysis for outcomes for which we had recall data available and for outcomes for which the program did not identify impacts one year after the start of the program implementation (the baseline survey). Figure 2 illustrates this approach, demonstrating how AIR is comparing changes over time across the treatment and the comparison group.

Figure 2. Difference-in-Difference Analysis

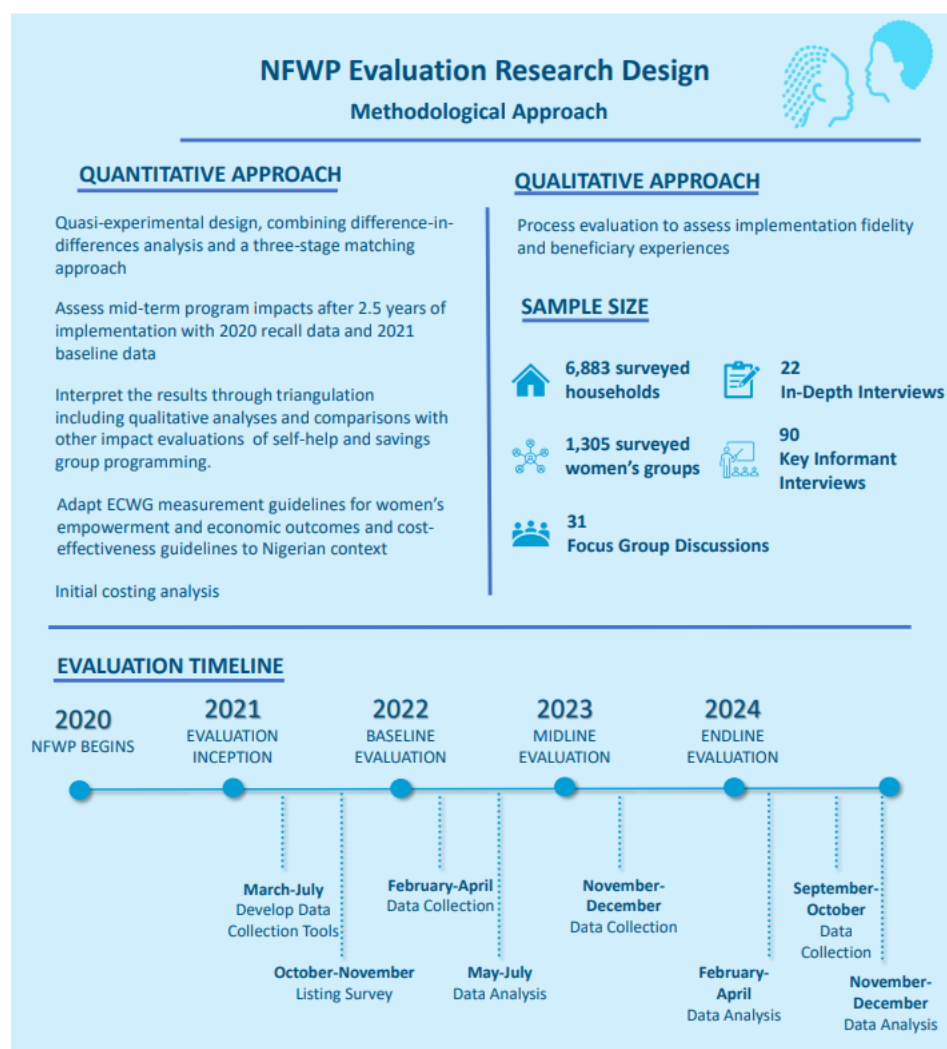


The key identifying assumption is that the trends in the outcomes in the treatment and comparison LGAs were similar before the start of the NFWP. We believe this assumption is credible because the treatment and comparison LGAs coped with similar shocks (including the economic crisis in Nigeria) and had similar characteristics before the start of the program. The recall data before the start of the program also suggest similar baseline situations.

As shown in Figure 3, we combined the difference-in-difference approach with a three-stage matching approach. We used this same three-stage matching approach for variables for which we found statistically significant impacts after one year of program implementation and did not have recall data available (with a single-difference comparison between the treatment and comparison group instead of a DID analysis). State governments, in consultation with the Federal Government and the World Bank selected 18 treatment LGAs to implement the project

before the start of the baseline survey. They selected these LGAs based on preferences of State governments. We then selected four potential neighboring comparison LGAs for each treatment LGA. We selected 72 comparison LGAs that in expectation were most similar to the 18 treatment LGAs because they were neighboring LGAs. In total, we collected data from 1,370 treatment households and 5,513 comparison households, and from 281 treatment women's groups and 1,024 comparison women's groups in 18 treatment and 70 comparison LGAs.^{3,4}

Figure 3. Methodological Approach and Evaluation Timeline



We used the measurement guide developed by the Evidence Consortium on Women's Groups (ECWG; de Hoop et al., 2020), to aid in designing the survey instruments. The main outcome

³ We replaced two comparison LGAs because they were too unsafe for data collection.

⁴ This was the sample size after an attrition rate of 5.8 percent.

measures included individual- and household-level savings and credit, income, and asset ownership; household-level consumption; women's empowerment; food security; and gender norms measures, based on an adaptation of the Women's Empowerment in Agriculture Index and best practices in measuring food security and gender norms. In addition, we included group-level measures related to the composition of groups, the number of group meetings, and group-level savings.

Costing Analysis

For the costing analysis, we estimated the costs of implementing the program for the initial 3 years: 2020, 2021, and 2022, and the first two quarters of 2023. We collected budgeted and actual expenditures for each program component from each of the six State Project Coordinating Units (SPCUs) and the Federal Project Coordinating Unit (FPCU), and we collected data on the number of project beneficiaries (in terms of WAG members) in 2020, 2021, 2022, and 2023 from the project management information systems.

Qualitative Analysis

At midline, we designed and implemented a process evaluation to assess implementation fidelity and beneficiary experiences. The process evaluation focused on how the program was implemented, including to what extent program activities were implemented as intended and how participants experienced the program. The process evaluation also explored external and contextual factors that influenced program implementation. As part of the process evaluation, we analyzed data from 18 Focus Group Discussions, 64 Key Informant Interviews, and 12 In-Depth interviews that we conducted across the 6 program states.

Results

Impact Evaluation Results

Treatment LGAs have over 15,000 Naira (NGN) higher savings in WAGs and about 6,000 NGN lower savings in other savings and women's groups, suggesting that NFWP increased savings in WAGs more than it decreased savings in other women's groups. This is different from the analysis after one year of program implementation during which we did not find a statistically significant effect on cumulative savings in groups. We also found an impact of 18 percentage points on the likelihood that women were saving. However, total cumulative savings (including savings outside groups) were not statistically significantly higher in the treatment than in the comparison group.

The statistically insignificant impacts on cumulative savings may be explained by women having invested some of their initial savings in small and larger assets. Women in NFWP areas were 1.7 percentage point more likely to solely or jointly own at least one asset. NFWP women were

more likely to report sole ownership of non-mechanized farm equipment (by 12 percent), nonfarm business equipment (by 19 percent), land (by 34 percent), and mobile phones (by 14 percent). We also found some indication for positive impacts on household-level asset ownership. NFWP households were 1.2 percentage point more likely to own at least one asset. In addition, we found some indications for larger effects on asset ownership when households experience climate shocks or extreme weather, resulting in droughts and floods. The data suggest this was because WAG members were more likely to use their savings to cope with extreme weather, whereas households in the comparison group were more likely to sell assets (e.g., livestock) to cope with extreme weather.

The NFWP continued to have a positive and statistically significant impact on women's access to credit. By 2023, women in treatment areas were 7 percentage-point more likely to have outstanding loans. We did not find statistically significant differences in cumulative outstanding loan amounts, similar to patterns observed in 2022, although the amounts in the treatment group continue to be higher in magnitude.

The results also suggested positive impacts on women's labor force participation and income diversification. The findings suggest a 3.7 percentage-point increase in women's labor force participation, and an increase of 9.5% in the number of income-generating activities relative to the comparison group. However, the findings did not indicate positive impacts on either women's income or household-level consumption. This is likely because the livelihoods component of the program requires more time to achieve positive impacts on these outcomes.

Midline findings also only suggested limited impacts on women's empowerment. While women were considerably more likely to be a group member and had slightly higher joint asset ownership with other household members, we did not find statistically significant effects on an index of household-level decision-making power. However, women did gain more decision-making power in some respects, including contributions to family savings, and participating in gardens or high-value crop farming.

With respect to gender norms, the midline findings suggested small but statistically significant effects on women's attitudes. However, we did not find statistically significant effects on women's perceived community norms or community sanctioning of the transgressing of gender norms after 2.5 years of program implementation.

Perhaps surprisingly, we did find statistically significant and substantial effects on men's attitudes towards gender equality as well as men's perceived community norms. The effects on men's attitudes towards gender equality were larger than the effects on women's attitudes towards gender equality, suggesting that the program may have had substantial spillover effects on men. These spillovers do not seem to be limited to impacts on gender attitudes. Men

also report more liberal perceived community norms related to gender. Midline results indicated that the NFWP may have slightly reduced physical violence against women, but the results were only marginally significant.

Project Development Objective Indicators

AIR also estimated progress in project development objective (PDO) indicators for the NFWP. These PDO indicators include 1) the number of beneficiaries with improved livelihoods, 2) WAG members with savings, 3) the percentage of WAG members with access to credit, 4) the increase in productive assets of WAG members, and 5) the increase in the contribution of women to household income. To estimate progress, we compared progress in these indicators between WAG members in the treatment group and the comparison group. The analysis does not include non-WAG members in the treatment group, showing the importance of exercising some caution in interpreting the results.⁵ Table 1 reports progress in the PDO indicators.

Table 1: Progress based on PDO indicators

	Baseline value	ISR 2023	Midline value	Target
Beneficiaries with improved livelihoods	0	103,928	226,845	155,000
WAG members with savings	71%	94%	86%	90%
WAG members with access to credit	10%	20%	31%	25%
Increase in productive assets of WAG members	0%	28%	4% ⁶	30%
Increase in contribution of women to household income	0%	9%	6%	12%

The NFWP achieved its objectives in terms of the number of beneficiaries with improved livelihoods and is close to the target for the percentage of WAG members with savings, access to credit, and the contribution of women to household income. These findings suggest that the NFWP is close to its targets for financial inclusion.

While the program did not achieve its objective related to the consumption of productive assets, the program did show small but significant effects on the ownership of small assets. The productive assets indicator measures the cumulative difference in the value of spending on assets in the 12 months 1 year after the start of the program in December 2023 and the 12 months before the midline survey (in October 2024) between WAG members and the comparison group after removing outliers. The theory of change suggests that the NFWP will first achieve positive impacts on smaller assets before generating impacts on larger assets. The

⁵ This is because the PDO indicators are not strictly based on the impact evaluation design

⁶ This number is based on cumulative asset consumption since the start of the program (based on two rounds of quantitative data collection).

midline impact evaluation results indicate that the program indeed generated positive impacts on women's ownership of small durable assets with additional effects on livestock in Northern Nigeria. Women in NFWP areas were more likely to solely or jointly own at least one asset. This finding combined with qualitative research suggests that WAG members are using the savings and credit obtained through WAGs to purchase smaller assets as opposed to larger assets. It is possible that WAG members did not save enough to purchase larger assets yet as Nigeria is experiencing its worst economic crisis in almost 30 years.

Process Evaluation Results

The process evaluation highlighted two main challenges that WAG members had to overcome to continue their participation: 1) The macro-economic conditions in Nigeria presented a formidable barrier to WAG members' ability to save and 2) the challenges around navigating the banking system complicated women's engagement in the NFWP's livelihood grants activities. To help overcome some of these barriers, the project continued building community and trust, which were important facilitators of WAG activities. Community-level staff across all sampled regions highlighted that the support of local authorities crucially helped the project run smoothly on the ground. Moreover, respondents said that NFWP communications efforts and engagement of community champions were pivotal for gaining this level of support. Other important facilitators included the transparency of WAG procedures and policies, which further helped build confidence and trust among members.

Across all states and localities, WAG members articulated several benefits of participating in women's groups related to improved livelihoods, socio-economic empowerment, financial inclusion, and food and nutrition security. In particular, WAG members were able to start or expand their businesses after receiving livelihood grants and business training. Moreover, respondents shared how participation in WAGs strengthened social interactions, facilitating the exchange of social support at various levels within communities. In terms of gender norms, midline findings indicate that both WAG members and non-WAG women continued to view husbands as the "breadwinners" of the household—the primary income earner and decision-maker regarding household finances. However, WAG members emphasized that they perceived a shift from the traditional housewife roles typically bestowed on them towards roles that involved more active participation in economic activities.

Understanding changes since the start of the program

Overall, the impact evaluation findings are consistent with previous impact evaluations of large-scale government-supported self-help group programs in India. Midline findings after 2.5 years of program implementation suggest considerable positive effects on financial inclusion and some positive effects on asset ownership and women's labor force participation. Impact evaluations of the NRLP in India also demonstrated positive short-term effects on financial

inclusion (Hoffmann et al., 2022), with some indications for positive effects on asset ownership (Hoffmann et al., 2022) and labor force participation in the MGNREGS public works program (de Hoop et al., 2022c). More longer-term evidence is needed to assess whether the NFWP can achieve similar positive effects as the NRLP on income and consumption in the longer term (Kochar et al., 2020).

It is also important to interpret the evidence in light of the large-scale economic crisis in Nigeria (CNBC, 2024; IMF, 2024). The results only showed some indications for effects on larger assets with most results indicating impacts on smaller assets. Qualitative evidence indeed indicated that households faced challenges purchasing larger assets because of the high inflation, resulting in reduced savings values and high food and asset prices. Analyses of heterogeneous effects nonetheless suggested positive impacts on livestock ownership in the North of Nigeria, which is consistent with qualitative evidence indicating the use of group savings for livestock purchases. We did not find these same impacts on livestock ownership in Southern Nigeria.

Endline Analyses

After the endline data collection, we will conduct additional analyses which will focus on the longer-term effects of the NFWP, including its longer-term effects on household-level consumption and income. For these analyses, we will emphasize the impacts of livelihoods grants on women's business outcomes and income. At the time of the midline survey, the livelihoods grants were too recent to examine their impacts on economic outcomes.

In the endline report, we will focus on the short-term impacts of social norms messaging, and impacts on health, and GBV outcomes. As discussed in the inception report, we designed a cluster-randomized controlled trial of a social norms messaging intervention. This program was not yet implemented at the time of the midline survey.

We also plan to conduct some additional analyses related to the pathways through which the NFWP achieves its objectives. For this purpose, we will conduct additional analyses on the impacts of the program on agricultural outcomes.

Limitations

The study faces some limitations. First, it is important to recognize that we collected baseline data 1 year after the start of program implementation. As a result, we are not able to say with certainty that the treatment and comparison groups were similar before the start of the program (recall data indicate that the treatment and comparison groups were comparable, however). Second, this report only includes impact estimates for 2.5 years after the start of program implementation. As a result, the report is only able to present short-term and medium-term effects of the NFWP. We will present longer-term effects during the endline

study. Third, we had limited statistical power to detect heterogeneous effects. While our sample size is large, our evaluation design includes a limited number of clusters, constraining our ability to detect heterogeneities in the impact estimates with sufficient precision. Fourth, we did not collect data on some consumption modules for a substantial number of households because of a coding error in the survey instruments.⁷ We addressed this challenge by imputing consumption values, which seemed to suggest that the results were robust to alternative statistical methods.

Implications for Policy and Practice

Results after two and a half years of program implementation suggest that the NFWP's focus on social capital and livelihoods contributed to increased WAG membership, and to the program's positive effects on financial inclusion, asset ownership, and women's labor force participation. These factors need continued support to achieve the positive effects of savings group and other women's group programming in Nigeria.

It is important to assess the longer-term program effects of the NFWP as well. Without longer-term impacts on consumption, income, and women's agency it is not yet clear whether the NFWP can achieve positive impacts in a cost-effective manner. While impacts on financial inclusion and asset ownership are critical, impacts on income, consumption, and women's agency may require additional investments in livelihoods grants for individuals and collectives. The endline survey will examine longer-term effects of the program.

To achieve long-term impacts, it will be critical to enable women and groups to navigate the formal banking system in Nigeria. The NRLP achieved some of its key long-term benefits because of the ability of women to open bank accounts (Siwach et al., 2022). Addressing barriers towards opening formal bank accounts will help the NFWP to gain additional benefits that go beyond the impacts generated by informal savings groups.

Further, it is critical to examine how the program may achieve different effects in different regions. For example, the current results suggest that the program has positive impacts on livestock ownership in the North. We do not see similar impacts in the South.

The NFWP may generate fewer benefits for poorer women without an income source who the program does not currently target. Because of their lack of income, these women face challenges when aiming to contribute to savings. Women without an income source from wage labor or self-employment may therefore require cash transfers or graduation programs from social protection systems in Nigeria. These findings are aligned with the targeting strategy of

⁷ Specifically, we did not collect data on consumption and asset ownership items that required answers from the male respondent when men were not available and only the women's survey respondents were available.

the social safety net program in Nigeria and the NFWP. The social safety net program targets the poorest households in Nigeria with cash transfers. The NFWP focuses on a different target group (“the missing middle”) than these social safety net programs.

At this moment, it is too early to present definitive conclusions about the impact and cost-effectiveness of the NFWP. We will continue to conduct research to determine the longer-term impacts and cost-effectiveness of the NFWP using the endline survey.

Introduction

Women in Nigeria continue to face societal and structural barriers to accessing savings, credit, livelihoods, and markets, constraining their opportunities and well-being. Traditional gender norms and other social norms, information asymmetries, and limited access to finance are among the primary factors that contribute to gender inequality across the country (World Bank, 2018). Data from the Multiple Indicator Cluster Survey (MICS, 2021) show that in 2021 only 35% of women in Nigeria had an account at a financial institution. As a result, women are often unable to make future investments, limiting their ability to respond to shocks (World Bank, 2019). Data from the Demographic and Health Survey (2018) show that in 2018, 29.5% of women between the ages of 15 and 49 reported having experienced intimate partner violence (DHS, 2018). Further, just 44% of married women made decisions, either alone or jointly with their husband, regarding their health care; and just 40% participated in decisions about major household purchases (DHS, 2018).

The current economic crisis in Nigeria may further exacerbate these gender equality challenges. Nigeria has recently faced the highest inflation in nearly three decades, creating challenges for women and women's groups in Nigeria. The country faces high prices, resulting in increased food insecurity, because of an annual inflation that is close to 30 percent (CNBC, 2024; IMF, 2024). The inflation compounds other crises the country experienced since the start of COVID-19. Food price increases after COVID-19 led to reductions in food expenditures, especially for the poorest households (Amankawah & Gourlay, 2021).

While women may experience food insecurity and losses in the value of savings because of inflation, women's savings groups can also contribute to mitigating the negative effects of the economic crisis. Evidence during COVID-19 suggests that households with female savings group members were less likely to experience food insecurity than households without female savings group members (Anderson et al., 2022; Adegbite et al., 2022). This is critical because the NFWP had positive impacts on financial inclusion one year after the start of the program implementation with some indications for positive effects on joint asset ownership for women (de Hoop et al., 2022b). This finding was consistent with earlier evidence demonstrating that large-scale government-supported savings and self-help groups often primarily have positive effects on financial inclusion in the short term (Hoffmann et al., 2022). Self-help and savings groups often only generate positive effects on consumption and income in the longer term (Kochar et al., 2020) though they may have positive effects on labor force participation in the medium term (de Hoop et al., 2022c; Deshpande, Khanna, & Walia, 2023).

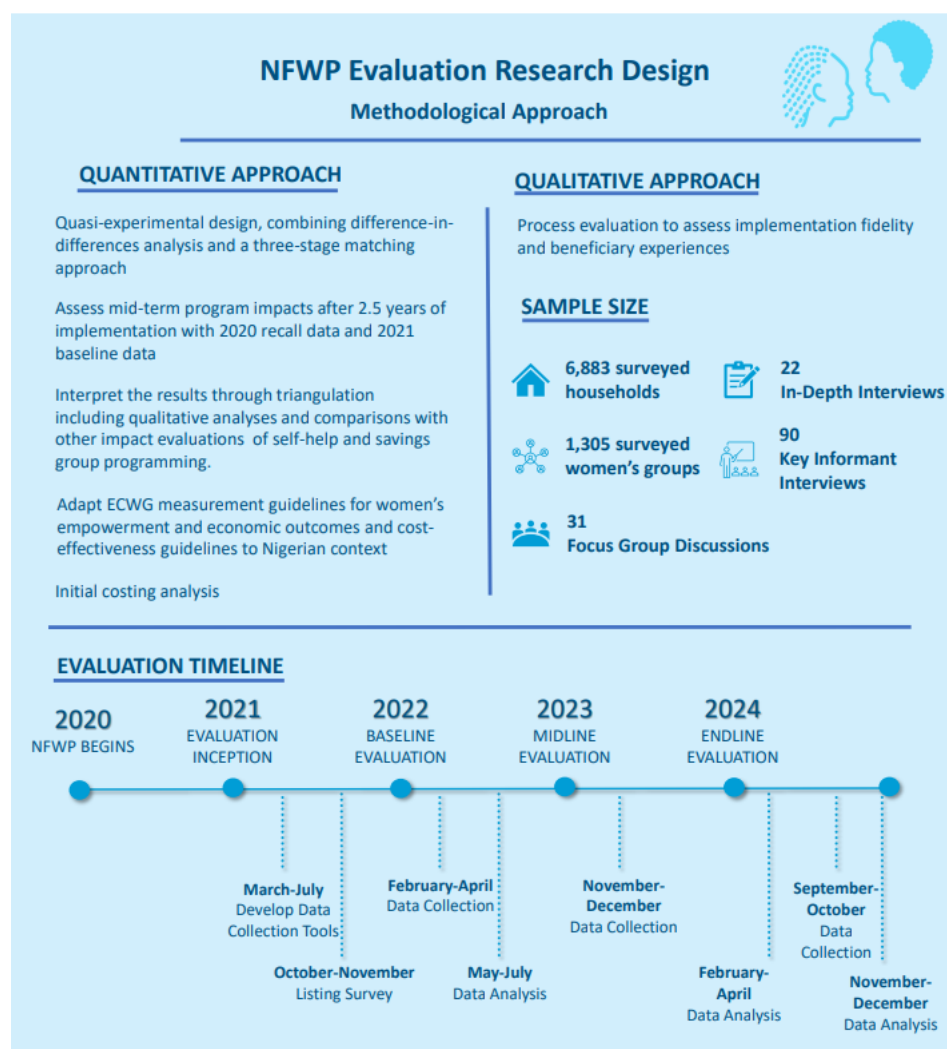
This report presents the medium-term impacts of the NFWP after 2.5 years of program implementation. The Government's NFWP aims to improve women's financial inclusion and livelihoods by establishing new women's groups and transforming existing informal savings groups and other women's or mixed-gender groups into formal, women-only groups, called Women Affinity Groups. WAGs are formal savings groups that follow established savings group implementation models (e.g., Village Savings and Loan Associations [VSLAs] and Savings and Internal Lending Committees) to support women's financial inclusion. The NFWP aims to improve women's livelihood opportunities and facilitate their access to economic markets by mobilizing women into WAGs. The NFWP uses WAGs as platforms for providing opportunities in four areas: the development of social capital, the building of livelihoods, the creation of partnerships, and messaging about gender and other social norms.

The American Institutes for Research (AIR) is conducting a quasi-experimental impact evaluation to determine (a) the gendered impacts of the NFWP on financial inclusion, asset ownership, consumption, income, and decision-making power; and (b) the impact of the NFWP on group functioning and inclusiveness. The impact evaluation uses a mixed-methods design that includes a formative assessment, a process evaluation, and an assessment of the cost-effectiveness of the NFWP. The evaluations will also include at least one randomized controlled trial (RCT) to identify impacts of individual program components. These components include messages related to social norms and possibly the layering of interventions to reduce gender-based violence (GBV) and improve maternal health.⁸ Figure 4 summarizes the evaluation design.

The rest of this report is structured as follows. We start by describing the program and the underlying theory of change. We then present a summary of the impact evaluation methods, followed by a discussion of the results of the quasi-experimental study. Next, we present the results of the qualitative study, followed by the results of the costing analysis. We finish the report by triangulating the results and presenting a conclusion and initial recommendations for policy and practice.

⁸ This report does not discuss these RCTs because they have not started yet. The social norm messaging intervention and the layering of individual program components started after midline data collection, and we will discuss results during the endline survey.

Figure 4: Summary of Evaluation Methods and Timeline



Program Description

Financed by a \$100 million loan from the World Bank and supported by the Ministry of Women Affairs, the NFWP aims to support improved livelihoods for women in targeted areas of Nigeria by creating an enabling environment for women to overcome institutional and market failures which limit their socioeconomic outcomes. The project identified four core components to achieve this overall objective: 1) social capital development, 2) financial support for livelihoods, 3) facilitating partnerships and innovation, and 4) strengthening technical and implementation

capacity. The NFWP is being implemented gradually, starting with six states⁹ and 22 local government areas (LGAs).

The project delivers key services to women through women's affinity groups (WAGs), which are community-based groups of up to 25 women in which members come together to address their common problems, participate in saving circles, and support one another's entrepreneurial activities (World Bank, 2023). NFWP relies on WAGs to influence the social norms that limit women's voice and participation in community- and household-level decision making and access to critical economic opportunities; and improve practical skills and knowledge (e.g., business skills, health education). In its first two years, NFWP enrolled over 417,587 WAGs across 19,932 WAGs, and WAG members saved about N3.5 billion (US\$7.8 million) in a savings fund, with a significant percentage of these funds in circulation as loans at any given time (World Bank, 2024). During the same time, the NFWP disbursed individual livelihood grants to 227,302 WAG members as part of Component 2. The grants ranged in value from N30,000 to N60,000 (US\$68 to US\$135) each, for a total grant disbursement of over N9 billion naira (US\$20 million) (World Bank 2024). In addition, the project facilitated the creation of 183 livelihood collectives, with an average of 185 WAG members in each collective. These collectives will be eligible to receive up to US\$50,000 in financial support in the coming months pending the approval of their business plans.

The current phase of NFWP was intended to close in May 2023, but this was extended to June 30, 2024, to accommodate implementation delays related to project capacity/staffing, procurement, and inflation challenges (World Bank, 2024). A \$500 million scale-up initiative to roll out the NFWP model to 22 additional states is expected to begin in June 2024.¹⁰

Theory of Change

To inform our study design, we developed a theory of change (ToC) in consultation with the World Bank and the NFWP Implementation Team at the national and State levels focused on the implementation of WAGs and the impact of those groups on group-, household-, individual, and community-level outcomes (see Figure 5). The theory of change presents the pathways through which the hypothesized changes could occur. We link these pathways to the NFWP components targeted at the group level (Savings and Livelihoods Trainings, Social Norms Messages and Trainings, Health and GBV Layering) and at the community level (Social Norms

⁹ Ogun, Taraba, Kebbi, Abia, Niger, and Akwa Ibom States.

¹⁰ World Bank, 2023, PAD5294.

Messages). In this section, we present an abbreviated description of the ToC, with a complete description added in Appendix A.

The NFWP can achieve improvements in women's economic empowerment in labor and financial markets through several mechanisms. Savings and financial literacy trainings can lead to greater savings, which can enable women to gain access to individual or group credit (e.g., credit to individual WAG members or to WAGs to start collective businesses). At the same time, trainings related to livelihood development can improve women's business skills. With increased access to credit and improved business skills, as well as additional support through livelihood grants and private sector partnerships, women can expand their income-generating activities, ultimately earning higher incomes and owning more assets, which could stimulate their bargaining power within the household. We hypothesize that these effects are amplified by the formation and expansion of women's livelihoods collectives, including producer organizations, cooperatives, or producer-governed private limited companies.

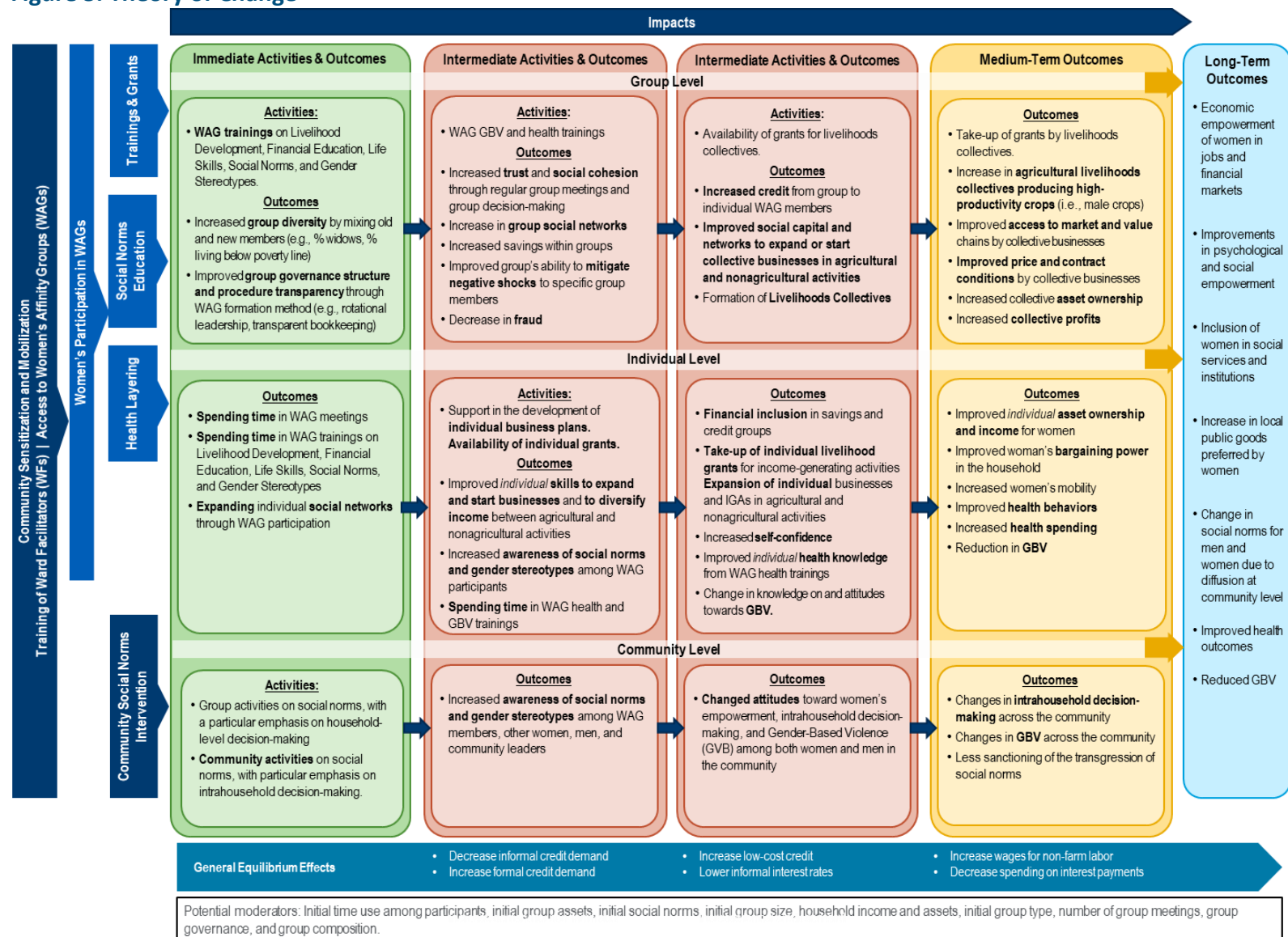
The group model of savings and credit through VSLAs could also help women to cope with shocks through increased savings and access to credit. For example, WAG members could rely on their savings and credit when climate shocks cause droughts or floods. In those cases, households may not have to sell assets to cope with climate shocks, especially in the presence of high in-group trust.

Social norm messages at the group- and community-level, combined with increased social support within groups can help WAG members reflect on gender norms, change group members' attitudes, and improve women's self-confidence and well-being. These changes in women's attitudes could result in improvements in women's bargaining power within the household. Social norm messages at the community level could lead to additional attitudinal changes and changes in social and gender beliefs and practices held by men and other non-WAG members. In addition, through specific focus on raising awareness about gender stereotypes and gender-based violence, social norms trainings could bring additional improvements in women's social empowerment.

The generation of social capital through group support could improve trust, social networks, and social cohesion by enabling women to collaborate with peers in their community and discuss economic and social issues. Improved social cohesion and networking could have both individual- and group-level effects on empowerment. The sense of confidence, dignity, and self-esteem that comes from women's empowerment could help women achieve "power within" and could positively influence intra-household dynamics—for example, by enabling women to gain bargaining power within the household with regard to financial decision and decisions on education and health.

Based on the program activities and pathways, as well as evaluations of comparable programs in India (e.g., Hoffmann et al., 2022; Kochar et al., 2020), we hypothesize continued positive impacts on savings, credit, and asset ownership in the medium-term (after 2.5 years of program implementation). In addition, the program may have medium-term impacts on women's decision-making power (Brody et al., 2015). Lastly, we expect that the program would generate positive impacts on consumption, income, or larger assets after the disbursement of livelihood grants, formation of livelihood collectives, and after women have had a chance to invest their savings and credit into income generating activities. Such intermediate-term effects would align with evidence from evaluations of comparable programs (e.g., Hoffmann et al., 2022; Kochar et al., 2020). Finally, while we hypothesize possible positive changes in individual attitudes related to social norms, we do not anticipate positive impacts on community social norms or sanctions in the medium-term because these usually require a longer time period to change.

Figure 5. Theory of Change



Research Questions

The evaluation of the NFWP is guided by various key research questions, which are based on the theory of change. In this report we focus on the following research questions.

Impact Evaluation Questions

1. What is the impact of the NFWP on group-level outcomes?
 - a. What is the impact of the NFWP on collective savings and credit?
 - b. What is the impact of the NFWP on group composition?
 - c. What is the impact of the NFWP on group meetings and governance?
 - d. What is the impact of the NFWP on social cohesion in groups?
2. What is the impact of the NFWP on individual-level and household-level outcomes?
 - a. What is the impact of the NFWP on financial inclusion (access to formal credit, and savings)?
 - a. What is the impact of the NFWP on economic outcomes (women's and household asset ownership, and income and household consumption)?
 - b. What is the impact of the NFWP on women's empowerment and agency (women's decision-making power, women's mobility, women's self-confidence)?
3. Did the NFWP achieve its PDO indicators (i.e., whether WAG members have improved livelihoods, savings, and access to credit, and increases in productive assets and contributions to household income)?

Cost Questions

4. What are the costs of the implementation of WAGs in Nigeria?

Formative and Process Evaluation Questions

5. What are the barriers and facilitators to participating in women's groups and specifically WAGs?
 6. How have contextual factors influenced program implementation?
 7. What are the perceptions of WAG and other women's group participants and nonparticipants about the benefits and costs of participating in women's groups?
 8. How do women's group participants and nonparticipants perceive community gender norms and their relationship with WAGs?
-

9. How do WAGs interact with nonmembers, including men and Ward facilitators?
10. To what extent can WAGs serve as a platform to deliver health and social protection programs?

Methods

In the following sections, we describe the details of our mixed-methods evaluation design, starting with the quantitative methods, including the quasi-experimental design and the costing analysis, followed by the qualitative methods, including the formative assessment and the process evaluation.

Quantitative Study Design

We designed the impact evaluation based on the proposed program rollout, as well as methodological principles that enable us to establish a counterfactual. Establishing a counterfactual requires rigorous methodologies to address the following question: What would have happened in the absence of the intervention?

Difference-in-difference combined with matching.

We are using a quasi-experimental design to determine the impact of the NFWP. We first used a three-stage matching approach to select a comparison group. We then combined the matching approach with a difference-in-differences (DID) analysis (which compares the average change over time for the treatment group with the average change over time for the comparison group), and a single-difference analysis for variables for which we did not have recall data available.

We first matched each of the 18 treatment LGAs to four neighboring comparison LGAs. We worked with the World Bank, the Nigerian government, and Oxford Policy Management (OPM, the firm collecting the baseline data) to select four potential neighboring comparison LGAs for each treatment LGA, so that we achieved a sample size of 18 treatment LGAs and 72 comparison LGAs. Appendix B presents more details about the quantitative methods.

Outcome Measures

We used the measurement guide developed by the Evidence Consortium on Women's Groups (ECWG; de Hoop et al., 2020), led by AIR, to aid in designing the survey instruments. Table 2 presents the main outcome measures we used. These include individual- and household-level savings and credit, income, and asset ownership; household-level consumption; and women's empowerment measures, based on an adaptation of the Women's Empowerment in Agriculture Index. In addition, we included household-level food security, gender norms

measures, and group-level measures related to the composition of groups, the number of group meetings, and the group-level savings.

Table 2. Outcome Measures and Survey Tools

Outcome measure	Survey questions
Women's savings	Social Observatory Questions on savings
Women's access to credit	Social Observatory Questions on credit
Women's and household's asset ownership	Individual- and household-level sole or joint asset ownership based on Women's Empowerment in Agriculture Index
Women's income	Self-reported income from wage employment and self-employment
Household expenditures	Expenditure surveys
Women's economic empowerment	Women's Empowerment in Agriculture Index
Women's psychological empowerment	New General Self-Efficacy Scale
Women's ability to engage in collective action	Social Observatory Questions
Collective savings	Survey questions based on the ECWG measurement guide
Food security	Index of survey related to food security at the household-level
Group size	Survey questions based on the ECWG measurement guide
Group composition	Survey questions on the gender, age, demographic characteristics, and economic indicators of group members based on the ECWG measurement guide
Number of group meetings	Survey questions based on the ECWG measurement guide

Qualitative Study Design

At midline, we conducted a full process evaluation, which enabled us to compare qualitative data between baseline and endline to observe how implementation is progressing, to understand the extent to which challenges and/or bottlenecks were addressed, and to document any gains and/or improvements that WAG members have perceived in their lives.

Process Evaluation

We designed and implemented a process evaluation to assess implementation fidelity and beneficiary experiences. The process evaluation focused on how the program was implemented, including to what extent program activities were implemented as intended and how participants experienced the program. The process evaluation also explored external and contextual factors that influenced program implementation. Appendix C presents the detailed qualitative methodology.

Focus Group Discussions

At midline, AIR conducted FGDs with WAG members, NFWP champions, and WAG members who received livelihood grants to gain an understanding of the perceptions of women and community members to the NFWP. Process evaluation components focused on women's experiences of program implementation, perceived challenges in women's group functioning, and perceptions of changes in women's livelihoods or empowerment in relation to their participation in WAGs. FGDs with NFWP champions, which included community, traditional, and religious leaders focused on community members' perspectives of how the NFWP had been affecting women as well as the community at large. Finally, we conducted FGDs specifically with livelihood grantees to probe more deeply on how these grants were affecting livelihoods; we learned at baseline that these grants were one of the most important components of the project, so it was appropriate to organize focus groups that specifically targeted this intervention.

In-Depth Interviews

At midline, we conducted IDIs with WAG members and non-WAG members—including a financial diaries exercise—to gain more in-depth understanding of household level dynamics around gender norms and financial decision-making. The IDIs with WAG members included process evaluation questions about women's experiences of the program, intra-household gender dynamics, household decision making and finances, and perceived changes in women's empowerment. IDIs with non-WAG members generated a comparative perspective with WAG members to highlight any perceived advantages of WAG membership.

Key Informant Interviews

At midline, we conducted KIIs with staff from the World Bank, as well as Federal, State, LGA-level, and ward-level officials. KIIs with these stakeholders included questions on how the program was implemented, to what extent it was implemented as intended, and how external or internal factors may have influenced implementation. These KIIs also explored perceived impacts of the program. KIIs with community-level project staff investigated perceived program impacts, including perceptions of change in social norms, women's livelihoods, and women's

empowerment. Table 3 summarizes the key informants we interviewed at each level of government.

Table 3. Summary of Key Informants Interviewed at Midline, by Level

National	State	LGA	Ward
- World Bank staff - Federal Ministry of Women’s Affairs officials - Livelihood Advisor - Institutional Capacity Building Advisor - National Project Coordinator - Technical Partners	- Ministry of Women’s Affairs officials - Institutional Capacity Building Advisors - Technical Partners - Gender, GBV, and Safeguards Specialists - Thematic Coordinator (Livelihoods) - Behavior Change Communication Advisors - Innovation Partners - Project Coordinator	- LGA Field Supervisors - Barefoot Business Councilors - Behavior Change Communication Advisors - Project Coordinators - Community-based facilitators	- WAG leaders - WAG Support Officers - Ward Facilitators

Sampling and Data Collection

We sampled respondents from all 6 states where the program was implemented at the time of the data collection—Abia, Akwa Ibom, Kebbi, Niger, Ogun, and Taraba. In each state, we purposively selected 2 LGAs and 1 ward per LGA. Of the two wards sampled in each state, one was an urban environment, and one was more rural. We drew the FGD and IDI samples from these wards, as well as a part of our KII sample. Moreover, we sampled state and federal-level officials affiliated with both the government and the NFWP to round out the KII sample.

Data collection largely followed the sampling strategy with the exception of minor deviations due to the unavailability of respondents. For example, in Akwa-Ibom, data collectors were unable to organize KIIs in the selected LGA of Nsit Ubium, and so instead conducted KIIs in the neighboring LGA, Oruk Anam. Table C-1 in Appendix C presents a summary of the data collection activities for the process evaluation.

Analysis

We selected a sample of KII, IDI, and FGD transcripts to both ensure an efficient analytical approach while maintaining data saturation, or the point at which there is enough data to draw conclusions and further data will not produce new insights (Saunders, et al. 2018). Our selection criteria ensured that every sampled state/LGA/ward was represented, and that the types of

respondents for KIIs, FGDs, and IDIs were spread evenly across the sampled levels. In other words, every respondent type as well as every data collection site was represented in the data that was included in the analysis. See Table C-2 in Appendix C for a summary of the data transcripts that were included in the midline analysis as well as our overall approach to the analysis.

Findings

Impact Evaluation Findings

This section presents impact evaluation findings, organized by the potential channels through which the NFWP can achieve its objectives.

Outcomes From Group Formation and Savings Training

Rate of Membership in WAGs

The results showed a 25 percentage points increase in the likelihood that women were members of a women's group 2.5 years after the start of the program. The results show that 74 percent of the women in the treatment LGAs are WAG members. In addition, we found a small substitution effect. Female membership in other women's groups went down with 20 percentage points, while membership in other savings groups decreased by 32 percentage points. This is likely because WAG members were or would have been members of other more informal women's and savings groups in the absence of WAGs. We present these results in Figure 6.

Relative to the baseline survey (1 year after the start of the program implementation), WAG membership increased by another 11 percentage points before the midline survey (2.5 years after the start of the program implementation). While most WAG members were already WAG members at the time of the baseline survey (one year after the start of the program), we found an additional increase during the midline survey. Membership in other women's and savings groups in the treatment group also increased relative to the comparison group in between the baseline and the midline survey. We found a 9 percentage points increase in membership in other women's groups and a 9 percentage points increase in membership in other savings groups. These results are indicative of spillovers generating the development of additional women's and savings groups in the treatment group. Overall, we found evidence for a substitution effect, but the magnitude of this substitution effect decreased between the first and the second round of data collection. We present these results in Figure 7. Appendix D presents all regression tables.

Figure 6: Single Difference Estimates – Group Membership

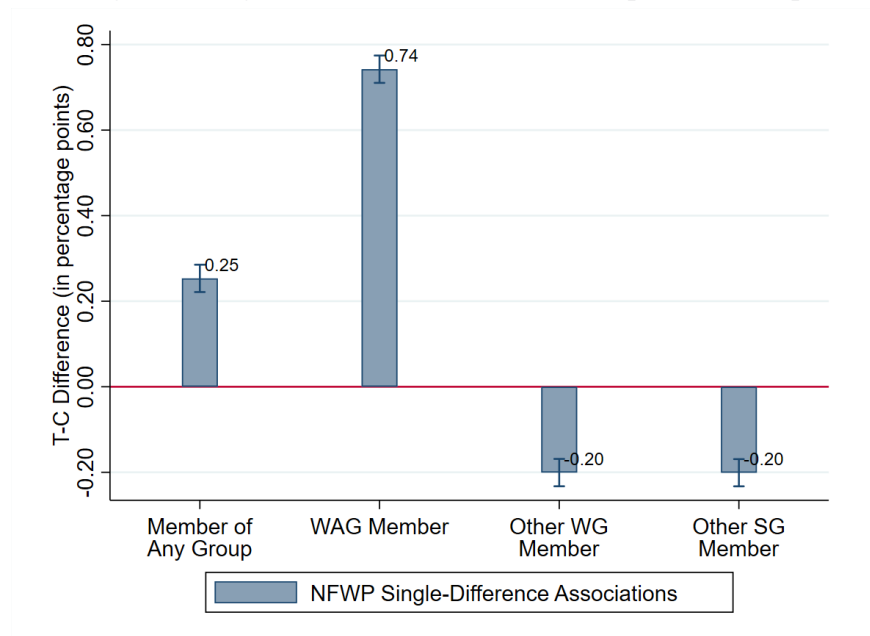
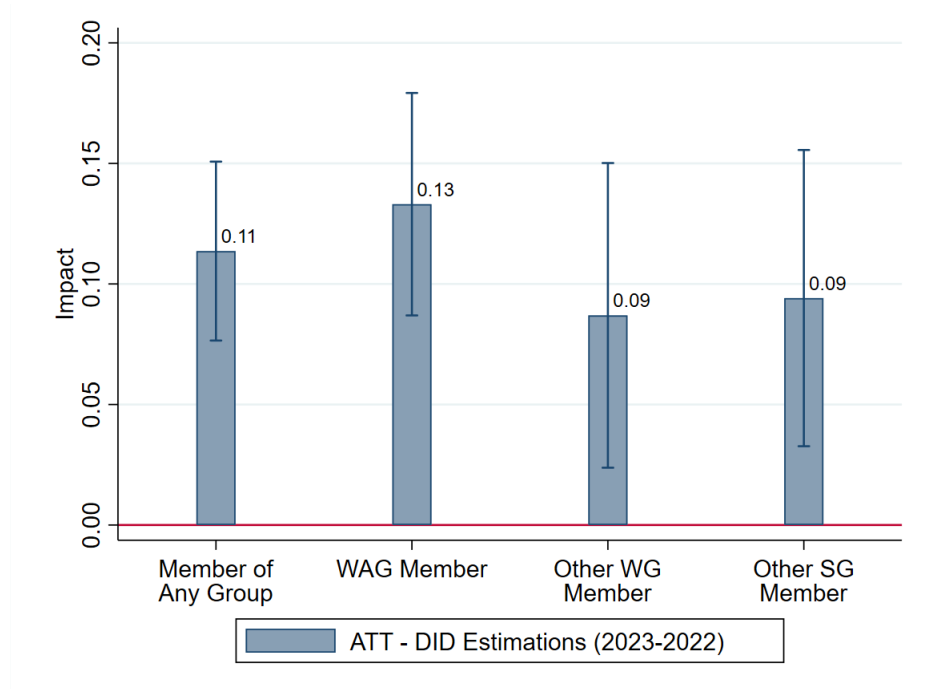


Figure 7: DID Estimates – Group Membership



Group Composition

With respect to the group composition, we find similar effects as during the first round of data collection. WAGs have much smaller group sizes than other savings and women's groups in the comparison group (on average 16 members less and a 33 percentage points lower likelihood of having more than 25 members). The proportion of female members is also statistically

significantly higher among WAGs in the treatment group. These results are presented in Figures 8 and 9. We do not find major other differences in the characteristics of WAG members in the treatment group and group members in the comparison group.

We also do not find consistent statistically significant effects on group social cohesion though WAG members are less likely to report that group members only worry about themselves and more likely that they can count on other WAG members.

As shown in Figure 10, WAGs do meet more frequently than women's groups in the comparison group. They are 32 percentage points more likely to meet weekly, 6 percentage points less likely to meet biweekly (as opposed to weekly) and 22 percentage points less likely to meet monthly (as opposed to weekly).

Figure 8: Single Difference Estimates – Group Composition

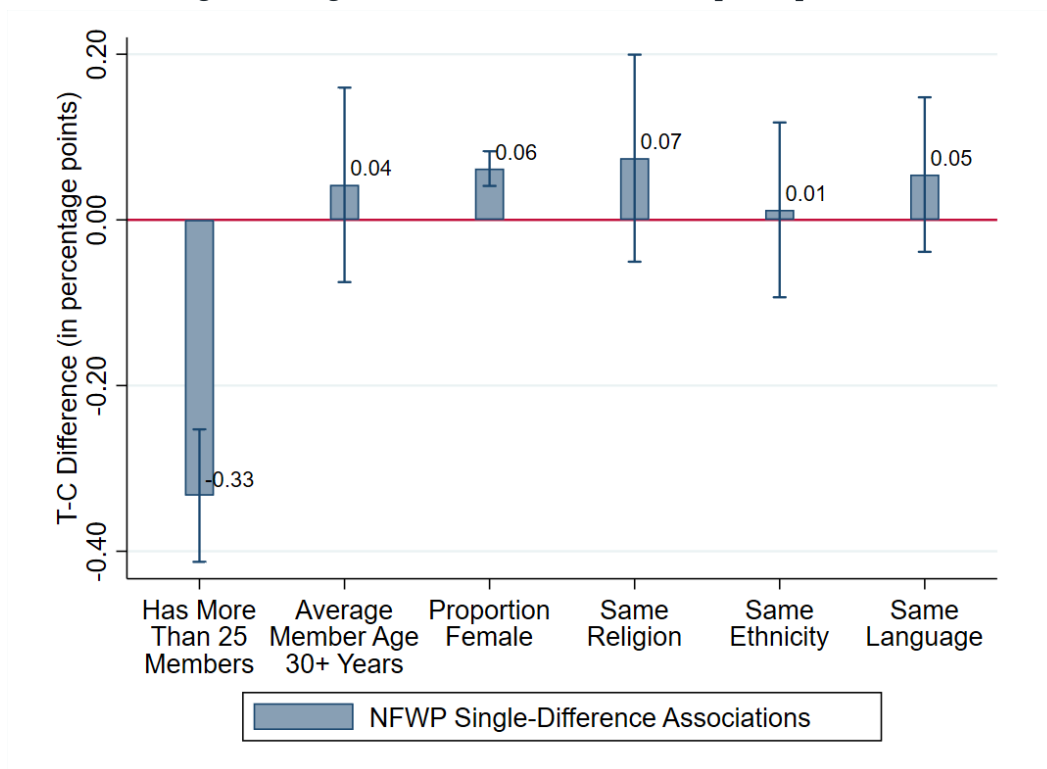


Figure 9: Single-Difference Impact Estimates - Group Composition

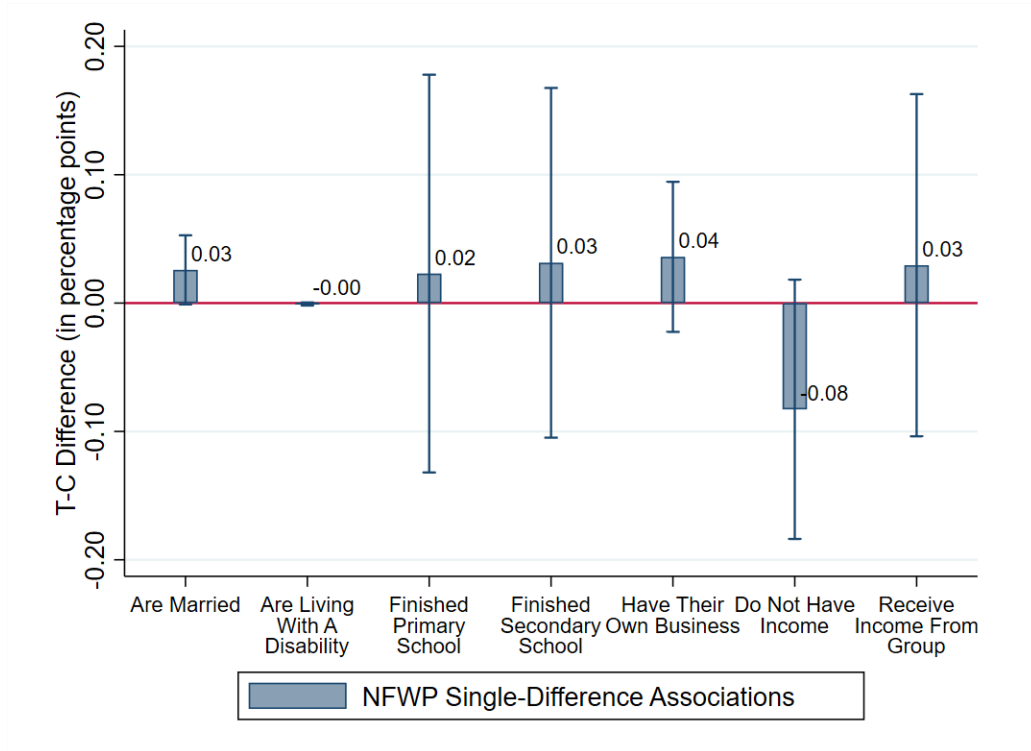
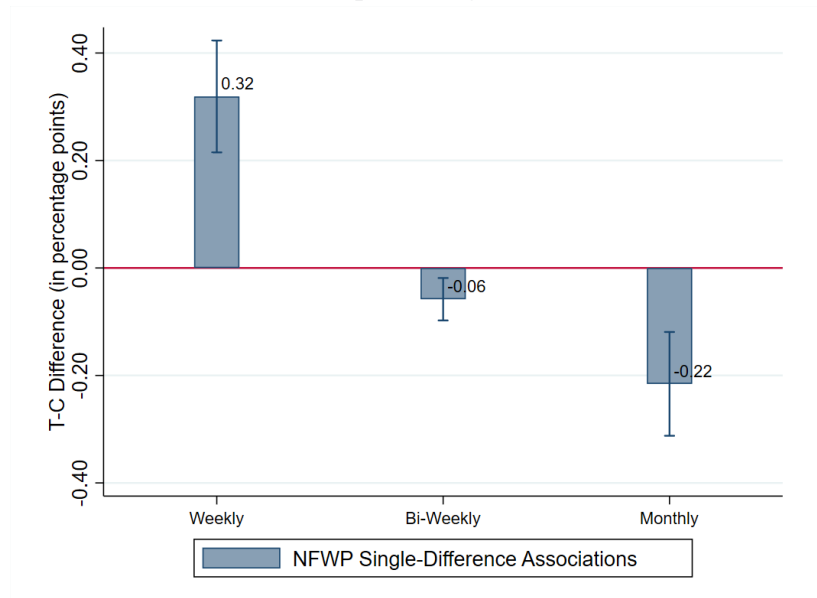


Figure 10: Single-Difference Estimates – Group Meetings



Financial Inclusion and Assets

Savings

We continue to find positive impacts on group savings and access to credit 2.5 years after the start of the program implementation. Women in the treatment group were 17 percentage points more likely to save (see Figure 11). This effect is larger than during the first round of data collection when we found a 12 percentage points increase in the likelihood of saving relative to the comparison group. Women in the comparison group were slightly less likely to save in 2022 (60%) than in 2020 (65%), while women in NFWP areas were more likely to save in 2022 (79%) than in 2020 (68%). The increase in the amount of cumulative savings (the total amount of savings during the midline survey) is small and statistically insignificant (see Figure 13), but the increase in group savings in WAGs is larger than the increase in group savings in other women's and savings groups (see Figure 13).

As expected, almost the entire increase in savings can be attributed to the increase in savings in WAGs. Women in treatment areas were 65 percentage-point more likely to have savings in WAGs (based on single difference estimations; see Figure 12). Cumulative savings in WAGs were 15,000 Naira higher than in the comparison group, while cumulative savings in other women's groups were 6,000 Naira lower. This difference in group savings increased over time relative to the first round of data collection (one year after program implementation). Nonetheless, women in the treatment group were 11 percentage-point less likely to have savings in other women's groups though there was no statistically significant difference in savings in other savings groups. Additionally, women continued to have higher savings in WAGs in treatment areas substituting away from other women's groups or savings groups.

Combined, these results indicate that NFWP women increasingly use WAGs as their primary savings vehicle and continued to save at higher rates, with increasing propensity to save over time. It is likely that women use their savings to invest in or purchase small assets and commodities and have accumulative lower pool of savings as a result.

Figure 11 DID Impact Estimates - Savings

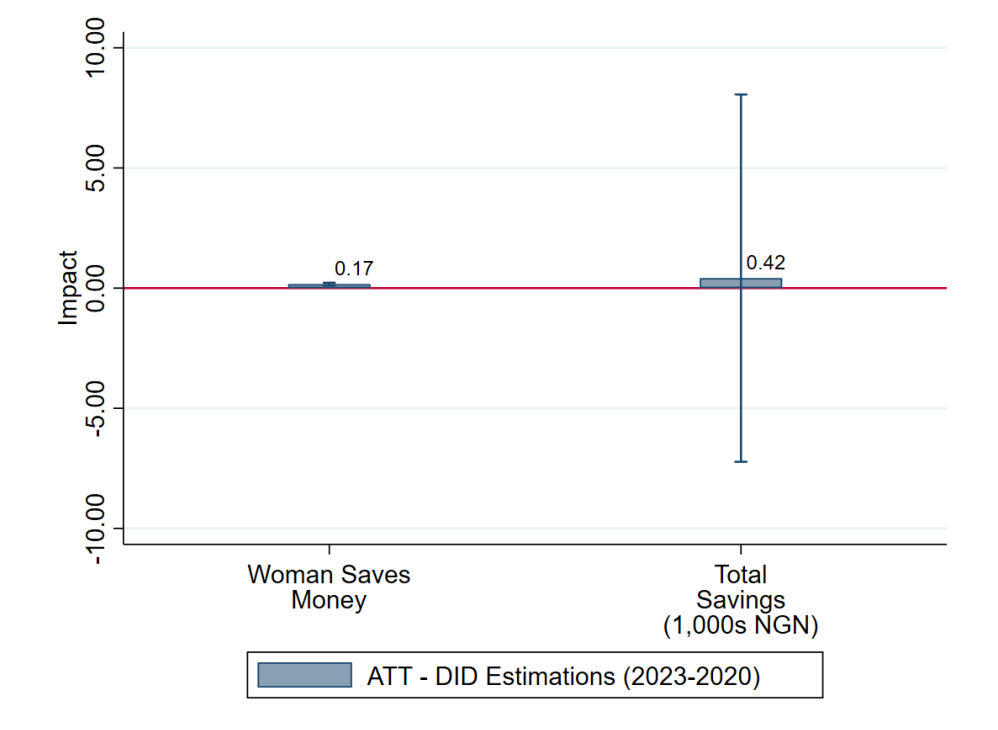


Figure 12 Single-Difference Impact Estimates – Any Women’s Group Based Savings

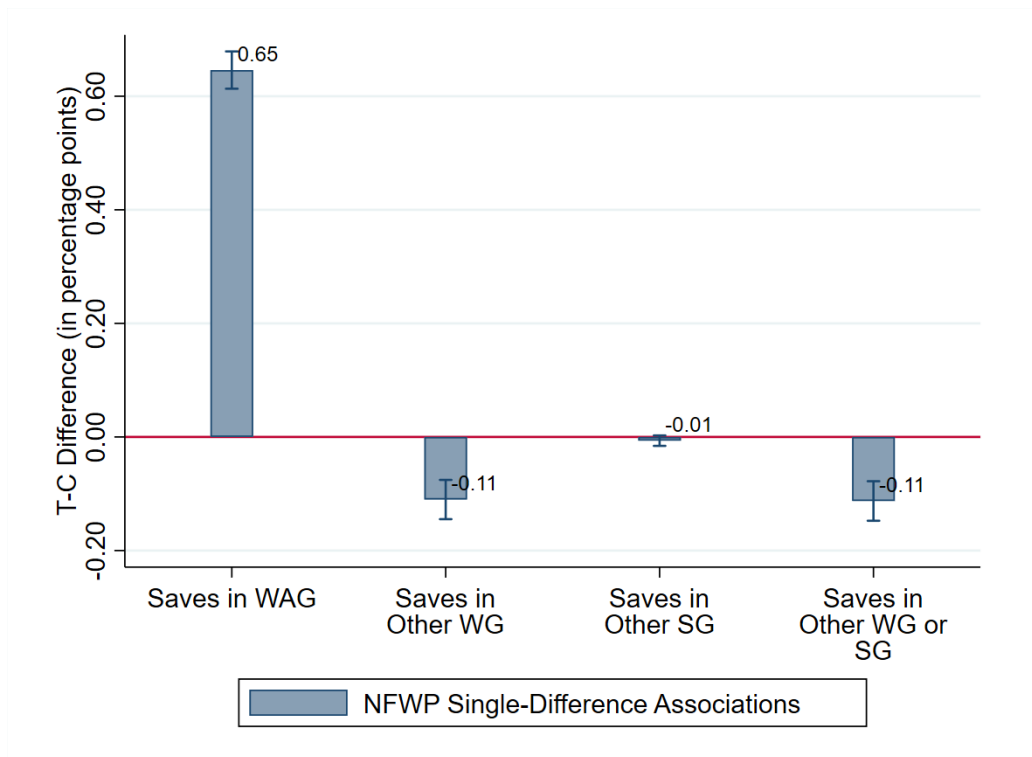
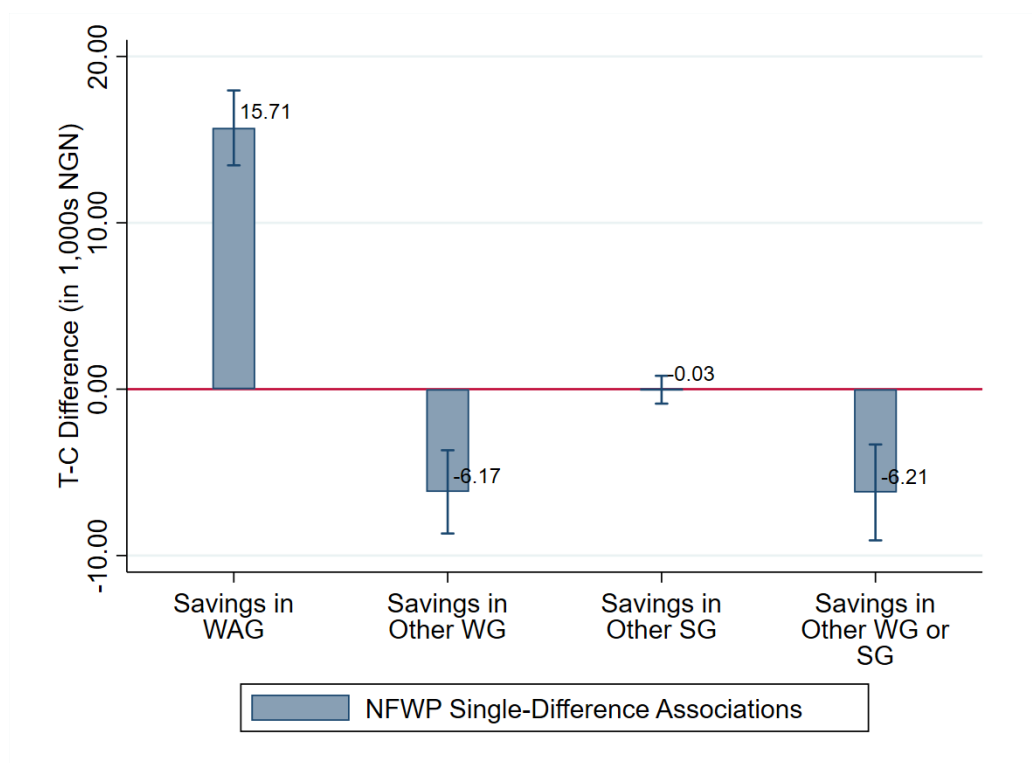


Figure 13 Single-Difference Impact Estimates – Cumulative Women’s Group Based Savings



Credit

Similar to the findings observed in 2022, NFWP continued to have a positive and statistically significant impact on women’s access to credit. By 2023, women in treatment areas were 7 percentage-point more likely to have outstanding loans (based on DiD specification, compared with 2020; see Figure 14). At the same time, we do not find statistically significant differences in cumulative outstanding loan amounts (see Figure 15), similar to patterns observed after one year of program implementation, although the amounts in the treatment groups continue to be higher in magnitude. While women in the treatment group had more outstanding loans, on average, the difference in the value of outstanding loans or of the largest loan was not statistically significant between treatment and comparison groups. NFWP was also associated with shifts in sources of credit for women – similar to the previous round, women in NFWP areas were almost 8 percentage point more likely to access their loans from women’s or savings groups, compared with comparison areas. We did not find major differences in treatment effects between different sub-groups.

Figure 14 DID Impact Estimates – Women’s Credit

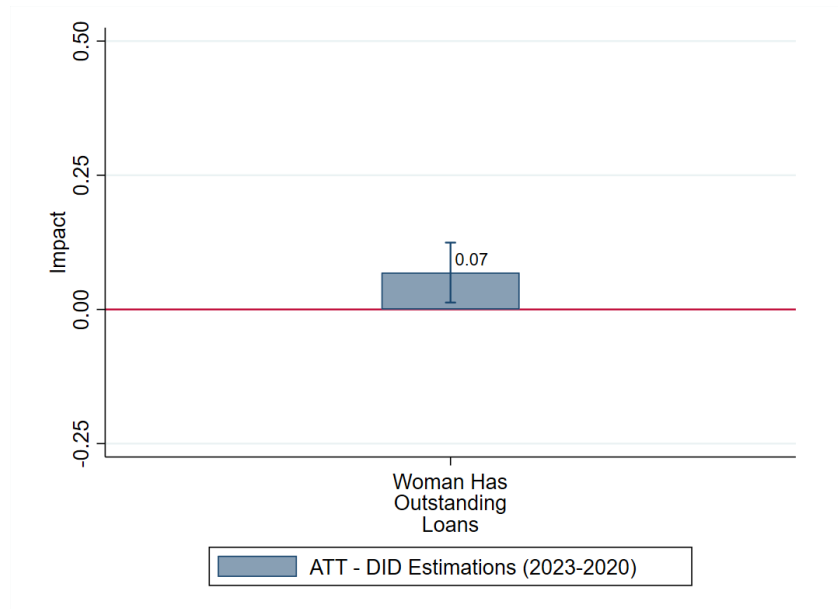
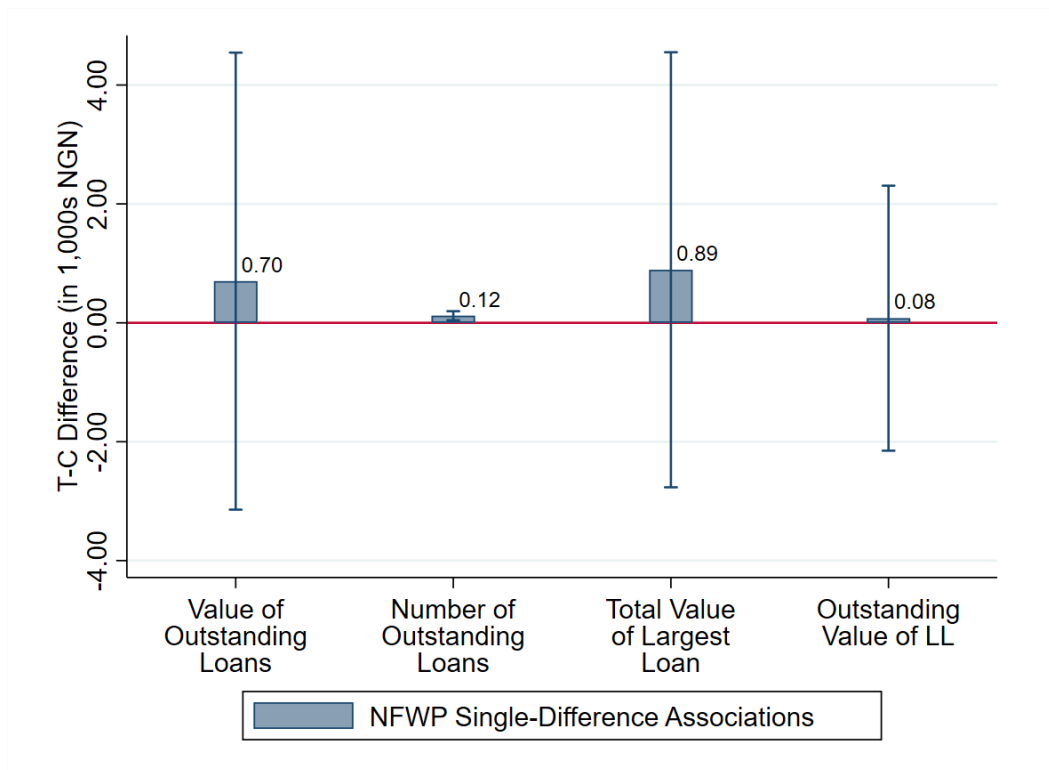


Figure 15. Single-Difference Impact Estimates - Credit



Asset Ownership

NFWP led to a small but significant increase in the likelihood of household asset ownership 2.5 years after the start of the program implementation. NFWP households were 1.2 percentage point more likely to own at least one asset. In terms of specific asset types, the impacts were larger on ownership of non-mechanized farm equipment (7.8 percentage point increase), household small durable goods (4.4 percentage point increase), and mobile phones (5.2 percentage point increase). At the same time, there was a small but only marginally significant decline in household ownership of mechanized farm equipment (2 percentage point decrease). Figures 16, 17, and 18 show DiD estimates on household-level asset ownership.

Similar to the previous round, we did not find much variation in the impact on asset ownership by household characteristics. There were some exceptions to this – the impact of NFWP on total assets owned was higher for households with women older than age 30, and the impact on household ownership of non-mechanized farm equipment was higher for Christian households and lower for households in the north. In addition, it seems that the impacts on asset ownership were concentrated among those households with the fewest assets (likely the poorest households) considering that the comparison mean value of owning at least one asset is 99 percent.

Figure 16 DID Impact Estimates – Household Asset Ownership

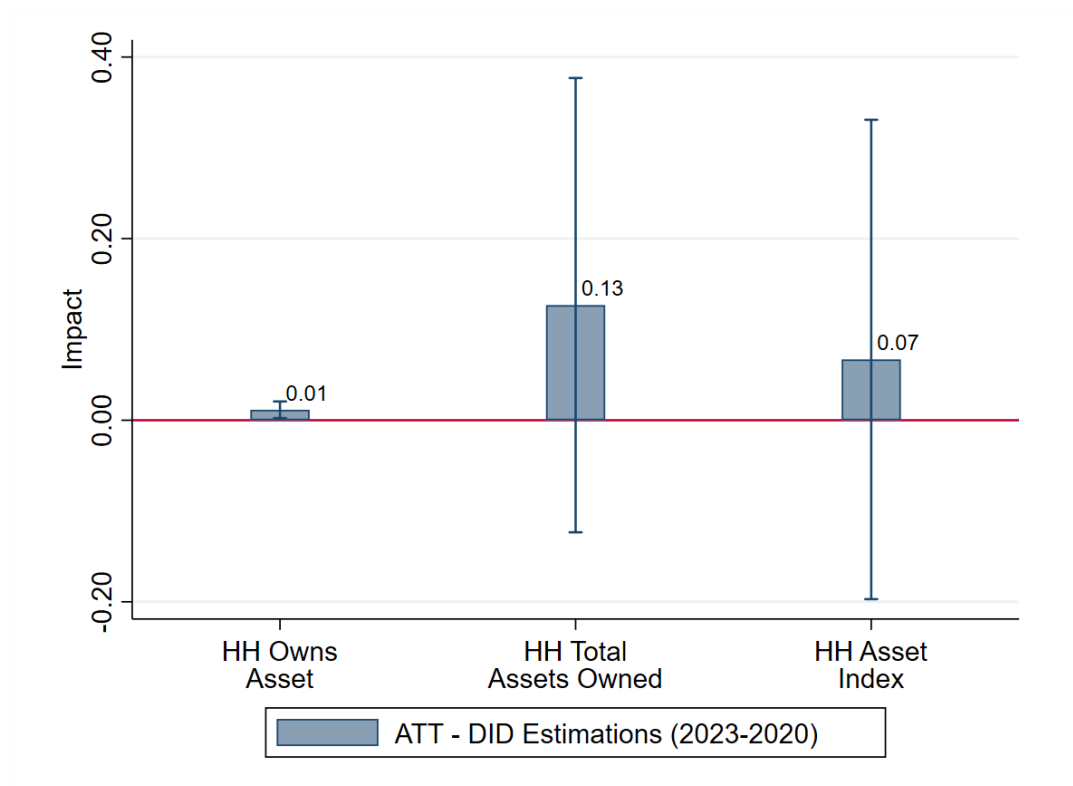


Figure 17 DID Impact Estimates – Household Asset Ownership

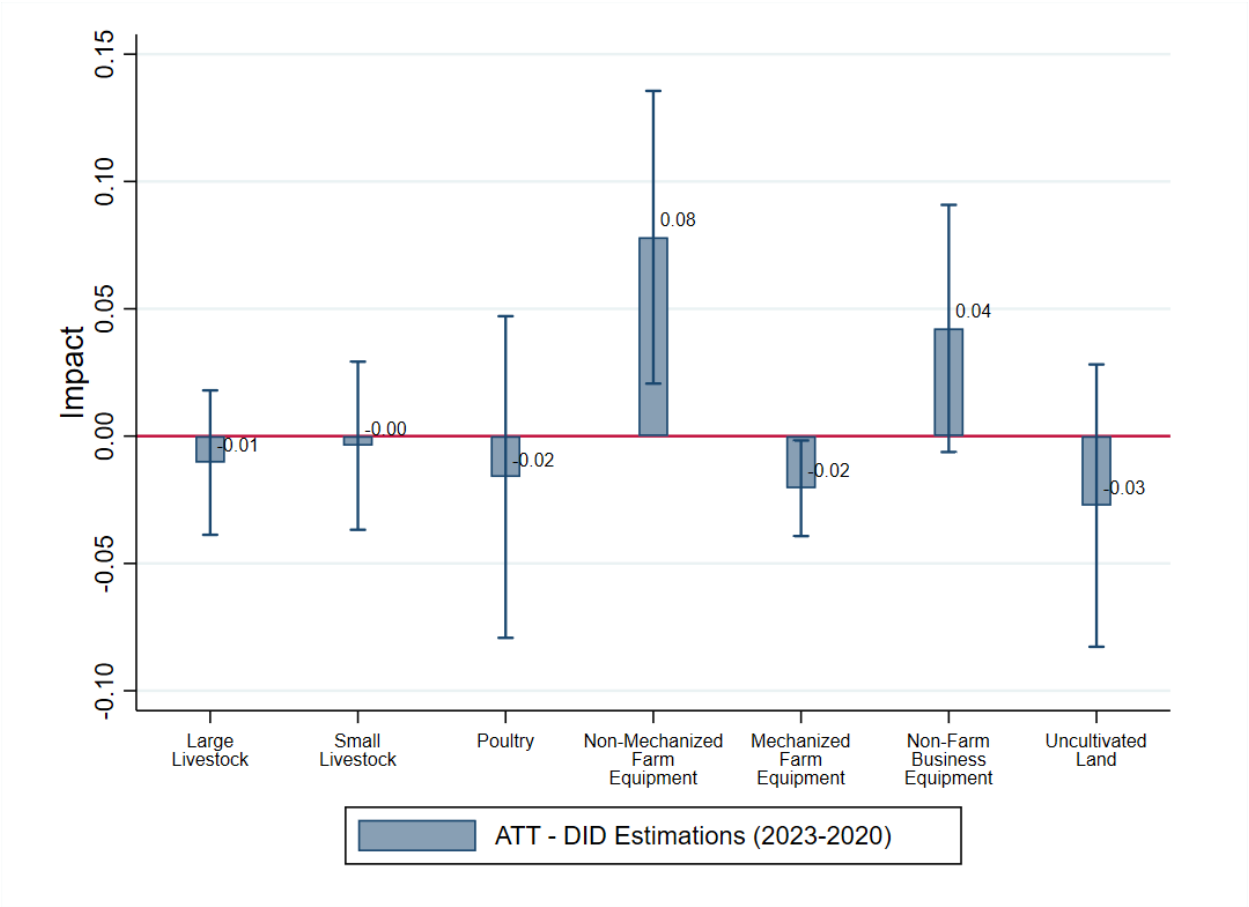
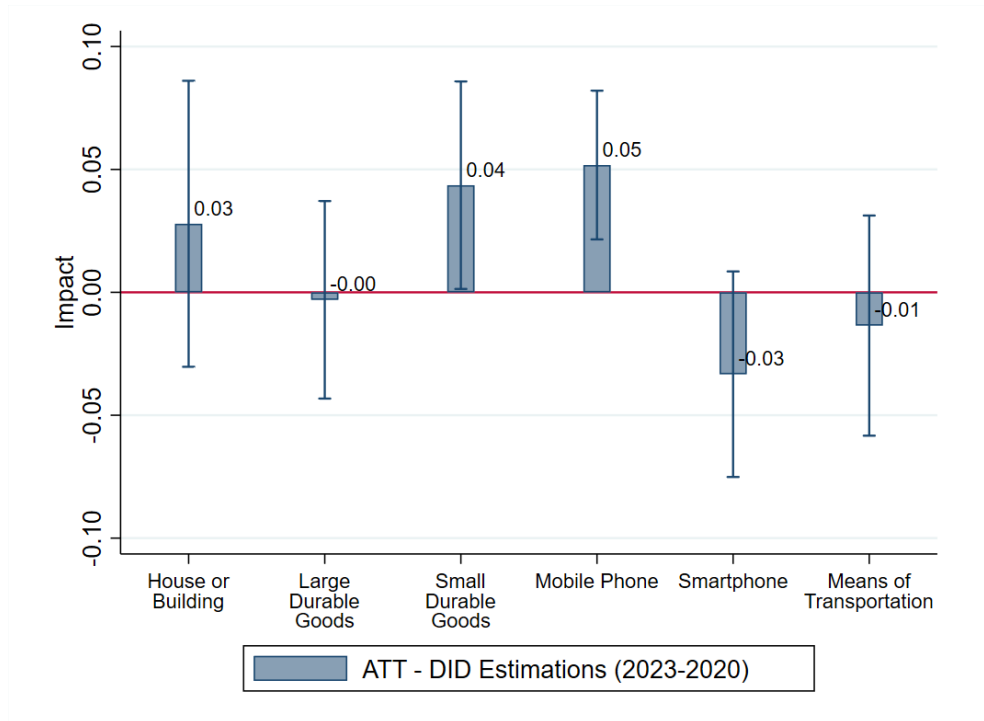


Figure 18 DID Impact Estimates – Household Asset Ownership



Increased asset ownership in NFWP areas was likely driven by women's asset ownership. Women in NFWP areas were 1.7 percentage point more likely to solely or jointly own at least one asset (see Figure 19). NFWP women were more likely to report sole ownership of non-mechanized farm equipment (by 12 percent), nonfarm business equipment (by 19 percent), land (by 34 percent), and mobile phones (by 14 percent). Additionally, the magnitude of these impacts has increased since the first data collection round, suggesting that women will most likely continue to make progress in this domain.

We also find some heterogeneities in effects on women's sole ownership of assets by household characteristics. First, we find smaller effects on sole ownership of at least one asset, large livestock, house, and mobile phone for women younger than 30 years old. Second, impacts on mobile phone ownership were higher for women in the North than in the South. Third, impacts on sole ownership of large durable goods were higher for women in Christian households (both in Northern and Southern Nigeria) than in other households. Fourth, we find some indication that impacts on women's asset ownership are larger after climate shocks, such as droughts and floods, possibly because WAG members can cope with climate shocks using their savings or access to credit.

Figure 19 Single-Difference Impact Estimates – Women’s Asset Ownership

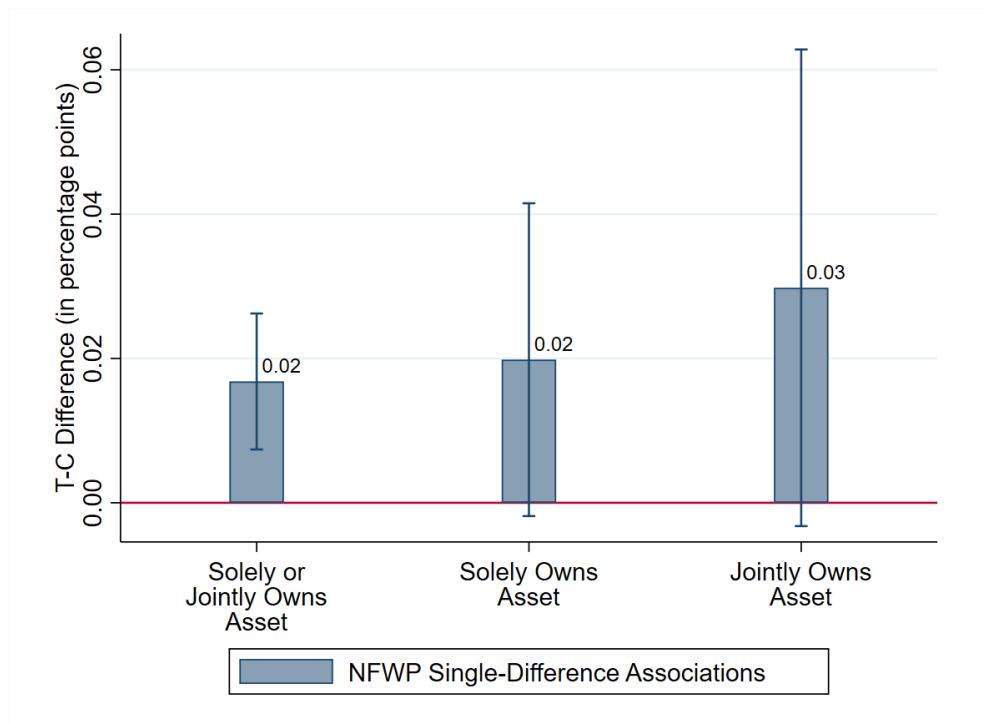


Figure 20 Single-Difference Impact Estimates – Women’s Asset Ownership Index

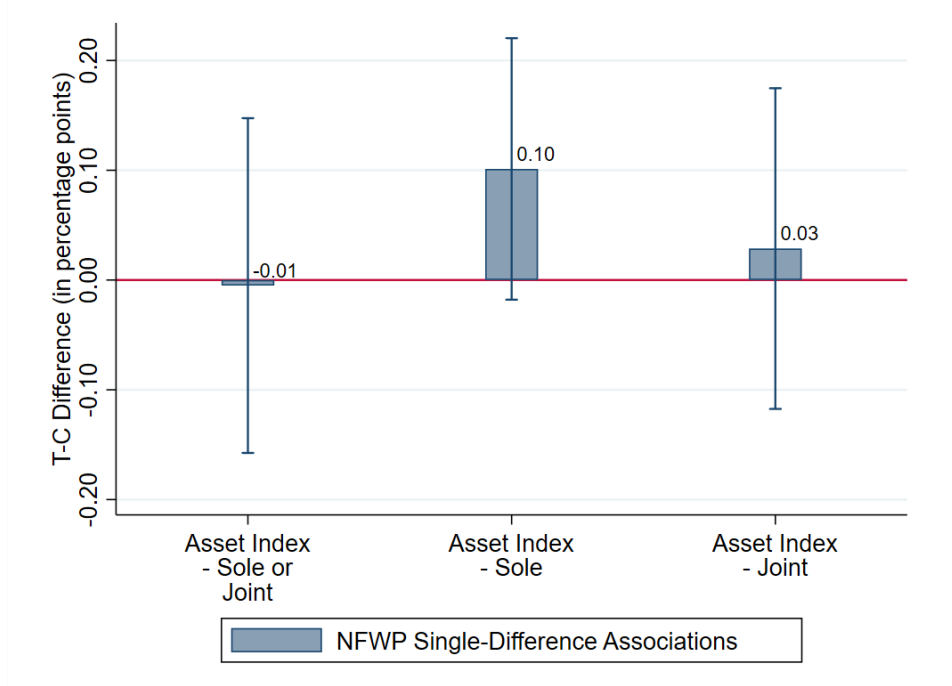


Figure 21 Single-Difference Impact Estimates – Women’s Individual Asset Ownership

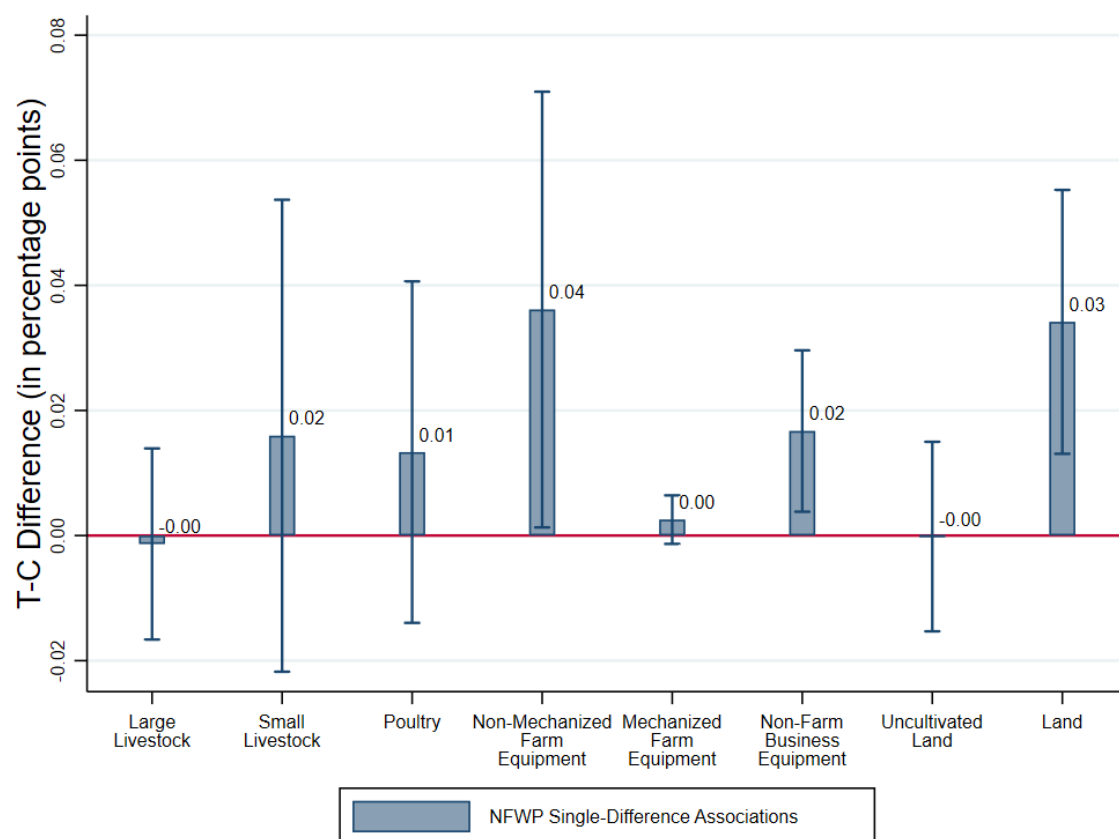
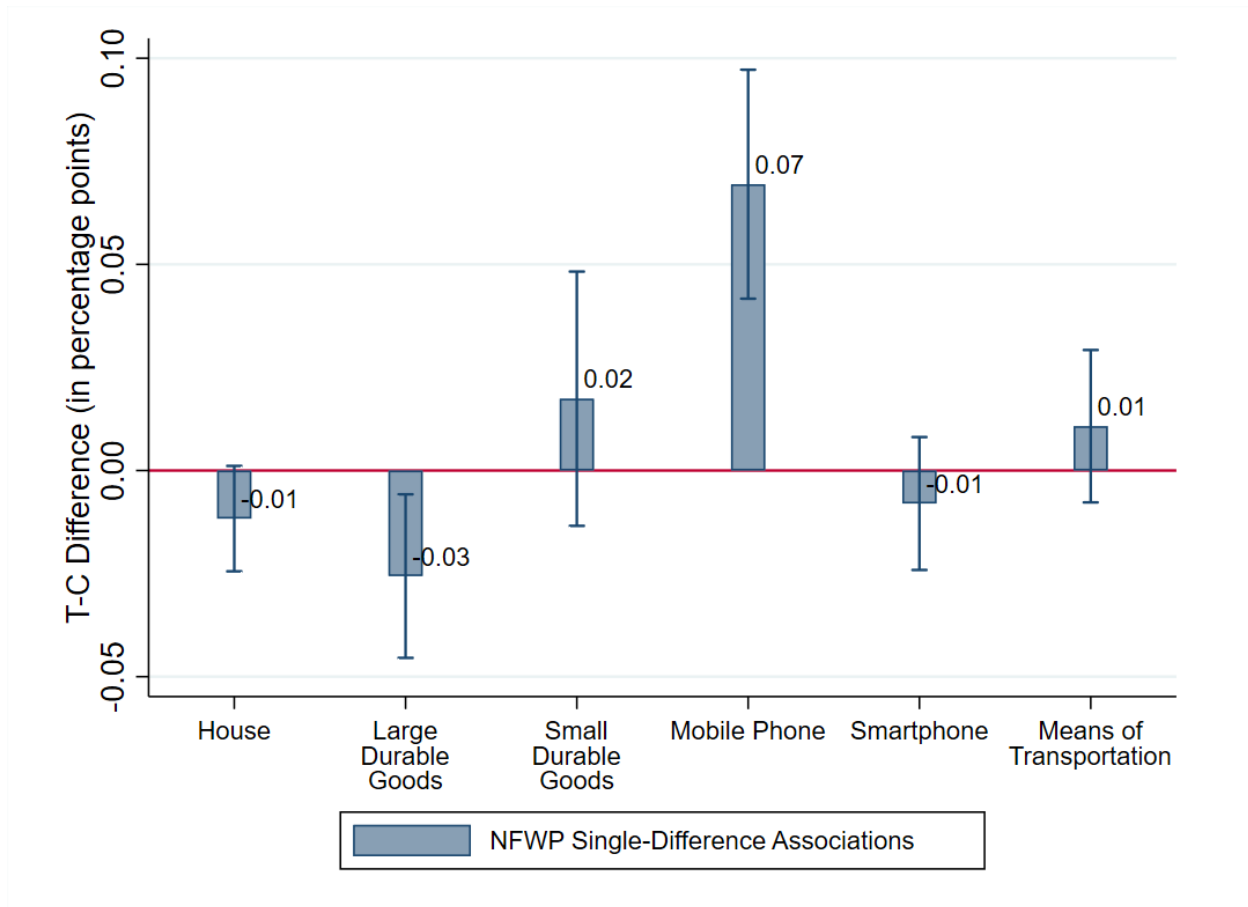


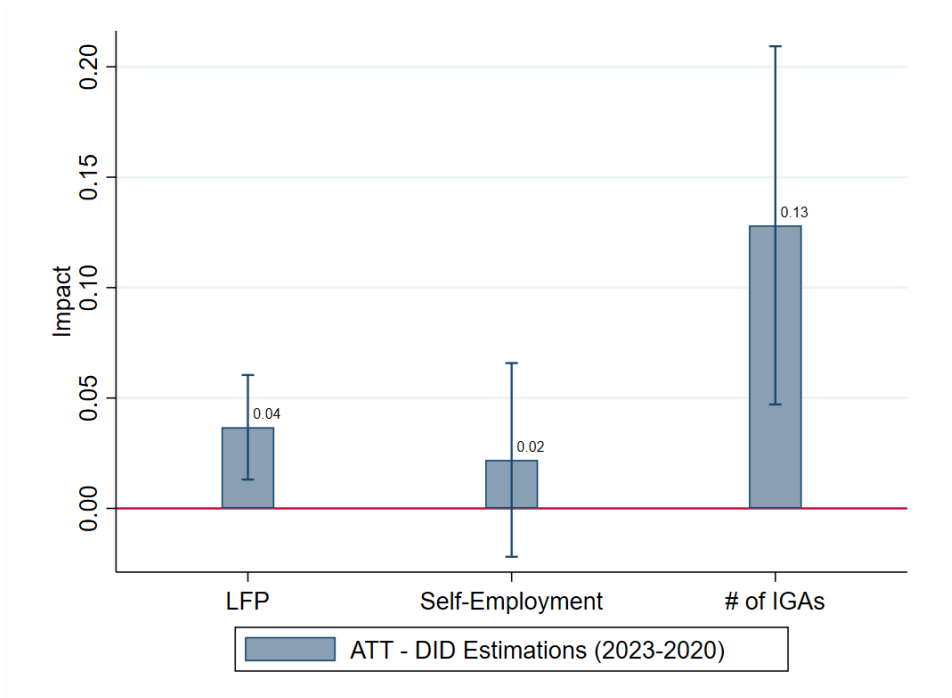
Figure 22 Single-Difference Impact Estimates – Women’s Individual Asset Ownership



Women’s and Households’ Labor Force Participation, Income, and Consumption

By midline, NFWP led to significant increases in women’s labor force participation and income diversification—conceptualized as the number of different income generating activities (IGAs). Similar to the previous round, we considered the following income generating activities: worked on farm (crop production) outside the household, worked on own farm (crop production) and selling products, livestock tending outside the household, raising own livestock and selling products, casual labor, employed in a company, work in aquaculture/fishing and selling products, and running own business/self-employed. The findings suggest a 3.7 percentage-point increase in women’s labor force participation, and an increase of 0.13 in their income generating activities (an increase of 9.5% relative to the comparison group), as shown in Figure 23. Analyses of heterogeneous effects by women's age, religion, and geographic location revealed no statistically significant differences in impacts along these factors.

Figure 23 DID Impact Estimates – Women’s Labor Force Participation



The effects on women’s labor force participation and livelihood diversification were not observed during the first data collection round, suggesting that these changes are relatively recent, and indicative of longer-term livelihood impacts from engagement in NFWP activities. While we did see a small short-term increase in women’s self-employment one year after the start of the program implementation, we now find that women’s livelihoods have become more diversified 2.5 years after the start of the program implementation. While we did not find statistically significant differences in business ownership, business sales, and employment (based on DiD analyses with baseline data), a descriptive comparison of livelihood activities across treatment and comparison groups suggests that women in NFWP areas were more likely to be engaged in own farm production and sales, raising own livestock, and running own business/self-employment.

Figure 24 DID Impact Estimates – Women’s Income

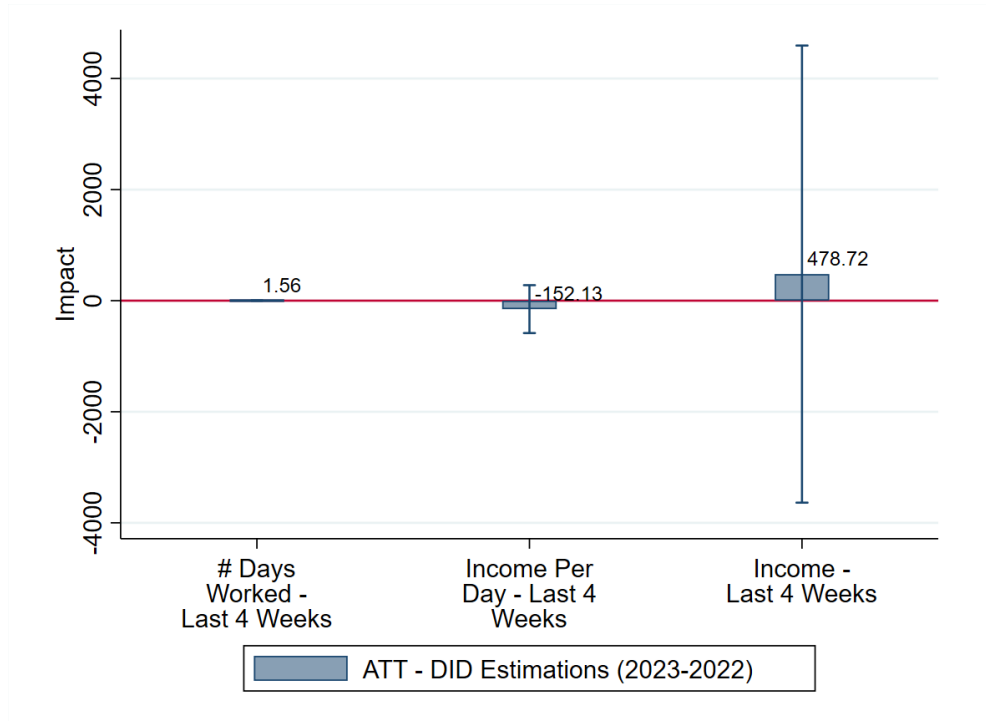
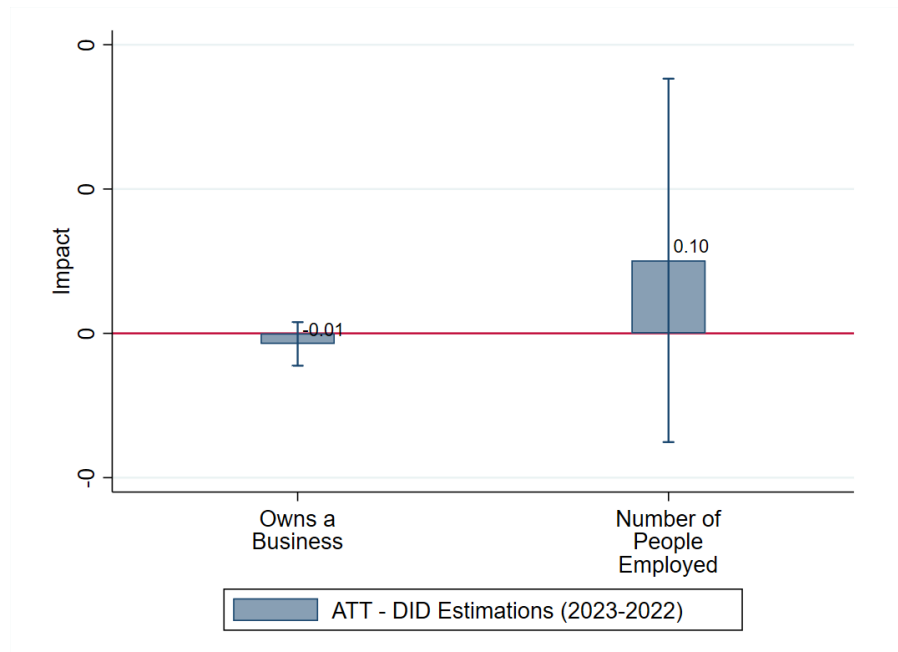


Figure 25 DID Impact Estimates – Women’s Business Ownership



Just like after one year of program implementation, we did not find statistically significant effects on household consumption. The results do not suggest statistically significant effects on any consumption category, indicating that the program has not had positive effects on

consumption 2.5 years after the start of the program implementation. We show these results in Figure 26.

We also did not find impacts on the consumption of productive assets (see table 4), indicating that the NFWP did not have an impact on this PDO indicator by the time of the midline survey. The program did generate positive impacts on women's ownership of small durable assets. It is possible that WAG members did not save enough to purchase larger assets yet as Nigeria is experiencing its worst economic crisis in almost 30 years.

We do find statistically significant increases in the value of consumption over time. This is likely because of the increased inflation in Nigeria. Food and other consumption items have become more expensive over time, resulting in large and statistically significant increases in consumption over time for both the treatment and the comparison group.¹¹

Table 4: DID Estimations - Productive Asset Consumption (2023-2022)

	Productive assets consumption
NFWP x time	-209.964 (231.892)
Time	-30.457 (68.448)
Comparison Mean	128.20
N	8822

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

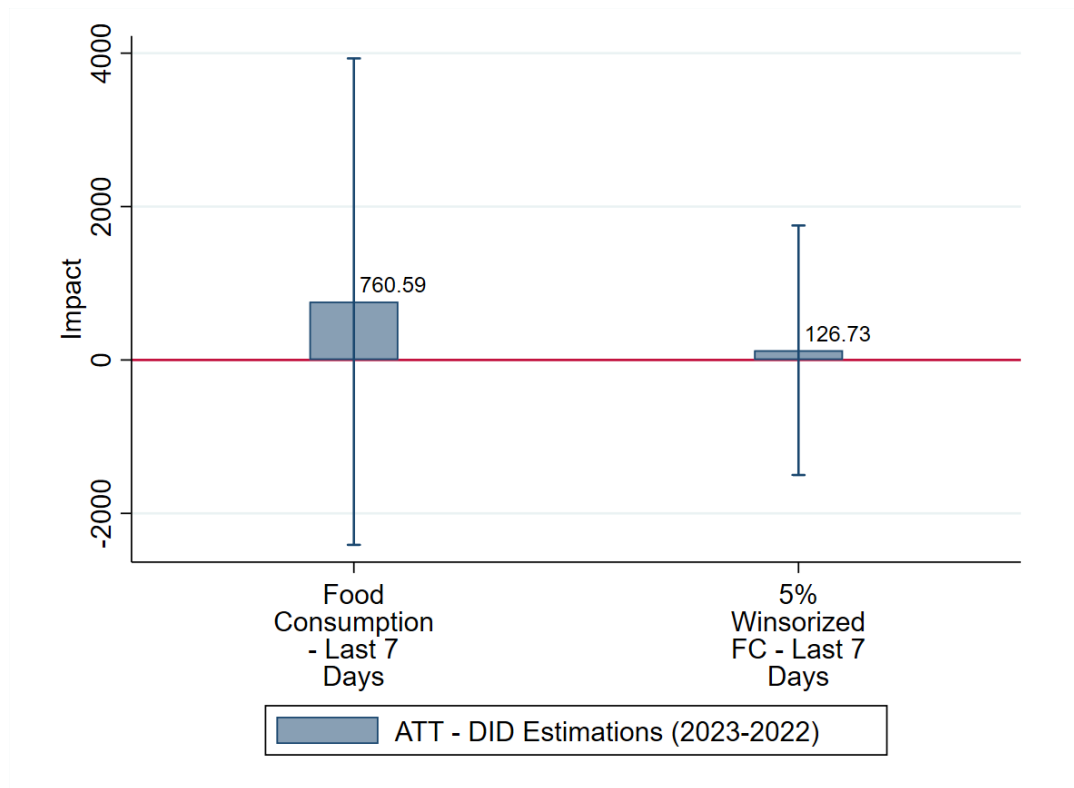
household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

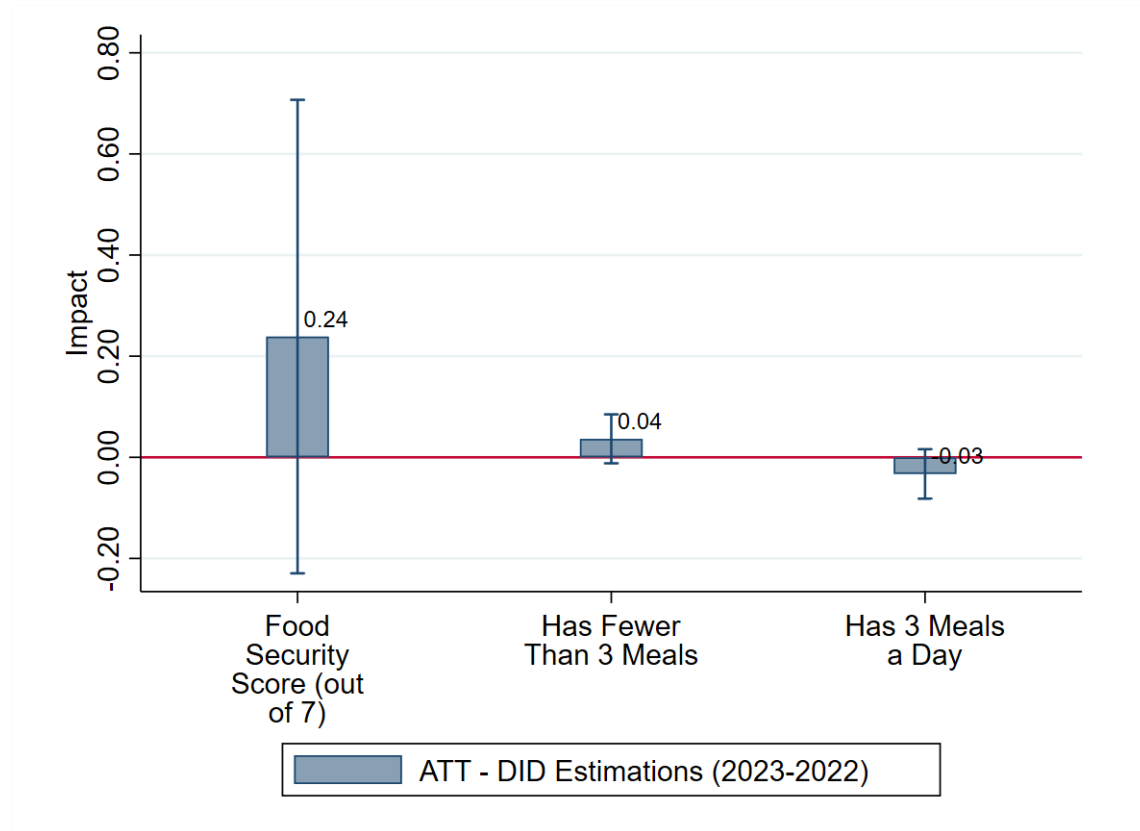
¹¹ It is also possible that households have increased their consumption for reasons other than inflation, but this is unlikely based on what we know about the economic crisis in Nigeria.

Figure 26 DID Impact Estimates – Household Consumption



Just like for consumption, we do not find statistically significant effects of the NFWP on food security. Overall, food security scores are slightly higher in the NFWP LGAs, but the difference with the comparison LGAs is not statistically significant. Figure 27 presents these results.

Figure 27 DID Impact Estimates – Food Security

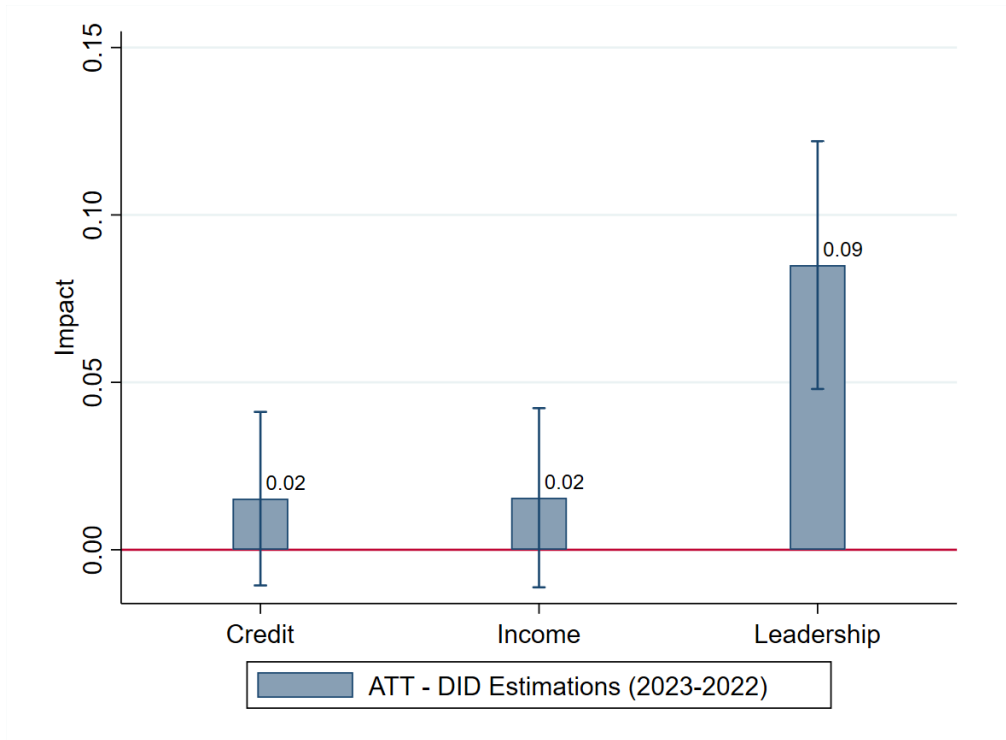


Women's Empowerment

Similar to findings from 2022, we find only limited evidence that the NFWP has affected women's decision-making power. We used an adapted version of the WEAI to create indicators related to women's empowerment, and found no statistically significant effects on an overall index that summarizes women's decision-making power over resources (i.e., assets, credit, and income (Figure 28)). As during the first round of data collection, the majority of women in NFWP LGAs reported power over decisions on the use of income (95%), but very few had influence over the use of credit (3%) for their households at midline. Even though we saw that both females' labor force participation and the number of IGAs they were involved in increased for NFWP beneficiaries, there were no similar significant increases in women's income and, ultimately, their household bargaining power.

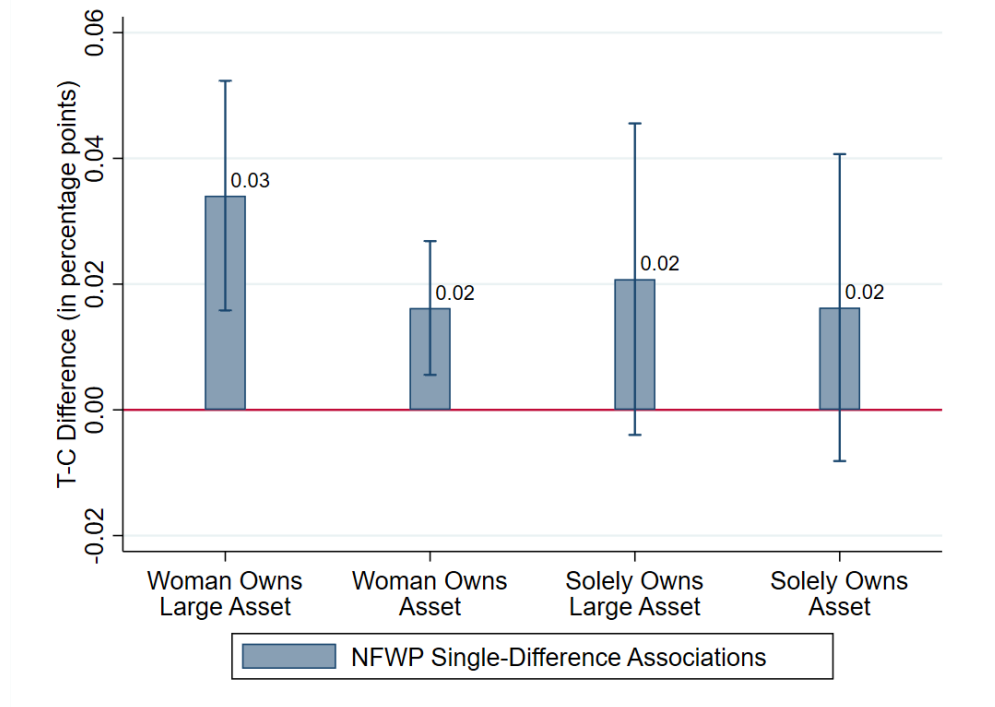
We did, however, find higher rates of group membership among women in the treatment group (75%) relative to women in comparison areas. This finding suggests that any impacts on women's agency remained mostly limited to membership and WAGs and may not yet have translated to decision-making power over other resources.

Figure 28 DID Impact Estimates – Women’s Agency



While sole ownership of both large and small assets was largely unaffected by the NFWP overall (Figure 29), single-difference estimations suggest positive impacts on joint ownership a large asset (by 3 percentage points), or any asset (by 2 percentage points). While the number of household assets increased for treatment households, overall, impacts seem to be concentrated on ownership of those assets (solely or jointly) with other household members. Joint and sole ownership of at least one asset was already rather high, however, with 94% of women in comparison LGAs reporting sole or joint ownership of at least one asset and 83% of comparison women reporting sole ownership of at least one item.

Figure 29 Single-Difference Impact Estimates – Women’s Individual Asset Ownership

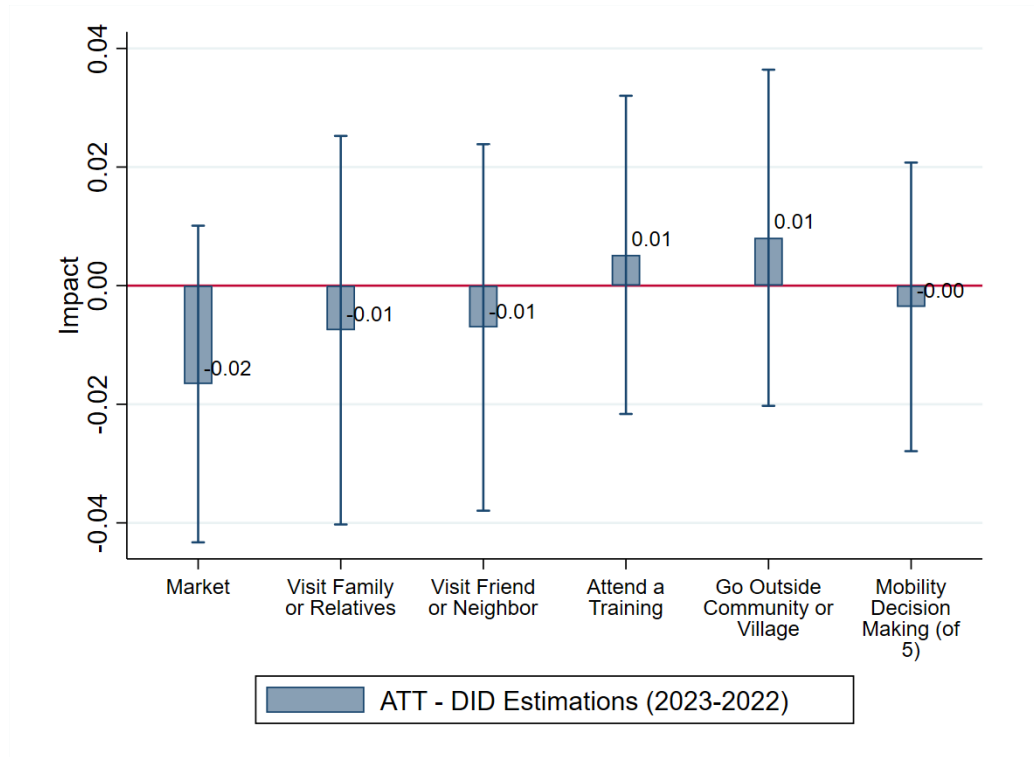


While we did not find impacts on decision-making power overall, additional analyses suggest that the NFWP influenced women’s decision-making power with respect to specific household activities. The program had significant effects on decision-making power when it came to contributing to family savings and participating in gardens or high-value crop farming, increasing women’s participation in and decision-making around these activities by 9 percentage points and 4 percentage points, respectively. However, we find that while there was no overall effect of the program on women’s input into wage and salary employment decisions, women under age 30 in treatment LGAs were significantly less likely to provide input into such decisions (by 6 percentage points) than older women in treatment areas.

Relatedly, the only two activities for which we found a positive, significant effect on women’s decision-making with respect to the income generated from it overall were family savings and activities related to gardens or high-value crops. We found no evidence that the NFWP had a significant effect on women’s input into decisions related to the income produced through any of the other activities.

As shown in Figure 30, the results do not suggest positive effects of the NFWP on women’s decision-making about their own mobility. About half of the women in treatment LGAs and half of the women in comparison LGAs were able to make autonomous decisions with respect to their physical movement. We find no evidence of differential effects for women in the North, Christian women, or women under age 30.

Figure 30 DID Impact Estimates – Women’s Mobility



Gender Norms

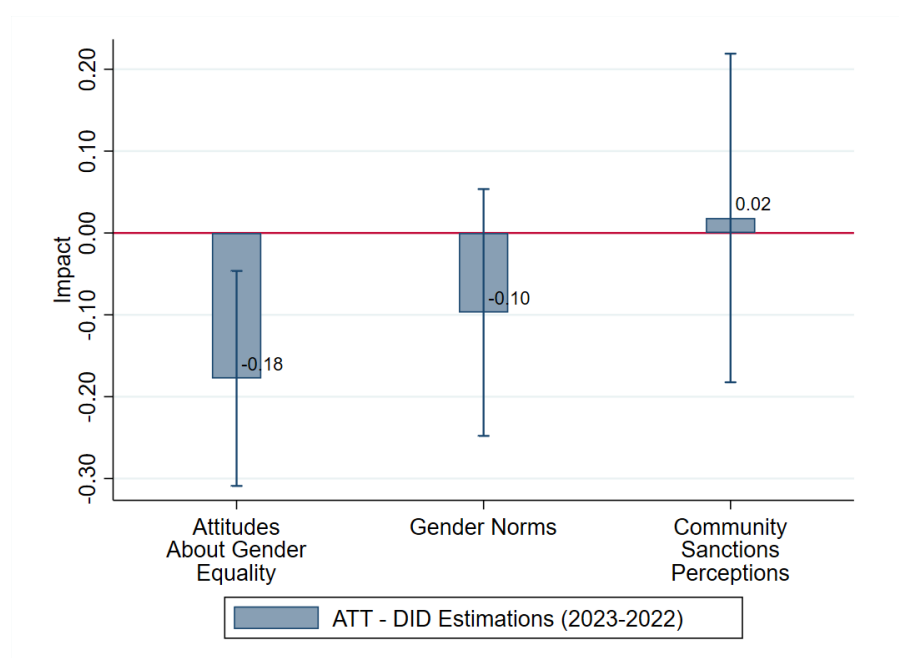
In both 2022 and 2023, we administered survey modules to both men and women to capture individuals’ social and gender norms as well as the perceived community norms and associated sanctions. Within these modules, the respondent was read subjective statements alluding to typical gender norms (such as gender roles in the household, input into family planning decisions, and women having aspirations for their life) for which they were asked to express their opinions. Subsequently, they were read similar statements for each norm but instead of responding with their personal beliefs, they were asked about their community’s perception of the norm and the possibility of community sanctions or retaliatory actions if someone went against the norm.

From these questions, we generated indices for individual attitudes, community norms, and community sanctions. We asked questions about eight normative themes and coded each response as a binary indicator that was 0 for less conservative and 1 for more conservative. We then calculated index scores as summative scores across the eight themes, such that the index score ranged from 0 to 8, where 8 is most conservative and 0 is least conservative.

In line with previous evidence, we find the NFWP has not yet affected community norms or sanctions as they are perceived by women (Figure 31). It generally takes time to shift entrenched community social and gender norms.

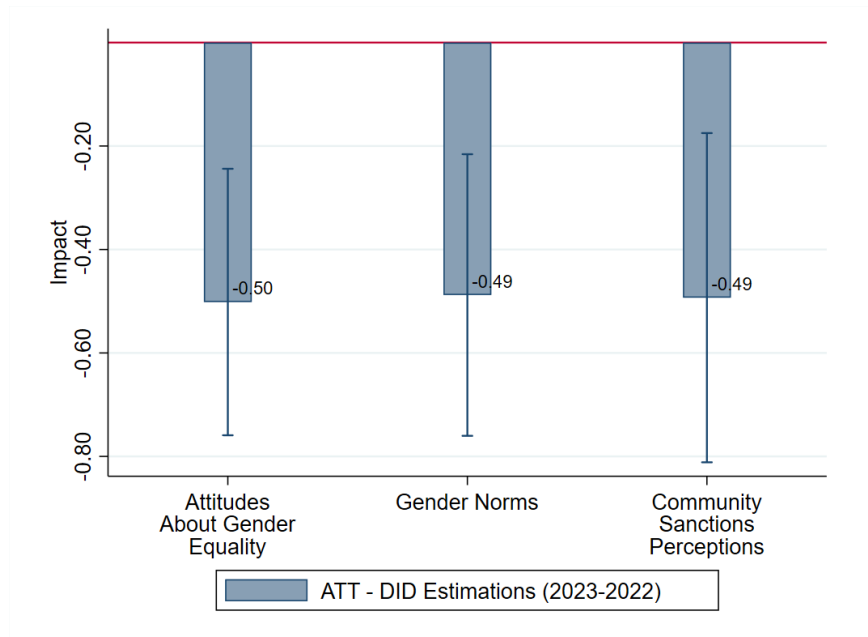
However, we do find evidence of a moderately significant reduction in the conservativeness of women's attitudes around gender of -0.15 points (a marginal, 4% reduction over the comparison group) that is statistically significant at the 90 percent level. With respect to gender norms, attitudes are usually the first component to change, becoming more progressive, which then can ultimately spill over into the community ultimately resulting in changes in community-wide norms. In the absence of the specific social norms messaging component of the NFWP, these results are suggestive of the program's potential to slowly affect norms.

Figure 31 DID Impact Estimates – Gender Norms Women



Perhaps surprisingly, we did find statistically significant and substantial effects on men's attitudes towards gender equality as well as men's perceived community norms (see Figure 32). The effects on men's attitudes towards gender equality were larger than the effects on women's attitudes towards gender equality, suggesting that the program may have had substantial spillover effects on men. These spillovers do not seem to be limited to impacts on gender attitudes. Men also report more liberal perceived community norms related to gender. Midline results indicated that the NFWP may have slightly reduced physical violence against women, but the results were only marginally significant.

Figure 32 DID Impact Estimates – Gender Norms Men



Gender-Based Violence

We find some indications that the NFWP may have led to reductions in physical GBV but the results are only statistically significant at the 90 percent significance level. These findings suggest that more evidence is needed to determine the longer-term effects of the NFWP on GBV. We also did not find strong evidence for statistically significant effects on sexual violence though the point estimates are negative. We present these results in Table 5.

Table 5 DID Estimations – GBV

	Any Physical Violence	Any Sexual Violence
NFWP x time	-0.036 (0.020)*	-0.019 (0.012)
Time	-0.092 (0.011)***	-0.038 (0.007)***
Comparison Mean	0.21	0.09
N	10960	10969

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Progress in PDO Indicators

AIR also estimated progress in project development objective (PDO) indicators for the NFWP. These PDO indicators include 1) the number of beneficiaries with improved livelihoods, 2) WAG members with savings, 3) the percentage of WAG members with access to credit, 4) the increase in productive assets of WAG members, and 5) the increase in the contribution of women to household income. To estimate progress, we compared progress in these indicators between WAG members in the treatment group and the comparison group. The analysis does not include non-WAG members in the treatment group, showing the importance of exercising some caution in interpreting the results. Table 6 reports progress in the PDO indicators.¹²

Table 6: Progress based on PDO indicators

	Baseline value	ISR 2023	Midline value	Target
Beneficiaries with improved livelihoods	0	103,928	226,845	155,000
WAG members with savings	71%	94%	86%	90%
WAG members with access to credit	10%	20%	31%	25%
Increase in productive assets of WAG members	0%	28%	4% ¹³	30%
Increase in contribution of women to household income	0%	9%	6%	12%

The NFWP achieved its objectives in terms of the number of beneficiaries with improved livelihoods and is close to the target for the percentage of WAG members with savings, access to credit, and the contribution of women to household income. These findings suggest that the NFWP is close to its targets for financial inclusion.

While the program did not achieve its objective related to the consumption of productive assets, the program did show small but significant effects on the ownership of small assets. The productive assets indicator measures the cumulative difference in the value of spending on assets in the 12 months 1 year after the start of the program in December 2023 and the 12 months before the midline survey (in October 2024) between WAG members and the comparison group after removing outliers. The theory of change suggests that the NFWP will first achieve positive impacts on smaller assets before generating impacts on larger assets. The midline impact evaluation results indicate that the program indeed generated positive impacts on women's ownership of small durable assets with additional effects on livestock in Northern Nigeria. Women in NFWP areas were more likely to solely or jointly own at least one asset. This

¹² This is because the PDO indicators are not strictly based on the impact evaluation design

¹³ This number is based on cumulative asset consumption since the start of the program (based on two rounds of quantitative data collection).

finding combined with qualitative research suggests that WAG members are using the savings and credit obtained through WAGs to purchase smaller assets as opposed to larger assets. It is possible that WAG members did not save enough to purchase larger assets yet as Nigeria is experiencing its worst economic crisis in almost 30 years.

Program Costs and Time Spent by Beneficiaries

We estimated per capita annual program costs based on program expenditure statements provided by all six SPCUs and the FPCU, starting in 2020 through the end of second quarter of 2023. We estimated per capita costs based on varying assumptions on the denominator for annual expenditures for each of the four project components – 1) Building social capital; 2) Livelihoods program; 3) Innovations and partnerships; and 4) Project management and monitoring. Specifically, for the first three components, we assumed that 30% of annual expenditures were fixed costs (divided across the cumulative program scale) and 70% were variable costs (divided across the number of women under the program in each year). We assumed that expenditures on the fourth component (project management and monitoring) would be divided across the full scale because this component included setup of monitoring systems and overall management, which would not increase linearly with respect to program scale (although it is likely that with a large enough scale, these costs would also become variable). Additionally, for the first component (building social capital), we divided the variable costs among new WAG members mobilized in that year (instead of cumulative WAG members under the NFWP in that year), because most of these costs were spent on capacity building and mobilization activities, which happen in the initial period of program membership.

Our estimates suggest that in the first 3.5 years of the program, the *total* average cost (per capita) was roughly \$136 across the six states. The per-capita costs were lowest in Akwa Ibom (which implemented the program for 1.5 years rather than 3.5 years) and highest in Ogun.¹⁴ Note that these costs are in 2020 USD (the year the project started), and account for changes in inflation in local currency and market exchange rates over the next 3.5 years.

Looking across program components, we found a changing pattern in the share of different components in total costs over time. Social capital (first component) was a larger share of total costs in the first two years, likely due to greater focus on mobilization, group formation, and initial WAG trainings. Indeed, between 2022 and 2023, we find that WAG mobilization had slowed down as the program had likely achieved the number of program participants it could reach. In 2022 and 2023, livelihoods programming (second component) had the largest share in total costs. We continue to find minimal expenditures on innovations and partnerships (third

¹⁴ We are not reporting state-specific costs here because the assumptions used for allocating FPCU costs across the different states need to be validated with program implementation team.

component). However, every SPCU started reporting non-zero expenditures in this component starting in 2023, suggesting that the focus of the program has started to shift from WAG formation and savings mobilization towards livelihoods and linkages with markets and innovations.

This is also reflected in women’s responses about their engagement in groups trainings. DiD estimates with 2022 as the reference period suggest that compared with women in comparison areas, NFWP women were significantly more likely to have received trainings on savings, credit, business plans, agricultural production and marketing, women’s group management, credit linkages, and health education. At the same time, treatment women did not report receiving more trainings on social norms or women’s rights. A comparison of time spent by women on trainings and group activities suggests that while WAG members continued to spend more time on group activities than non-WAG group members, the difference has reduced since 2022. Table 7 compares time for women who reported being WAG members at any point in the last 12 months, and for women who reported being members of non-WAG groups. These analyses only offer a descriptive comparison of time spent on group related work for WAG members compared with other group members. On average, WAG members spent 55 hours in a year on group activities including meetings (down from 70 hours in 2022) and 17 hours in a year on trainings (down from 22 hours in 2022). As expected, women did spend more time on activities in the initial year of joining the program (because of increased focus on social capital building), which gradually reduces over time.

Table 7. Time Spent by Women on Group Activities

	Mean non-WAG group	Mean WAG	Diff.	Std. Error	Obs.
Hours spent on group activities last year	40.19	54.53	14.35***	1.73	4956
Hours spent on group trainings last year	5.16	17.14	11.98***	1.41	4961

An analysis of the qualitative data indicated that WAG members perceived higher personal benefits than personal costs of WAG membership. Nevertheless, WAG members did highlight some costs of membership. For example, interview respondents identified penalty fees as a cost they had to account for even as the payment of fines was seen as an effective tool in curtailing conflicts or absences from WAG meetings. One respondent shared, “even if you fight, you will pay a fine. That’s why nobody fights; if you come late, there is a fine for that, which has made a lot of people not come late” (WAG Member, FGD, Akwa Ibom). Likewise, loan defaults or delays in repayment has caused conflict among the women and thus resulted in a fine. Regardless, fine payments did not appear to weaken involvement in WAGs. One project

champion explained, “with the improvement they have seen and what they have benefited from, such little fine does not matter to them” (Champion, FGD, Kebbi).

In addition to these small penalties, WAG members incurred a cost in terms of their personal time and expenses related to transportation particularly when it came to going to physical bank branches. WAG members complained about having to endure long wait times due to overcrowding. A respondent explained:

“We used our own money for transportation, and in reaching there, the line was long. We had to wait for an hour for them to get to us, and some of us had to go back the following day for our turn” (WAG Member, FGD, Niger).

In addition, project champions invested their own resources in transportation and communication to disseminate information about WAGs and address issues faced by members. These personal investments included fueling vehicles and using personal airtime to ensure effective communication and problem-solving. Such efforts demonstrated the dedication and commitment of both WAG members and community champions to overcome logistical barriers and ensured the smooth operation of WAG initiatives.

Process Evaluation Findings

What are the barriers and facilitators to participating in women’s groups and specifically WAGs?

Women reported feeling encouraged to participate in WAGs thanks to community support for their group and the clarity of WAG procedures. However, the economic climate posed a formidable barrier to savings activities, and challenges navigating the Nigerian banking system complicated women’s engagement in the project’s grant activities.

As we learned after one year of program implementation, trust is a vital issue that shapes the success of the NFWP’s implementation. At midline, community trust and support continue to be a key facilitator of WAG activities, thanks to the project’s earlier efforts to mobilize communities and identify project champions. For instance, several project champions in different communities cited that they hosted WAG gatherings, including by providing chairs and a meeting space for groups (something WAG members would otherwise have had to pay for). Two project staff also cited that champions helped solve minor disputes between group members. Another project champion recounted that the local WAG’s savings box was stolen, leading the community to intervene: “We came together with the community to help them to sort out the issues and [the WAG] continued. We did this because we know how important the group is to the development of the women both physical and business wise” (Project Champion). Overall, the ongoing support of the community members and project champions

helped ensure that WAGs could continue to function and solve problems, such as resource needs or disputes, in real time.

In addition, transparency of WAG procedures including the savings box, clear fee structure, and core principles facilitated women's participation and their continued commitment to the project. WAG members appreciated the transparency of WAGs, whereby savings are "secure" (WAG leader) and collected "in full view of all members" (Ward Facilitator). These aspects gave women confidence that their savings were not being misused, leading them to continue to bring their savings. Further, WAG members appreciated that groups held women accountable for causing fights and for non-payment of loans, namely by imposing small fines. According to several WAG members in Akwa Ibom, Kebbi, and Niger states, this system of accountability kept WAGs functional while also avoiding the highly punitive measures taken by micro-lending agencies (e.g., prison, dispossession of large assets).

The broader economic environment in Nigeria—more specifically, inflation and currency shortages—were barriers that inhibited WAG members from more fully participating in group savings activities. Nigeria's inflation rate reached a 27-year high in January 2024 (CNBC, 2024; Reuters, 2024; IMF, 2024; CNBC, 2024). Rising prices made it harder for most women to earn profits from their business activities and to contribute to WAGs and other savings groups. WAG members across all sampled states described facing immense price uncertainty, as the prices of their business inputs continue to rise. A WAG leader summarized how women were coping with the inflation, sharing, "The present economy and high cost of living are a problem. The major concern of the women is how to feed their family. Savings have become secondary options" (KII, WAG Leader). In addition, WAG leaders and participants across the country highlighted how the government's "cashless" or "cash swap" policy of early 2023 temporarily halted savings activities in WAGs. The policy aimed to implement a new banknote by forcing people to turn in their old currency and swap it for the new note (APNEWS, 2023). However, a shortfall of new notes led to a cash shortage across the country (APNEWS, 2023). WAGs collected savings and administered loans in the form of banknotes, leading numerous WAG members to report that they did not collect savings during this time, from approximately February to April 2023. These macroeconomic trends exacerbated household-level challenges women faced in contributing to savings. As documented at baseline, women who lacked sufficient income from their businesses or who are the sole breadwinners in their homes (e.g., widows) reportedly struggled to participate in WAG savings activities.

Turning to WAG grant distribution, challenges navigating the formal banking system posed a barrier to some women's ability to participate in this key NFWP activity. The project distributed individual livelihood grants through traditional banks, but a subset of WAG members, especially older members, struggled to set up and use a bank account (e.g., managing deposits and

withdrawals). They required extra support from their fellow members and from WAG-level project staff. In addition, project staff and WAG members commonly reported that some WAG members could not access their grants because the name connected with their bank account differed from their WAG registration. WAG members explained this, saying that they go by multiple different names or that they had changed their name since joining the WAG. However, at least one NFWP staff member, an Institutional Capacity Building Advisor, speculated that some women intentionally offered false names to the project during recruitment due to their initial mistrust of the NFWP. Together, these challenges indicated that unfamiliarity with the banking system made it more difficult for WAG members to access their grants.

How have contextual factors influenced program implementation?

At midline, project staff and WAG members widely reported that the NFWP had gained the trust of community members through its consistent presence and by delivering on its promise to distribute grants. Community-level staff across all sampled regions highlighted that the support of local authorities crucially helped the project run smoothly on the ground. Moreover, respondents said that NFWP communications efforts and engagement of community champions were pivotal for gaining this level of support. The baseline report detailed how the NFWP faced significant mistrust and skepticism earlier in the implementation timeline (i.e., recruitment) (de Hoop et al., 2022b). Another example of how the NFWP responded to challenges as they have arisen involves an incident in one of the program states. In one community, WAG members suspected there being a witch among the group. The matter was flagged to the Ward Facilitator by a project champion, and the WF took the matter very seriously, recognizing that such accusations could have social repercussions for the accused person. The WF reported the incident to the LGA field supervisor, who then escalated the issue to higher levels: “I quickly informed the World Bank and the national office about the issue, so the national coordinator purposely came just to help in resolving the issue” (LGA field supervisor). The incident highlighted how internal project systems and staff are working well to address sensitive issues in a timely manner, thanks to the project staff’s familiarity with the cultural context in the states of NFWP implementation.

The project found solutions to these challenges because, according to numerous project staff, the NFWP is adequately staffed with highly competent individuals. Further, several staff at various levels of the project (national, state, and LGA) noted a strong sense of teamwork among NFWP staff. As one project coordinator stated, “We work as a team. No component, no unit in the department here doesn't know what other departments are doing, and if there is anything that we need to understand, we call ourselves and stand together and discuss possible ways of getting out of it” (KII, Project Coordinator). In this way, smooth internal coordination appeared to help address implementation challenges as they arose. In one program state, staff reported that a vacancy of the head (State Project Cof the State Project Coordination Unit (SPCU)

position led to delays distributing individual livelihood grants, paying stipends to staff, and approving budgets and requests for no-objections. While noting that the vacancy was recently filled, almost all project staff in this state noted serious project delays due to the temporary lack of a Project Coordinator. A WAGSO reported that WAG members had stopped coming to meetings due to their disappointment about not (yet) receiving the grant. Some project staff recommended that the project implement systems to ensure smooth handover in the case of staff resignation or retirement and prevent future issues of this kind. Adequate staffing will be crucial to addressing the two key challenges which, according to project staff, remain unaddressed by the project. Project staff highlighted that the NFWP has yet to adequately respond to the impact of inflation on the value of staff stipends and the individual livelihood grants. The declining stipend value appears most salient to community-level staff, who travel to communities to oversee WAGs and conduct trainings. For instance, some LGA field supervisors cited that their stipends no longer cover the petroleum needed to reach the communities they supervise. Relatedly, project staff from the national to the ward level highlighted that the value of the livelihood grant had eroded amid the country's price inflation. A Barefoot Business Counselor (BBC), for instance, suggested that the WAG members' business plans – the basis of grant disbursements - were outdated. The BBC respondent indicated that the grants would likely not achieve their intended impact on recipients' livelihoods. Respondents suggested that the project adjust staff stipends and consider increasing the grant amount to respond to these inflation-related shocks.

A second challenge that the project has yet to address is the lack of network connectivity in some project areas, which impeded project staff from uploading monitoring data into the PMIS. Ward Facilitators in Abia and Kebbi reported this issue, indicating that while the monitoring system allowed them to upload data at a later time (i.e., when they can connect), several staff have encountered glitches which led them to lose the data.

What are the perceptions of WAG and other women's group participants and nonparticipants about the benefits and costs of participating in women's groups?

Across all states and localities, WAG members articulated several benefits of participating in women's groups related to improved livelihoods, socio-economic empowerment, financial inclusion, and food and nutrition security.

Livelihoods and Socio-Economic Empowerment

In particular, WAG members were able to start their own businesses after receiving livelihood grants and business training. Some WAG members reported that receiving the grant enabled them to expand or diversify their business into agricultural and non-agricultural activities. Many respondents shared that they no longer needed to rely on their husbands to pay for things that also increased their self-esteem and confidence. Some said they did not feel as stressed

anymore and were able to support their husbands financially and gain respect within the household. A respondent explained:

“This program has changed our lives. I used to sell only Zobo, but now I’ve expanded my business with soya milk and more. My life has changed in the aspect of business and family; I’m now able to support the house expenses” (WAG Member, FGD).

WAG members also discussed re-investing their profits further into their businesses and being able to purchase productive assets such as land, livestock, farm equipment, and transportation and communications equipment. Further, respondents highlighted the importance of contributing towards family endeavors such as purchasing land or building a house. These contributions were especially valued by their spouses, helping to foster a sense of unity and cooperation within the family.

Respondents shared how participation in WAGs strengthened social interactions, facilitating the exchange of social support at various levels within communities. One WAG member shared, “sometimes I don’t associate with other women, but now I am associating with more women” (WAG member, FGD). Through shared experiences and mutual support, WAG members found strength and purpose, transcending individual challenges to create a supportive network that uplifted and empowered one another, fostering a sense of solidarity and resilience.

The social impact of WAGs transcended individuals and groups, as spouses also recognized and encouraged their wives' involvement in the group. Interview data illustrated instances in which husbands, religious and community leaders actively supported women and even facilitated their engagement in WAG activities. Likewise, WAG initiatives also contributed to broader community development efforts, with group members pooling resources to address communal needs such as repairing community boreholes and supporting church projects. A respondent from Akwa Ibom highlighted how WAGs have enhanced their visibility and recognition within the community, signifying a positive shift in social status and acceptance.

Financial Inclusion

The qualitative data underscored contrasting financial behaviors and capacities between WAG and non-WAG members. Non-WAG women respondents generally exhibited lower levels of financial literacy, relying more on their husbands for financial decisions and lacking savings and access to credit. For example, one non-WAG member shared, “the thing about borrowing money, I don't borrow money myself because I'm not a salary earner so it's my husband that borrows money from time to time. Sometimes, I borrow from him, and I pay back to him” (Non-WAG Member, IDI). In contrast, WAG members expressed gratitude for the training they received on financial management, acknowledging its lifelong benefits. They emphasized that the training not only equipped them with money management skills but also enhanced their

business acumen and financial competencies. Additionally, WAG women who were previously financially excluded, now owned bank accounts under their own names. A WAG member shared, “so now, those who did not have an account then now have, and those who did not know anything about an account now know. And those who are using their husband's bank account now have their own” (WAG Member, IDI).

WAG members also emphasized how participation in WAGs led to increased savings and improved access to credit. One of the WAG leaders explained, “the husbands even give their wives money to contribute to the group on the days she doesn't have to save. So, when she has money, she also helps in taking away some financial burdens in the household” (WAG leader, KII). Another respondent explained, “there have been increments in our savings because the more improvement in our business the more savings we have, so there is an increase” (WAG Member, FGD).

Participation in WAGs has also deepened members' involvement with and connections to value chain activities. One WAG member shared, “I am into the processing of groundnut oil from groundnut. I usually make 10 tiers but as soon as I got the grant, I increased the tier to 30 tiers of groundnut” (WAG, Member, FGD). Similarly, another WAG member transformed from operating in shared spaces to owning a mini factory for garri production with the support of the an individual livelihood grant. These developments not only enhanced individual businesses but also contributed to community development, as WAG members upgraded into collectives with plans to introduce rice processing machinery. One of the project champions shared, “the program has really impacted positively on us to the extent that they want to bring in machines that will help process rice and make it stoneless for us to consume. This project has really united the women to do all of these” (Champions, FGD).

Food and Nutrition Security

While impact estimates did not suggest positive impacts on food security, another perceived benefit to participation in WAG was related to perceived improvements in food and nutrition security within the household. One WAG member shared how the grant empowered her to prepare meals for her family independently, without waiting for her husband's income from his tricycle business. Similarly, another WAG member highlighted the challenges of irregular income from her husband's job. However, with greater financial independence, she was able to take charge of household feeding, fostering gratitude and appreciation within the family: “It's because they don't pay salaries on time so as a woman when you look at the situation you take your own money to the market buy foodstuffs, cook for the family” (WAG Member, IDI). These testimonials underscored the tangible impact of financial empowerment on women's autonomy and well-being within their households.

We describe costs of participating in WAGs in the section above, “Program Costs and Time Spent by Beneficiaries”.

How do women’s group participants and nonparticipants perceive community gender norms and their relationship with WAGs?

Midline findings indicate that both WAG members and non-WAG women continued to view husbands as the “breadwinners” of the household—the primary income earner and decision-maker regarding household finances. However, WAG members emphasized that they perceived a shift from the traditional housewife roles typically bestowed on them towards roles that involved more active participation in economic activities. A respondent explained:

“In the past I used to be so less concerned as a housewife; I stayed in the house. But now, this WAG has made me understand that I don't have to be idle. you must have something to do so you can assist the family” (WAG member, FGD).

Additionally, WAG women continued their efforts to balance household chores, childcare, and entrepreneurship such as waking up early to manage household tasks before attending WAG meetings. Support from spouses was noted, with some husbands initially hesitant but eventually endorsing women’s involvement, recognizing the benefits of WAG initiatives such as financial grants.

In terms of decision-making dynamics within households, non-WAG members often reported a lack of autonomy, with husbands predominantly dictating decisions regarding purchases and family investments. Some of these respondents even expressed feeling marginalized, as decisions were made without their knowledge or input. A respondent shared, “he even makes the decisions without my knowledge. It is after he has done so that he lets me know what he has done” (Non- WAG Member, IDI). Moreover, non-WAG members often rely on their husbands for financial guidance and access to credit, highlighting a disparity in decision-making authority. While joint decisions are made in some cases, the husband's expertise and authority in financial matters often overshadows the wife's input. A non-WAG member shared, “when it comes to the issue of finance between my husband and I, he is more knowledgeable than me, I will ask him what I should do with this money” (Non-WAG Member, IDI).

In contrast, WAG members highlighted a shift in household decision-making dynamics following their participation in the program. The financial independence gained through grants and entrepreneurial ventures empowered them to actively engage in decision-making alongside their spouses. This newfound agency not only earned them respect within their families and communities but also sparked more collaborative decision-making:

“I am being given the respect I deserve, either from my husband, children, or even the community at large. Sometimes I make decisions on my own without any complaints, and most times my opinion is being respected” (WAG Member, IDI).

Another WAG member shared, “I have every right over my money, sometimes even if I give him, he will advise me to add it to my business, not like before” (WAG Member, IDI).

Gender-based violence

Some respondents reported that their newfound financial independence and contributions to household finances helped to reduce conflicts with spouses and increased harmony within marriages. WAG women perceived they had been enjoying more respect and marital peace in the home since joining WAG, because their finances complemented the economic situation in the family, thereby relieving their husbands of financial burdens.

Sensitization efforts, and increased awareness on Gender Based Violence (GBV) in communities, have been instrumental in the community members’ understanding of the gender equality concept and identification of negative social norms particularly regarding women's access to and inheritance of property, mobility, and decision-making power within households. Religious and community leaders played a crucial role in championing women's empowerment through WAGs and challenging traditional gender norms:

“Any messages we must pass, we go through them, and they make our work easier. Sometimes when these people hear these messages from the community stakeholders, they believe more in it than when they hear it from our facilitators” (Gender, GBV and Safeguards, KII).

Although positive social change in certain norms through WAG initiatives were reported, respondents indicated that religious and cultural beliefs still played a major role in community social norms. Efforts to address these challenges required careful consideration of cultural sensitivities to avoid backlash. In southern Nigeria, increased awareness and reporting of GBV indicated a growing understanding of women's rights and access to support systems:

“I get calls every now and then, women reporting cases of GBV. They now know their rights and if their rights are tampered on, they can report, they now have a voice, and a process where they can report and get solution to their problems.” (Gender, GBV and Safeguards Gender, KII).

Conversely, one of the *Gender, GBV and Safeguards* specialists in northern Nigeria explained:

“Our people shy away from reporting GBV, GRM-related issues because you know religion and culture are interwoven here, sometimes they just take the cultural aspect

like more religiously, women don't report, we have been trying to sensitize them, but we are limited" (Gender, GBV and Safeguards specialists, KII).

Nevertheless, participation in WAGs seemingly fostered increased confidence, public speaking abilities, and leadership roles among members. One WAG member shared, "in the past we couldn't speak in public but now that has changed. I am the chairperson in my group, I speak to 25 women weekly (WAG Member, FGD). This increased visibility and self-assurance empowered women to challenge negative societal norms and advocate for gender equality within their communities.

Despite this progress, societal norms in the northern regions of Nigeria continue to restrict women's mobility and opportunities for external employment. Many WAG members are limited to work from home, as their husbands generally opposed them from seeking work outside the household. One of the WAG members shared, "apart from doing our business from home, our husbands will not allow us to go look for work outside" (WAG Member, FGD). Nevertheless, the welcoming attitude of husbands, as observed in the tolerance of WAG meetings held in participants' homes, signified a broader acceptance of women's empowerment efforts within the community.

How do WAGs interact with nonmembers, including men and Ward facilitators?

At midline, NFWP champions as well as leaders continued to play vital bridging roles between WAGs and their respective communities. They leveraged not only their reputations to lend credibility to the NFWP and WAGs, which helped cultivate trust among skeptical women and convinced husbands to grant their permission for their wives to join WAGs, but champions also tapped into their networks to spread information about the NFWP throughout their communities. For example, a local chief described his role in spreading information about the NFWP through the networks embedded in his community:

"I called all the chiefs, their assistant, the secretary, the priest, and any other person that am supposed to call, we came together to discuss on how to convey the news that it will go [a]round the community. Every chief will take the information to their ward, the priest would announce it to women when they go for their Islamic teachings and so on, so it was not difficult to get it done, even if we had to go to their houses, we just need the permission of their husbands...It's our responsibility to see that every little information goes out and reaches everybody." (FGD, Project Champion,)

In the Muslim majority areas of the North, religious leaders who also served as NFWP champions, played the unique role of providing religious guidance, and in some cases permission, related to WAG members interactions with the project. For example, one religious leader in Niger state shared, "there are some people who have issues with some aspects of the

project, so we explain to them from the religious point of view that these aspects do not go against the Quran's teachings.” (Focus Group Discussion, Champion)

After one year of program implementation, champions generally understood their role to be confined to these sensitization and outreach activities, but the evidence at midline suggests that their perceptions of their roles have evolved since . One NFWP champion described his role as a “watchdog” or a supervisor “to be sure the right women are there to protect and to keep this initiative going.” (FGD, Project Champion). Indeed, several men across all sampled states considered it part of their role and responsibility as Project champions to play an oversight role and- to ensure that the women were doing the right things and using the money appropriately. Another project champion described his role as more of an arbiter or enforcer:

“I am always very prepared because wherever there are 10 people gathered together, there must be one or two amongst them who will want to break the law. So, once a case is reported to me, I go to such people to ask them to do the right thing or leave the groups so that others can come in” (FGD, Champion).

A common thread underlying the sentiments of these men was an attitude or belief that the women participating in WAGs lacked the adequate capacity to conduct WAG business themselves, and that it was up to the men, i.e., the champions, to ensure that everything ran smoothly and fairly. Toward this end, champions were seemingly much more involved with the day-to-day operations of the WAGs at midline than they had been at baseline. One village chief shared, “[the WAGs are] not out of our reach or our sight, owing to that, we can get access to them whenever any issue arises, like who got the grant and who did not” (FGD, Project Champion).

Moreover, NFWP champions played key support roles for women who were in WAGs. When asked to describe their roles as NFWP champions, several men spoke about how they advised women on how to best use their grant funding to invest into their businesses. For example, an NFWP champion shared how he had advised grant recipients to purchase specific goods that could be then invested in farming. Several other men shared that they helped WAG members with important administrative and logistical tasks such as opening a bank account or offering their homes as a place for WAG members to meet.

While champions played roles related to sensitization, outreach, oversight, and other types of support, ward facilitators focused their role more on facilitating key program components, specifically loans, savings, grants operations, and business advisory. One ward facilitator described how the work she does week to week (after helping the WAGs in their formation stage) was to monitor progress, encourage the women to save, facilitate loan disbursements, and then give advice pertaining their businesses. Ward facilitators relationships with WAGs at

midline were thus largely consistent with the functions and roles they played at and since baseline.

To what extent can WAGs serve as a platform to deliver health and social protection programs?

WAGs have proven to be a valuable platform to expand social protection (i.e., health insurance) and health services to the extent that leaders have established and maintained partnerships with entities like health service providers and health insurance schemes. An advisor with the NFWP explained the rationale behind why it was important to layer a health insurance component to the financial and business operations of WAGs:

“When you talk about women, health, hygiene, and nutrition [are] very key because...if these women are not healthy they won't be able to take care of their businesses or even get involved in any business...[Health insurance] was not built from the onset; it was an added thing because we saw the need, so that's one area that I feel going forward especially as we move to the scale up, we will also integrate and it will [be] embedded into the project” (KII, ICBA).

Not only did program implementers see the need for a health component, they understood that WAG structures were well-suited to information dissemination and trainings related to health services and to the underwriting of health insurance policies. In all program states in which we interviewed WAG leaders and members, trainings around health insurance schemes had been initiated (though not all sites had begun offering health insurance policies). WAG leaders were trained on the financial benefits and advantages of health insurance schemes as well as the various services related to blood pressure, malaria, diabetes, and typhoid in health centers. WAG members were trained on issues related to sanitation, preventative care, and the benefits of enlisting in health insurance schemes.

WAG leaders and members generally demonstrated enthusiasm for these services, and partnerships were able to harness efficiencies in connecting users to service providers. In Ogun, one WAG leader claimed that the “majority of our women have been approved to register for insurance by the Ogun state health insurance agency, and the people also appreciate it” (KII, WAG leader, Ogun). The qualitative data further suggest that WAG leaders and members immediately recognized and appreciated the financial value of paying for and having access to health insurance. One project coordinator from another program state shared:

“I can say right from the project design, we were not told of this social health insurance but while the project was on, it was decided that at least why not co-opt that, so that the women can actually understand how it operates. I keyed into it and luckily enough, our

women they really understood and bought in. A lot of our women enrolled and have been benefiting from it” (KII, Project Coordinator).

When given the opportunity to do so, WAG members signed up for these health insurance schemes enthusiastically. Generally, the rollout of the health training and insurance components was reported to be smooth with some minor exceptions. For example, in Kebbi, WAG leaders noted that there have been problems with insurance card disbursement; women paid money for the coverage but had not yet received insurance cards for over three months. One respondent based in Kebbi observed that as new components such as health insurance were added to the NFWP offerings, new technical staff were not hired. Instead, existing staff had to add these new components to their existing responsibilities resulting in some implementation gaps and delays.

Although the livelihood grants were not designed for social protection per se, respondents indicated that the individual grants they received—in addition to helping them expand and/or invest into their businesses—helped parents pay their children’s school fees. It was not clear from the data if this meant that they used the grant money directly to pay for school fees or if it meant that the grant money freed up their income to then help for school fees. But in terms of social protection, there seemed to at least be some knock-on benefits of the individual grants in areas beyond livelihood and enterprise activities.

Explaining the program impacts

Comparing impacts of the NFWP with the NRLP in India

Overall, we find positive program impacts on financial inclusion, including savings and credit, and some indications for positive effects on household-level asset ownership. Group savings and access to credit were statistically significantly larger in the treatment than in the comparison group. Further, we found some indications for positive effects of household-level asset ownership and women’s labor force participation.

However, we only found limited positive effects on ownership of larger assets, and smaller effects on household consumption, or women’s income. These findings are consistent with medium-term effects of the National Rural Livelihoods Project in India. Just like for the Nigeria for Women Project, the most rigorous evaluation of the Jeevika program in Bihar primarily found positive effects on financial inclusion, and specifically on access to lower-cost credit than provided by informal money lenders (Hoffmann et al., 2022). As in Nigeria, the study only found limited effects on household-level asset ownership (Hoffmann et al., 2022). With respect to women’s labor force participation, the program only showed effects on labor force participation in a public works programs (MGNREGS) (de Hoop et al., 2022), but we are not aware of studies demonstrating positive effects on women’s labor force participation overall.

These findings suggest that the initial short-term effects of the NFWP are similar to the initial short-term effects of self-help groups in India. Impact evaluations of the NRLP only show positive effects on consumption 7 years after the start of the program implementation (Kochar et al., 2020). Given this existing evidence, it is not surprising that the NFWP has not yet had positive effects on consumption or income in the short term. However, it is important to recognize that the NFWP and the NRLP have somewhat different implementation models. Some SHGs may have received government support for a longer period of time.

Interpreting the evidence in light of the economic crisis in Nigeria

The Nigerian economy has faced a large crisis, with the highest inflation in nearly three decades (Reuters, 2024; IMF, 2024). Quantitative findings show this trend by highlighting large increases in consumption over time both in the treatment and the comparison group. In addition, the qualitative evidence suggests that households are not always able to make large expenses. Further, savings in WAGs may have reduced in value because of the inflationary pressure. Qualitative evidence also suggests that savings are not always a priority for households because of the economic crisis.

The large inflation may explain larger positive program effects on smaller than on larger assets. As discussed in previous sections, we find some indications for positive effects on smaller assets, but very limited evidence for positive effects on larger assets. In the North, we find some evidence for positive effects on women's livestock ownership (which is supported by qualitative evidence). However, in general we do not find credible evidence for positive effects on large asset ownership.

Inflation may have contributed to somewhat limited effects on large asset ownership. The decreased value of savings may have limited the ability of women and their households to purchase large assets. However, we find evidence for positive effects on smaller assets as well as some larger assets, such as livestock in the North.

In other words, the economic crisis may have changed the pathways through which savings groups can achieve their objectives. The results suggest that savings group membership may result in improvements in smaller assets but their effects on larger assets may be smaller in the presence of a nation-wide economic crisis.

Heterogeneous effects

While more analyses are required, preliminary analyses of heterogeneous effects do not suggest major differences in the impact of the program across different geographies or memberships. Nonetheless, we find some evidence for heterogeneous effects. One key difference is that we find larger impacts on livestock ownership in Northern Nigeria. This finding

is consistent with contextual differences between the North and the South with a larger reliance on livestock in the North than in the South. We present these heterogeneous effects in Figure 33.

Additional analyses suggest that the program may have had larger effects on women's level asset ownership after climate shocks (e.g., droughts and floods) though interaction effects are not consistently statistically significant. We find statistically significant effects on an asset index when we limit our analysis to a sample that experienced droughts and floods.¹⁵ However, the interaction effect between the NFWP and weather shocks is not statistically significant despite the larger effects in the sub-sample (see Table 8). Additional analyses suggest that the impacts of the NFWP on WAG savings are larger without weather shocks. These findings suggest that WAG members can cope with weather shocks using WAG savings. WAG members have a larger likelihood of using savings and a smaller likelihood of selling assets to cope with droughts or floods. However, we only found heterogeneous impacts on an index of women's individual asset ownership, not on an index of household-level asset ownership, which could indicate increases in women's decision-making power.

Table 8 Heterogenous Effects by Weather Shocks

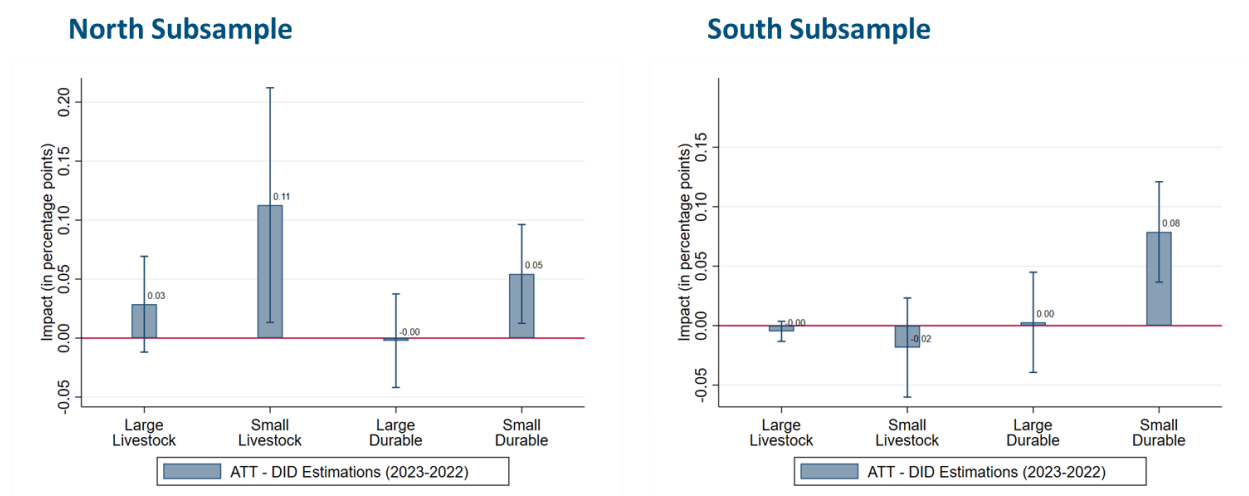
	Women's Sole Asset Index	Women's Joint Asset Index	WAG Savings
NFWP	0.250** (0.085)	0.105 (0.120)	11749.7*** (1076.1)
NFWP * Moderate Weather	-0.164 (0.119)	-0.165 (0.139)	5481.4* (2169.4)
Normale or Moderate Weather	-0.201* (0.095)	0.09 (0.11)	1346.8 (1566.3)
N	5,468	5,468	5,468

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, recall values for an asset index, recall values for having outstanding loans, and recall values for female labor force participation. Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

¹⁵ We use proxies for these events by using the Standardized Precipitation Evatranspiration index, which we could merge with the data by using the GPS data we collected. We consider the climate extremely dry when this index is lower than -2 and severely dry when it is between -1.5 and -2. Further, we consider the climate severely wet when the index is larger than 1.5 and extremely wet when the index is larger than 2. We label each of those cases as extreme weather events (e.g., droughts or floods) when examining heterogeneous effects related to climate shocks.

Figure 33. Effects on women’s asset ownership, by region.



Ongoing analyses

While preparing for the endline survey, we will conduct some additional analyses. For example, we will explore how the program may have affected agricultural outcomes though preliminary results suggest only limited effects on agricultural outcomes. Further, we will explore the possibility that the program may have affected the start of savings groups in the comparison group (though preliminary analyses suggest that the treatment group may have experienced a larger increase in other women’s and savings groups since the first round of data collection, which may be indicative of spillovers in the treatment group).

Conclusion

Midline analyses suggest that the effects of the NFWP are broadly similar to medium-term effects of SHG programs in India implemented by the NRLP. The results suggest positive program effects on group savings and access to credit and some indications for positive effects on small assets and women’s labor force participation. The results also indicate that impacts on savings and credit have increased relative to the first round of data collection. We found an impact of 18 percentage points on the likelihood that women were saving. While total cumulative savings were not statistically significantly higher in the treatment than in the comparison group, treatment LGAs have over 15,000 Naira (NGN) higher savings in WAGs and about 6,000 NGN lower savings in other savings and women’s groups, suggesting that NFWP increased savings in WAGs more than it decreased savings in other women’s groups. We also found a 7 percentage-point increase in outstanding loans relative to the comparison group.

However, we did not find statistically significant differences in cumulative outstanding loan amounts.

In addition to impacts on financial inclusion, we found evidence for positive impacts on asset ownership for women. Women in NFWP areas were 1.7 percentage point more likely to solely or jointly own at least one asset. These effects were driven by impacts on non-mechanized farm equipment (by 12 percent), nonfarm business equipment (by 19 percent), land (by 34 percent), and mobile phones (by 14 percent). NFWP households were also 1.2 percentage point more likely to own at least one asset. The findings suggest a 3.7 percentage-point increase in women's labor force participation, and an increase of 9.5% in their income generating activities over the comparison group. However, the findings did not indicate positive impacts on either women's income or household-level consumption. This is likely because the livelihoods component of the program requires more time to achieve positive impacts on these outcomes.

While we did find impacts on women's labor force participation and asset ownership, in general the results only suggest limited positive effects on women's agency. While women in the treatment group are more likely to be group members, we do not find impacts on an index of decision-making power. Nonetheless, the results suggest that the program may have had some impacts on decision-making related to savings and the family, gardening, and high-value crop farming. In addition, we find some effects indicating more positive liberal attitudes towards gender norms in the treatment group, though we do not find effects on community norms overall.

The mid-term results are fairly consistent with previous evaluations of large-scale self-help group programs in India. The NRLP mostly achieved short-term effects on financial inclusion (Hoffmann et al., 2022) with some indications for additional medium-term effects on labor force participation (de Hoop et al., 2022C) and asset ownership (Hoffmann et al., 2022). However, the NRLP only achieved positive effects on consumption and income after seven years of program implementation (Kochar et al., 2020). Further, the existing evidence on women's agency is mixed, with some evaluations suggesting positive effects (Brody et al., 2015; Namisango et al., 2021), while other studies only find limited effects of savings and self-help groups on women's agency (Hoffmann et al., 2022).

The process evaluation highlighted two main challenges that WAG members had to overcome to continue their participation: 1) The large inflation in Nigeria presented a formidable barrier to WAG members' ability to save and 2) the challenges around navigating the banking system complicated women's engagement in the NFWP's livelihood grants activities. To help overcome

some of these barriers, the project continued building community and trust, which were important facilitators of WAG activities.

Limitations

The study faces some limitations. First, it is important to recognize that we collected baseline data 1 year after the start of program implementation. As a result, we are not able to say with certainty that the treatment and comparison groups were similar before the start of the program (recall data indicate that the treatment and comparison groups were comparable, however). Second, this report only includes impact estimates for 2.5 years after the start of program implementation. As a result, the report is only able to present short-term and medium-term effects of the NFWP. We will present longer-term effects during the endline study. Third, we had limited statistical power to detect heterogeneous effects. While our sample size is large, our evaluation design includes a limited number of clusters, constraining our ability to detect heterogeneities in the impact estimates with sufficient precision. Fourth, we did not collect data on all consumption items for a substantial number of households because of a coding error in the survey instruments. We addressed this challenge by imputing values for these consumption items, which seemed to suggest that the results were robust to alternative statistical methods.

Implications for Policy and Practice

Implications for Policy and Practice

Results after two and a half years of program implementation suggest that the NFWP's focus on social capital and livelihoods contributed to increased WAG membership, and to the program's positive effects on financial inclusion, asset ownership, women's labor force participation, and men's perceptions of gender norms. These factors need continued support to achieve the positive effects of savings group and other women's group programming in Nigeria.

It is important to assess the longer-term program effects of the NFWP as well. Without longer-term impacts on consumption, income, and women's agency it is not yet clear whether the NFWP can achieve positive impacts in a cost-effective manner. While impacts on financial inclusion and asset ownership are critical, impacts on income, consumption, and women's agency may require additional investments in livelihoods grants for individuals and collectives. The endline survey will examine longer-term effects of the program.

To achieve long-term impacts, it will also be critical to enable women and groups to navigate the formal banking system in Nigeria. The NRLP achieved some of its key long-term benefits because of the ability of women to open bank accounts (Siwach et al., 2022). Addressing

barriers towards opening formal bank accounts will help the NFWP to gain additional benefits that go beyond the impacts generated by informal savings groups.

It will also be important to explore whether men's perceived changes in gender norms may have additional effects. The midline results did show positive effects on men's and women's attitudes toward gender equality. Further, the results indicated that men's perceptions of norms have become more liberal. We did not find the same effects on women's perceptions of norms. The changes in men's perceptions of gender norms may have longer-term implications for women's labor force participation and women's agency and possibly also on women's perceptions of gender norms.

Further, it is critical to examine how the program may achieve different effects in different regions and under different contextual circumstances. For example, the current results suggest that the program has positive impacts on livestock ownership in the North. We do not see similar impacts in the South. In addition, the program may have had different effects in the presence of weather shocks (e.g., droughts and floods) though the results are not always statistically significant.

Focusing on heterogeneous is also important because the NFWP may generate fewer benefits for poorer women without an income source. Women without an income source from wage labor or self-employment may therefore require cash transfers or graduation programs from social protection systems in Nigeria. These findings are aligned with the targeting strategy of the social safety net program in Nigeria and the NFWP. The social safety net program targets the poorest households in Nigeria with cash transfers. The NFWP focuses on a different target group ("the missing middle") than these social safety net programs.

At this moment, it is too early to present definitive conclusions about the impact and cost-effectiveness of the NFWP. We will continue to conduct research to determine the longer-term impacts and cost-effectiveness of the NFWP using the endline survey.

Next steps

Additional analyses should focus on the longer-term effects of the NFWP, including its longer-term effects on household-level consumption and income. For these analyses, we will also emphasize the impacts of livelihoods grants on women's business outcomes and income. At the time of the midline survey, the livelihoods grants were too recent to examine their impacts on economic outcomes. In addition, the program had only provided individual livelihoods grants, and not collective livelihoods grants.

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Appendix A: Full Description of Theory of Change

The description of the theory of change (ToC) focuses on a generic ToC model for Nigeria and does not distinguish between groups that existed before the intervention that were transformed into WAGs or newly formed WAGs, because all groups will receive the full package of trainings regardless of their prior status or type. In this way, the ToC focuses on the pathways through which the intervention components are expected to generate impacts at different points in time, differentiating between the unit of measurement of the changes (i.e., group, individual and household, and community). In addition, we include potential moderators to generate hypotheses about how WAGs with different program components, different membership composition, differences in the group's implementation before the transformation to WAGs, and in other contexts may show different effects along the causal chain of the ToC.

The ToC suggests that the NFWP can achieve improvements in women's economic empowerment through several mechanisms. Savings and livelihoods trainings can lead to greater access to savings mechanisms and increases in collective savings, which can in turn enable women to gain access to individual or group credit. Combining increased access to credit with improved business skills can then help women start or expand their income-generating activities across high-productivity agricultural and non-agricultural sectors. The creation and expansion of women's individual and collective businesses could increase women's income and asset ownership, which could stimulate their bargaining power within the household.

Social norm messages at the group- and community-level, which aim to change discriminatory social and gender beliefs and practices held by both men and women, could lead to changes in women's empowerment and social norms at the community level. Increased social support within groups can help WAG members reflect on gender norms, change group members' attitudes, and improve women's self-confidence and well-being. These changes in women's attitudes could later result in improvements in women's bargaining power within the household, as women could leverage the economic and social opportunities brought to them through the NFWP. Social norm messages at the community level could lead to additional attitudinal changes for men and other community members and could lead to changes in gender and other social norms. However, changes in social norms generally are non-linear and women may have to transgress social norms to change them. Such transgressions could lead to community backlash, which may create dynamics in which women return to their level of bargaining power before the NFWP because of social sanctions (de Hoop et al., 2014; Brody et al., 2015). The NFWP aims to limit such backlash by sending social norms messages at the community level as well as by engaging through community dialogues, which could lead to changes in social and gender beliefs and practices held by men and other non-WAG members.

As a first step, community sensitization and mobilization will include meeting stakeholders such as leaders and women in their safe spaces with the aim of introducing the project to the community and getting the approval to operate. Trained Ward Facilitators will then identify the women targeted by the program who are either not yet part of any women's group or are part of existing women's groups. Community leaders, peers, and existing women's groups will then encourage women to join a WAG in their community.

Once women are part of a group, they could benefit from livelihood support through trainings, the preparation of business plans, livelihood grants, and increased credit from their WAG. The grants and group credit could enable women to invest in existing or new individual or collective enterprises, which could generate profits and additional household income and could enable women to accumulate assets, especially after the preparation of business plans and livelihoods training help them to make productive investments across diversified agricultural and non-agricultural income-generating activities. The intervention also stimulates partnerships with outside actors, such as the private sector, civil society organizations, NGOs, and individuals, to identify innovations for the groups through a development marketplace. These partnerships provide women with the opportunity to strengthen networks and increase their knowledge and skills (e.g., further improve their business skills and complement what they would have learned through group trainings). The partnerships, networks, and skills development can also give the participating women a comparative advantage and can lead to increased access to financial markets, greater economic opportunities, and more income generation. This market access could result in synergies that could lead to additional effects of the livelihood support, business plans, and livelihood grants.

In later stages, individual WAG members could also benefit from the health-layering component through health trainings and health-related group activities. The specific focus on health may contribute to women's knowledge about topics such as nutrition and maternal or neo-natal health. We hypothesize that this knowledge could result in changes in health behavior, including changes in health care spending, health-seeking behavior, usage of preventative and pre-natal care, and infant and young child feeding practices.

The generation of social capital through group support could improve trust, social networks, and social cohesion by enabling women to collaborate with peers in their community and discuss economic and social issues. We hypothesize that improved social cohesion and networking could have both individual- and group-level effects. For instance, discussions about social norms may affect women's attitudes toward empowerment and their psychological empowerment. The sense of confidence, dignity, and self-esteem that comes from women's empowerment could help women achieve "power within" and could positively influence intra-household dynamics—for example, by enabling women to gain bargaining power within the

household with regard to financial decision and decisions on education and health (Barooah et al., 2019; Díaz-Martin, Gopalan, Guarnieri, & Jayachandran, 2022).

Social norms trainings can bring additional improvements in different women's empowerment domains because of their specific focus on raising awareness about gender stereotypes and gender-based violence (GBV). In addition, the community-level social norms intervention is designed to further strengthen the program's impacts on intra-household decision-making and GBV, as household and village members (men and women) engage in community activities and receive targeted messages (via various channels, including but not limited to radio programming, household and community dialogues, theater for change etc.), thereby reflecting upon these issues and possibly adopting better attitudes and behaviors.

The WAGs can also generate impacts at the group level. First, the composition of groups may change considerably after encouraging membership of marginalized women. These changes in group composition may lead to increased diversity either within groups or across groups, which may strengthen social cohesion within the community and may provide women with opportunities to pool risks and resources, thereby improving their resilience — particularly the resilience of marginalized women. Importantly, however, increased within-group diversity may limit the ability of women's groups to pursue joint goals; women with different characteristics likely have different objectives and different means to contribute to savings, which could limit the ability of groups to pool savings and risks. In contrast, the number of women's groups may increase if marginalized women form their own groups to pursue joint financial objectives.

The within-group structures of rotating leadership, group-based decision-making, and regularly planned meetings can help build trust, shared responsibility, and a sense of community. These group-level changes can lead to collective action, such as increasing the frequency of planned meetings or of interactions with third parties regarding training and innovation. Ultimately, these changed group behaviors may result in an increase in individual or collective savings, greater access to formal credit, and a reduction in fraud.

With the support of the Ward Facilitators, WAGs could spark the formation of livelihoods collectives, such as cooperatives, farm and non-farm producer organizations, social enterprises, producer-governed private limited companies, especially after groups receive livelihoods training and livelihoods grants. These trainings and grants can help groups set up livelihoods collectives that include all or a subset of WAG members. By leveraging the groups' increased human capital and members' social networks, and by gaining access to grants (for which collectives are eligible), women's livelihoods collectives could break into higher-productivity agricultural and non-agricultural sectors, improve their access to markets and value chains, and negotiate better transaction conditions (e.g., prices and quantities). Successful livelihoods collectives may also lead to improvements in individual and collective asset ownership and profits.

Increases in the number of WAGs can lead to general equilibrium effects and changes in prices and wages. For example, WAGs may increase demand for credit from women's groups, which likely will become available at lower interest rates than in informal settings. The increased demand for credit from WAGs may come at the expense of demand for informal credit, which could in turn result in a reduction in informal interest rates. The formation of collective enterprises may also result in increases in the demand for labor, which could in turn lead to increases in wages.

Achieving impacts through the described pathways depends on several critical factors. First, the successful mobilization of women will depend on the motivation and incentives of community leaders to identify and target marginalized women who do not yet participate in any well-functioning women's group. In addition, women should have sufficient time and a minimum level of resources to enable their participation in meetings, create a network, and contribute to collective savings. Using accumulated savings to make productive investments in the future further depends on women's ability to expand livelihood activities. In addition, women's savings can only increase sustainably if they can avoid having to take out a large portion of the money in the interim. Furthermore, not all changes will occur at the same time, and behavioral and changes in social norms in the community are likely slow and highly dependent on context and on the existing social norms. Finally, group-level impacts depend on the social cohesion among group members, regular meetings and savings, and the return on investment of investments in collective enterprises.

Although improvements in women's bargaining power in the household can reduce GBV, the current evidence on this mechanism is mixed. Some studies suggest that greater bargaining power can lead to backlash and possibly an increase in GBV. Nonetheless, in the long term, any backlash may reduce because of changes in social norms at the community-level (Brody et al., 2015). We hypothesize that women in communities benefiting from the social norm messages at the community-level and the WAGs may therefore have a larger likelihood of seeing reductions in GBV than women in communities with WAGs without social norms messages. This is particularly likely for women benefiting from the layering of additional GBV-interventions.

Different initial group types may lead to different impacts as they may condition the way WAGs evolve after the first WAG cycle ends (i.e., after trainings and Ward Facilitator support end and groups decide whether to continue saving or not). WAGs may have different effects depending on what components they include, and WAGs could evolve as part of their institutional evolution. For example, some groups may continue to focus on savings and credit after the first cycle, whereas other groups may choose to focus on social activities. We hypothesize that the former group type may have larger impacts on women's financial inclusion, which may result in improvements in women's asset ownership and women's bargaining power in the household. Secondary benefits may include improvements in women's agency, and business opportunities.

We hypothesize that the latter group type (i.e., social groups) may have larger effects on women's psychological empowerment if discussions about social issues focus on building women's self-confidence. Secondary benefits of these groups may include improvements in women's bargaining power, which could in turn result in improvements in women's agency, and economic outcomes, such as asset ownership and income.

Different group types also impose different costs, both program-level costs and opportunity costs related to the time women spend in group meetings and other group activities. Adding components will add ingredients to the intervention, which will increase the program costs. Furthermore, adding intervention layers and trainings may increase the time group members have to spend in group meetings and thus the opportunity costs of participation in WAGs. This may lead to changes in the composition of the group, for example by reducing the participation of women who face time constraints or have higher opportunity costs. Adding new topics to a group will either increase the time group members spend in meetings or reduce the time the groups can spend on other topics.

Based on the theory of change and impact evaluations of comparable programs in India (e.g., Hoffmann et al., 2021; Kochar et al., 2020), we hypothesize positive impacts on savings, credit, and asset ownership after one year of program implementation. In addition, there is some evidence that the program may have short-term impacts on women's decision-making power (Brody et al., 2017). However, we do not hypothesize positive impacts on consumption, income or larger assets after one year of program implementation, especially because impact evaluations of comparable programs did not show positive short-term impacts on these outcomes (e.g., Hoffmann et al., 2021; Kochar et al., 2020). We also do not hypothesize positive impacts on social norms in the short term because these usually require a longer time period to change. Interventions focused on social norms could possibly influence attitudes in the short term, however.

Appendix B Quantitative Methods

To ensure that we compare similar treatment and comparison households or groups, we designed and implemented a three-stage matching process. For our analysis, we define the treatment unit as individuals and households residing in LGAs targeted by the NFWP. Within each state, we first selected comparison LGAs neighboring the treatment LGAs. In the second stage, using information from the listing survey, we matched treatment households and groups to households and groups in comparison enumeration areas (EAs) based on background characteristics and variables relevant to the targeting and potential outcomes of the program. In the third stage, we refined the second-stage matching using data from the full baseline survey. In the baseline report, we used indicators which we expected would not plausibly be affected by the program in the short-term (i.e., consumption, income, agricultural production, and larger assets) to compare balance between our treatment and comparison groups. We also presented tables comparing recall data to validate the assumption that the treatment and comparison group were similar before the start of the program.

In the first stage, we matched each of the 18 treatment LGAs to four neighboring comparison LGAs. We worked with the World Bank, the Nigerian government, and Oxford Policy Management (OPM, the firm collecting the baseline data) to select four potential neighboring comparison LGAs for each treatment LGA, so that we achieved a sample size of 18 treatment LGAs and 72 comparison LGAs. In the second stage, within each LGA, we implemented a household level listing survey in 20 randomly selected enumeration areas to collect data on a small but important number of variables for matching purposes (we conducted a listing survey in a total of 1,799 enumeration areas across the six states). During the listing survey, we dropped two of the 72 comparison LGAs because these LGAs were too insecure for data collection. None of the treatment LGAs were deemed unsafe, suggesting that the matching likely improved because of this selection rule (in addition to the need to ensure safety for the enumerators).

In the third stage, we revisited the household-level matching using a rich set of individual- and household-level data from the baseline survey. We re-matched 1,452 treatment households in 18 LGAs to 5,853 comparison households in 70 LGAs.¹⁶ We used individual- and household-level characteristics, as well as recalled values of outcome variables, for the matching. The set of variables we matched on included women's demographics (age, religion, language, level of education, and marital status), recall indicators for women having savings and loans, their recalled amount of savings and loans, women's recalled labor force participation and income

¹⁶ Ultimately, we collected data for 1,370 treatment and 5,513 comparison households because of an attrition rate of 5.7 percent.

diversification, a household-level asset index based on recall data, and various other individual- and household-level variables. We did not use a matching approach for the impact analysis at the group level because we lacked recalled values of outcomes, and because the survey collected information on just a few exogenous (background) group-level characteristics. Instead, we included these characteristics as control variables in our regressions. We controlled for the age of the group and whether the group was formally registered.

Lastly, we combined DID analysis and matching in two ways as a robustness check. First, we used a different matching approach by pursuing a reweighting approach in which we weighted comparison observations to impose the same distribution of covariates for the treated and untreated (Abadie, 2005). As a robustness check, we used nearest neighbor matching to identify the comparison group and then compared changes in outcomes over time between NFWP and untreated women and households using a DID analysis. Both matching methods aim to correct for any pre-treatment imbalances between the outcomes of treatment and comparison units. The latter method aims to correct for any pre-treatment imbalances between the outcomes of treatment and comparison units. Although we used both methods, the impact estimate tables in this report show only the weighted estimations. The point estimates, standard errors, and levels of statistical significance are very similar between the unweighted and weighted estimations, suggesting that the findings are robust to different matching methods.

Sampling

As discussed in the baseline report, we worked with OPM to conduct a listing exercise in each of the treatment and comparison LGAs, followed by a sampling of groups, households, and women in these communities. The listing survey helped us locate all women's groups and households with women who were at least 18 years old.

We next sampled comparison households that were similar in observable characteristics to the treatment households, using a matching approach. Of the households listed, we selected a total of 7,305 households (1,452 in the treatment group and 5,853 in the comparison group) to complete the baseline survey, based on the matching. We were able to follow up with 1,370 treatment and 5,513 comparison households for the midline survey after an attrition rate of 5.8 percent.

To select women's groups, we first matched treatment and comparison EAs based on a small number of variables, including average household size, the average age of women, the percentage of the population who were female in different age groups (18–25, 26–35, 36–45, 46–59, and over 60 years old), and the percentage of households with a refrigerator. Next, we randomly selected women's groups within EAs for which the propensity scores overlapped

between the treatment and the comparison group (the observations within the common support). We selected 1,281 groups (274 in the treatment group and 1,007 in the comparison group) and their leaders to complete the group baseline survey, based on the matching.

Our revised power calculations suggest that we have an 80% chance of detecting effect sizes between 0.14 and 0.19 standard deviations for key household- and individual-level outcomes with ICCs varying between 0.03-0.07, and effect sizes between 0.22 and 0.3 standard deviations for group-level outcomes with ICCs ranging between 0.03 and 0.15. Appendix C presents details on the revised power calculations and associated assumptions.

Analysis

We assessed the impact of the WAG model using a DID regression framework while controlling for time-varying individual and group characteristics. We compared changes in outcomes over time between households, individuals, and groups in treatment LGAs and households, individuals, and groups in comparison LGAs. DID analysis entails calculating the change in outcomes between the recall or baseline value of the baseline survey and the current value of the midline survey for treatment and comparison group units and comparing the magnitude of these changes between the treatment and the comparison groups. We used cluster-robust standard errors to account for a lack of independence across observations due to clustering of households, individuals, and groups because the intervention is allocated at the LGA level.

Two key features of the DID estimator are particularly attractive for deriving unbiased program impacts. First, using pre- and post-treatment measures enables us to “difference” out unmeasured fixed (i.e., time-invariant) household and group characteristics that may affect outcomes, such as education level and household composition. The approach also enables us to benchmark the change in the indicator against its value in the absence of treatment. Second, using the change in a comparison group as a counterfactual enables us to account for general trends in the value of the outcome. The key assumption underpinning the DID approach is that there is no systemic, unobserved, time-varying difference between the treatment and comparison groups.

While we cannot examine this assumption in detail, we believe it is credible because treatment LGAs and their corresponding comparison LGAs are geographic neighbors within the same state, and likely coped with similar shocks and had similar characteristics before the start of the program. The Nigerian government and the World Bank jointly selected the 18 treatment LGAs to implement the NFWP during its pilot phase. They selected these LGAs based on preferences of State governments, which may relate to security, geography, and closeness to the state capital. However, we do not have details on the specific selection criteria, which creates a limitation caused by potential selection based on unobservable characteristics. For this reason,

we selected 72 comparison neighboring LGAs that in expectation were most similar to the treatment LGAs. In the baseline report, we provide further evidence for the validity of the impact evaluation design by analyzing differences in recall data between the treatment and the comparison group before the start of the program.

The DID design provides us with the intent-to-treat (ITT) effect of the WAG model; in other words, the average treatment effect for those women or groups assigned to a treatment condition regardless of take-up of treatment. We also created a limited number of subgroups to assess heterogeneous effects. For example, we examined heterogeneous effects for women in different age categories and women of a different religion and in a different region. In addition, we examined heterogeneous effects for various moderators that we identified in the theory of change.

Appendix C Qualitative Methods

Table C-1 provides a summary of the study's process evaluation sampling frame.

Table C-1. Summary of Midline Process Evaluation Data Collection

State	LGAs	KIIs	FGDs	IDIs
Abia	Obingwa	4	4	2
	Isiala Ngwa North	4	3	2
Akwa-Ibom	Ibesikpo Asutan	6	3	2
	Nsit Ubium	0	2	2
	Oruk Anam	4	0	0
Kebbi	Maiyama	5	3	2
	Ngaski	5	3	2
Niger	Gurara	4	1	1
	Agaie	5	2	2
Ogun	Ijebu North-East	5	3	2
	Odeda	3	3	2
Taraba	Bali	4	3	2
	Zing	1	1	1
Federal State		6		
		Abia (5)		
		Akwa Ibom (3)		
		Kebbi (8)		
		Niger (8)		
		Ogun (7)		
		Taraba (3)		
Total:		90	31	22

Field Staff Training

To ensure data quality, OPM and AIR selected experienced enumerators with the language skills to carry out the data collection. OPM's data collection leads trained field staff to apply the data collection materials and implement quality control procedures for assessments conducted in the field. The training for the enumerators took place over two weeks, which included training on best practices for administering surveys, a review of procedures, role play and a pilot of the survey instruments.

Data Collection Oversight

Nigerian team members provided quality control and ensured the technical soundness of the data collection. We generated several protocols to achieve this objective in close collaboration

with OPM. For example, data collection supervisors ensured that all surveys and materials were completed correctly before leaving each evaluation site. AIR then used a systematic and efficient process for organizing and analyzing qualitative data. This process includes audio recording all interviews in the local language, transcribing them in the local language, and then translating them into English.

Analysis

Table C-2 provides a summary of the data transcripts that the team analyzed at midline.

Table C-2. Summary of Data Transcripts Analyzed at Midline

State	Transcripts Analyzed
Abia	State KIIs - Ministry of Women’s Affairs, ICB advisors, technical partner, and Gender thematic coordinator Obingwa - FGDs with NFWP Champions and WAG members - IDI with Non-WAG member - KIIs with Barefoot Business Councilor, LGA field supervisor, and ward facilitator Isiala Ngwa North - FGD with WAG members who receive livelihood grants - IDI with WAG member - KIIs with WAG Leader and WAGSO
Akwa Ibom	State KIIs - Ministry of Women’s Affairs, project coordinator, and livelihoods advisor Ibesikpo Asutan - FGDs with WAG members and NFWP Champions - IDI with WAG member - KIIs with behavior change communicators advisor, ICB advisors, gender advisor, and WAGSOs Nsit Ubium - FGD with WAG members - IDI with Non-WAG member Oruk Anam - KIIs with ward facilitator, WAG leader, and LGA field supervisor
Kebbi	State KIIs

	- Ministry of Women’s Affairs, ICB advisors, behavior change communication advisor, livelihood advisor, project coordinator, and gender advisor Maiyama - FGDs with NFWP Champions and WAG members - IDI with WAG member - KIIs with LGA field supervisor and WAGSO Ngaski - FGD with members who receive livelihood grants - IDI with non-WAG member - KIIs with Barefoot Business Councilor, WAG leader, and ward facilitator
Niger	State KIIs - ICB advisors, innovation partner, technical partner, gender thematic coordinator, and livelihoods Gurara - FGDs with NFWP Champions and WAG members - KIIs with Barefoot Business Councilor, project coordinator, WAG leader, and ward facilitator Agai - FGD with members who receive livelihood grants - IDIs with non-WAG member and WAG member - KIIs with LGA field supervisor and WASO
Ogun	State KIIs - Ministry of Women’s Affairs, ICBA, project coordinator, gender advisor, livelihood advisor, and communications advisor Ijebu North-East - FGDs with NFWP Champions and WAG members - IDI with Non-WAG member - KIIs with Barefoot Business Councilor, LGA field supervisor, and ward facilitator Odeda - FGD with members who receive livelihood grants - IDI with WAG member - KIIs with WAG Leader and WAGSO
Taraba	State KIIs

- Ministry of Women’s Affairs, Behavior Change Communications advisor

Bali

- FGDs with NFWP Champions and members who receive livelihood grants
- IDI with WAG member
- KIIs with ward facilitator, project coordinator, Barefoot Business Councilor

Zing

- FGD with WAG members
- IDI with non-WAG member
- KII with WAG leader

We cleaned all transcripts of KIIs, IDIs, and FGDs and uploaded the raw data into the NVivo qualitative analysis software. We created a preliminary coding structure based on the research questions and the KII, IDI, and FGD protocols. We used this coding outline to organize and subsequently analyze the information gathered through KIIs, IDIs, and FGDs. To ensure standardization among coders, the research team selected a sample of interviews to double-code. Discrepancies were discussed and resolved before the team coded the rest of the interviews. Afterwards, we analyzed and compared subsections of the data to compile key findings related to the process evaluation questions.

Appendix D Regression Tables

Table D-1: Single-Difference Impact Estimates – Group Membership

	Member of any group	WAG member	Other women's group member	Other savings group member
NFWP	0.254 (0.019)***	0.743 (0.019)***	-0.200 (0.019)***	-0.20 (0.024)***
Comparison Mean	0.64	0.00	0.61	0.65
N	5493	5493	5493	4789

$p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status) household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above) indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity. Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-2: DID Estimations – Group Membership (2023-2022)

	Member of WAG, WG, and/or SG	WAG member	Other women's group member	Other savings group member
NFWP x time	0.114 (0.023)***	0.133 (0.028)***	0.087 (0.039)**	0.094 (0.037)**
Time	-0.028 (0.018)	0.000 (0.000)	-0.030 (0.018)	-0.026 (0.019)
Comparison Mean	0.67	-0.00	0.64	0.67
N	10986	10986	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status) household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above) indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity. Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-3: Single-Difference Impact Estimates - Group Composition

	Group size	Has more than 25 members	Age of members	Average member age 30 years or more	Proportio n of female members	Have the same religion	Have the same ethnicity	Speak the same language
NFWP	-16.025 (3.223)***	-0.333 (0.049)***	0.606 (1.586)	0.042 (0.072)	0.062 (0.013)***	0.074 (0.076)	0.012 (0.064)	0.055 (0.057)
Comparison Mean	48.74	0.55	35.22	0.71	0.93	0.78	0.76	0.79
N	1305	1305	1305	1305	1299	1303	1302	1303

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for WG age, registration status, and an indicator for whether registration status is missing.

Table D-4: Single-Difference Impact Estimates – Group Member Characteristics

	Joined in the past 6 months	Joined over a year ago	Are married	Are living with a disability	Finished primary school	Finished secondary school	Have their own business	Do not have income	Receive income from group
NFWP	-0.010 (0.024)	-0.084 (0.060)	0.026 (0.016)	-0.001 (0.001)	0.023 (0.094)	0.031 (0.083)	0.036 (0.036)	-0.083 (0.062)	0.029 (0.081)
Comparison Mean	0.04	0.64	0.95	0.00	0.59	0.40	0.83	0.24	0.21
N	1298	1300	1302	1298	1250	1253	1298	1291	1297

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$
Estimations control for WG age, registration status, and an indicator for whether registration status is missing.

Table D-5: Single-Difference Impact Estimates – Women's Group Social Cohesion

	I feel that I belong to this WG	I would rather be with a different WG	I would prefer this WG over others	Members of this WG are all striving for the same goals	Everyone in our WG wants to pursue their own goals	WG members worry about only themselves	I can count on fellow WG members if I need to borrow money	I can count on fellow WG members to accompany me to the doctor or hospital	I can count on fellow WG members to talk to about my problems	I can count on fellow WG members if I need advice
NFWP	0.003 (0.005)	-0.017 (0.048)	-0.009 (0.021)	0.017 (0.011)	-0.093 (0.073)	-0.115 (0.058)**	0.013 (0.027)	0.031 (0.022)	0.024 (0.022)	0.029 (0.011)** *
Comparison Mean	0.99	0.21	0.94	0.97	0.39	0.33	0.89	0.93	0.93	0.97
N	1302	1302	1300	1301	1300	1300	1299	1301	1301	1300

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$
Estimations control for WG age, registration status, and an indicator for whether registration status is missing.

Table D-6: Single-Difference Impact Estimates – Group Meeting Frequency

	Group meets weekly	Group meets bi-weekly	Group meets monthly
NFWP	0.319 (0.063)***	-0.058 (0.024)**	-0.216 (0.059)***
Comparison Mean	0.46	0.10	0.37
N	1303	1303	1303

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$
Estimations control for WG age, registration status, and an indicator for whether registration status is missing.

Table D-7. DID Estimations - Women's Savings RECALL (2023-2020)

	Woman saves money (NM)	Total savings (NGN) (NM)
NFWP x time	0.167 (0.034)***	0.416 (4.660)
Time	-0.029 (0.021)	13.688 (2.879)***
Comparison Mean	0.63	21.61
N	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)
household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)
indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.
Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-8. Single-Difference Impact Estimates – Women's Group-Based Savings

	Has savings in WAG	Cumulative savings in WAG	Has savings in other WG	Cumulative savings in other WG	Has savings in other SG	Cumulative savings in other SG
NFWP	0.646 (0.020)***	15.705 (1.372)***	-0.110 (0.021)***	-6.174 (1.525)***	-0.007 (0.006)	-0.032 (0.510)
Comparison Mean	-0.00	0.00	0.40	15.89	0.04	1.51
N	5493	5493	5493	5493	5493	5493

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)
household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)
indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.
Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-9. DID Estimations - Women's Credit RECALL (2023-2020)

	Has outstanding loans
NFWP x time	0.069 (0.034)**
Time	0.123 (0.014)***
Comparison Mean	0.07
N	10983

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)
household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)
indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.
Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-10. Single-Difference Impact Estimates - Credit

	Has outstanding loans (NM)	Value of outstanding loans (NM)	Number of current outstanding loans (NM)	Total value of current largest loan (NM)	Value of LL that still needs to be paid (NGN) (NM)	WG/SG provided largest loan (NM)
NFWP	0.082 (0.025)***	0.701 (2.344)	0.120 (0.046)**	0.892 (2.231)	0.078 (1.359)	0.079 (0.022)***
Comparison Mean	0.19	14.31	0.29	12.89	8.69	0.05
N	5493	5493	5493	5491	5489	5493

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-11. DID Estimations - Assets RECALL (2023-2020)

	HH currently owns at least one asset	Total assets HH currently owns
NFWP x time	0.012 (0.006)**	0.127 (0.153)
Time	0.005 (0.004)	0.967 (0.097)***
Comparison Mean	0.99	5.62
N	9066	9066

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-12. DID Estimations – Productive Asset Ownership RECALL (2023-2020)

	HH owns large livestock	HH owns small livestock	HH owns poultry	HH owns non- mechanized farm equipment	HH owns mechanized farm equipment	HH owns non-farm business equipment	HH owns uncultivated land
NFWP x time	-0.010 (0.017)	-0.004 (0.020)	-0.016 (0.039)	0.078 (0.035)**	-0.020 (0.011)*	0.042 (0.030)	-0.027 (0.034)
Time	-0.028 (0.009)***	0.043 (0.012)***	0.092 (0.019)***	-0.001 (0.014)	0.016 (0.007)**	-0.015 (0.013)	-0.044 (0.018)**
Comparison Mean	0.18	0.42	0.42	0.78	0.08	0.19	0.36
N	9066	9066	9066	9066	9066	9066	9066

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-13. DID Estimations – Consumption Asset Ownership RECALL (2023-2020)

	HH owns house or building	HH owns large durable goods	HH owns small durable goods	HH owns a mobile phone	HH owns a smartphon e	HH owns a means of transportat ion
NFWP x time	0.028 (0.035)	-0.003 (0.024)	0.044 (0.026)*	0.052 (0.018)***	-0.033 (0.025)	-0.014 (0.027)
Time	0.035 (0.021)*	0.002 (0.016)	0.036 (0.016)**	0.013 (0.013)	0.085 (0.014)***	-0.011 (0.016)
Comparison Mean	0.62	0.41	0.72	0.79	0.22	0.43
N	9066	9066	9066	9066	9066	9066

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.**Table D-14. Single-Difference Impact Estimates – Women's Assets**

	Solely or jointly owns at least one asset	Solely owns at least one asset
NFWP	0.017 (0.006)***	0.020 (0.013)
Comparison Mean	0.96	0.86
N	5476	5476

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status),

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above),

indicators for household religion and language, a recall asset index, recall asset ownership, and an indicator for whether the household has access to electricity. Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.**Table D-15. Single-Difference Impact Estimates – Women's Sole Ownership of Productive Assets**

	Solely owns large livestock	Solely owns small livestock	Solely owns poultry	Solely owns non- mechanized farm equipment (NM)	Solely owns mechanized farm equipment	Solely owns nonfarm business equipment	Solely owns uncultivated land	Solely owns land
NFWP	-0.001 (0.009)	0.016 (0.023)	0.013 (0.017)	0.036 (0.021)*	0.003 (0.002)	0.017 (0.008)**	-0.000 (0.009)	0.034 (0.013)***
Comparison Mean	0.03	0.27	0.36	0.31	0.01	0.09	0.06	0.10
N	5476	5476	5476	5476	5476	5476	5476	5476

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status),

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above),

indicators for household religion and language, a recall asset index, recall asset ownership, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-16. Single-Difference Impact Estimates – Women’s Sole Ownership of Consumption Assets

	Solely owns a house	Solely owns large durable goods	Solely owns small durable goods	Solely owns a mobile phone	Solely owns a smartphone	Solely owns a means of transport
NFWP	-0.012 (0.008)	-0.026 (0.012)**	0.017 (0.019)	0.069 (0.017)***	-0.008 (0.010)	0.011 (0.011)
Comparison Mean	0.07	0.14	0.44	0.50	0.09	0.03
N	5476	5476	5476	5476	5476	5476

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status), household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above), indicators for household religion and language, a recall asset index, recall asset ownership, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-17: DID Estimations - Women's Income RECALL (2023-2020)

	Labor force participation	Self- employment	Number of IGAs
NFWP x time	0.037 (0.014)**	0.022 (0.027)	0.128 (0.049)**
Time	-0.025 (0.009)***	0.012 (0.015)	-0.091 (0.027)***
Comparison Mean	0.89	0.55	1.35
N	10986	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status) household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above) indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-18: DID Estimations - Women's Income (2023-2022)

	# of days worked - Last 4 weeks	Woman's Income per Day - Last 4 Weeks	Woman's Income - Last 4 Weeks
NFWP x time	1.561 (0.851)*	-152.126 (263.029)	478.725 (2,509.430)
Time	2.184 (0.455)***	437.435 (115.723)***	8,885.221 (915.741)***
Comparison Mean	13.34	1553.64	16353.62
N	10986	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status) household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above) indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-19: DID Estimations - Women's Business Outcomes (2023-2022)

	Owns a business	Business sales - Last 4 Weeks	Number of people employed (includes businesses with zero staff)	Number of People Employed (excluding businesses with zero staff)
NFWP x time	-0.015 (0.018)	-2,070.310 (3,106.469)	0.101 (0.154)	-0.268 (0.163)
Time	0.043 (0.012)***	16,603.160 (1,694.840)***	0.666 (0.067)***	-0.179 (0.144)
Comparison Mean	0.59	19047.06	0.11	1.24
N	10986	10986	10986	3953

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-20: DID Estimations - Expenditures (NGN) in the Past Year—Productive Assets (2023-2022)

	Large livestock	Small livestock	Poultry	Non-mechanized farm equipment	Mechanized farm equipment	Non-farm business	Uncultivated land
NFWP x time	-7.051 (10.151)	-18.711 (19.777)	-28.162 (20.502)	-2.324 (1.375)*	-5.077 (5.497)	2.916 (3.287)	-142.012 (223.613)
Time	5.971 (4.563)	6.113 (2.770)**	14.671 (5.381)***	3.721 (0.726)***	1.257 (1.260)	1.793 (0.816)**	-62.600 (67.941)
Comparison Mean	21.70	9.85	5.18	3.72	2.59	2.76	82.24
N	9050	8984	9013	8982	9049	9028	8965

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-21: DID Estimations - Expenditures (NGN) in the Past Year—Consumption Assets (2023-2022)

	Housing	Large consumer durable goods	Small consumer durable goods	Mobile phone	Smartphone	Non-agricultural land	Means of transportation
NFWP x time	-220.238 (238.544)	-0.623 (4.491)	-3.648 (1.895)*	-1.708 (1.232)	-1.898 (2.030)	110.717 (84.395)	-6.073 (6.527)
Time	153.364 (50.460)***	8.208 (2.018)***	9.102 (1.435)***	3.723 (0.660)***	7.421 (1.327)***	-105.012 (78.511)	6.802 (5.655)
Comparison Mean	68.87	4.08	4.55	2.86	4.60	167.13	3.94
N	8882	8992	8951	8989	9015	8977	9042

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-22: DID Estimations - HH Non-Food Consumption (2023-2022)

	Consumption in the past 30 days	Consumption in the past 30 days (winsorized, 5%)
NFWP x time	-1.119 (5.231)	-0.518 (3.472)
Time	21.486 (2.462)***	19.019 (1.484)***
Comparison Mean	39.28	33.90
N	10919	10919

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status) household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above) indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity. Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-23: DID Estimations - Food Consumption (2023-2022)

	Total monetary value of food HH consumed in last 7 days (own production + gifts + purchases)	Total monetary value of food HH consumed in last 7 days (winsorized, 5%)
NFWP x time	760.587 (1,933.721)	126.727 (991.792)
Time	10,838.029 (821.530)***	9,877.345 (451.841)***
Comparison Mean	14541.93	13539.06
N	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status) household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above) indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity. Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-24: DID Estimations - Food Security Outcomes (2023-2022)

	Total Food Security Score out of 7	Has fewer than 3 meals a day	Has 3 meals a day
NFWP x time	0.239 (0.286)	0.037 (0.030)	-0.033 (0.030)
Time	1.699 (0.102)***	0.030 (0.015)**	-0.025 (0.015)*
Comparison Mean	2.33	0.45	0.52
N	10986	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status) household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above) indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Table D-25: DID Estimations - Women's Empowerment (2023-2020)

	Access to and decisions on credit	Control over use of income	Group membership
NFWP x time	0.015 (0.016)	0.017 (0.016)	0.083 (0.022)***
Time	0.052 (0.008)***	0.028 (0.008)***	-0.011 (0.018)
Comparison Mean	0.02	0.94	0.67
N	10951	9371	10952

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status) household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above) indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity. Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-26: Single-Difference Estimations - Women's Empowerment (2023-2022)

	Sole or joint owner of at least one large asset	Sole or joint owner of at least one asset	Sole owner of at least one large asset	Sole owner of at least one asset
NFWP	0.034 (0.011)***	0.016 (0.006)**	0.021 (0.015)	0.016 (0.015)
Comparison Mean	0.80	0.94	0.83	0.83
N	5374	5370	5370	5370

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status) household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above) indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity. Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-27: DID Estimations - Women's Input in Decision-Making About [ACTIVITY] (2023-2022)

	Staple grain farming/ harvest	Livestoc k raising/p rocessin g	Poultry/ other small animal raisin	Non- farm economi c activities	Wage and salary employ ment	Routine househo ld purchas es	Borrowi ng for family	Saving for family	Gardens or high- value crop farming
NFWP x time	-0.025 (0.032)	0.026 (0.025)	0.017 (0.033)	0.023 (0.026)	0.014 (0.015)	0.039 (0.033)	0.022 (0.018)	0.093 (0.029)** *	0.039 (0.014)** *
Time	0.115 (0.017)** *	0.023 (0.012)*	0.076 (0.015)** *	0.065 (0.014)** *	0.015 (0.006)**	0.074 (0.017)** *	0.056 (0.010)** *	0.145 (0.011)** *	0.006 (0.010)
Comparison Mean	0.28	0.10	0.09	0.41	0.06	0.34	0.06	0.16	0.10
N	10952	10952	10952	10952	10952	10952	10952	10952	10952

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status) household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above) indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity. Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-28: DID Estimations - Women's Input in Decisions About Income from [ACTIVITY] (2023-2022)

	Staple grain farming/harvest	Livestock raising/processing	Poultry/other small animal	Non-farm economic activities	Wage and salary employment	Routine household purchases	Borrowing for family	Saving for family	Gardens or high-value crop
NFWP x time	-0.013	0.020	0.017	0.029	0.016	0.032	0.019	0.091	0.040
	(0.033)	(0.024)	(0.034)	(0.026)	(0.014)	(0.036)	(0.018)	(0.029)***	(0.014)***
Time	0.109	0.030	0.078	0.063	0.013	0.061	0.056	0.146	0.008
	(0.016)***	(0.012)**	(0.016)***	(0.014)***	(0.006)**	(0.017)***	(0.009)***	(0.011)***	(0.010)
Comparison Mean	0.27	0.09	0.09	0.41	0.06	0.33	0.06	0.16	0.10
N	10952	10952	10952	10952	10952	10952	10952	10952	10952

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-29: DID Estimations - Women's Input in Decisions About Economic Activity from [ACTIVITY] (2023-2022)

	Staple grain farming/harvest	Livestock raising/processing	Poultry/other small animal	Non-farm economic activities	Wage and salary employment	Routine household purchases	Borrowing for family	Saving for family	Gardens or high-value crop
NFWP x time	-0.013	0.020	0.017	0.029	0.016	0.032	0.019	0.091	0.040
	(0.033)	(0.024)	(0.034)	(0.026)	(0.014)	(0.036)	(0.018)	(0.029)***	(0.014)***
Time	0.109	0.030	0.078	0.063	0.013	0.061	0.056	0.146	0.008
	(0.016)***	(0.012)**	(0.016)***	(0.014)***	(0.006)**	(0.017)***	(0.009)***	(0.011)***	(0.010)
Comparison Mean	0.27	0.09	0.09	0.41	0.06	0.33	0.06	0.16	0.10
N	10952	10952	10952	10952	10952	10952	10952	10952	10952

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-30: DID Estimations - Women's Empowerment (2023-2022)

	Solely decides to go to the market	Solely decides to visit family or relatives	Solely decides to visit friend or neighbor's house	Solely decides to attend a training	Solely decides to go outside of community or village	Decision-making power, mobility, proportion affirmative, out of 5
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NFWP x time	-0.016 (0.016)	-0.008 (0.020)	-0.007 (0.019)	0.005 (0.016)	0.009 (0.017)	-0.003 (0.015)
Time	0.032 (0.011)***	0.033 (0.012)***	0.029 (0.012)**	0.026 (0.013)**	0.028 (0.012)**	0.030 (0.011)**
Comparison Mean	0.49	0.48	0.52	0.48	0.47	0.49
N	10952	10952	10952	10952	10952	10952

LGA-clustered standard errors in parentheses. * $p<0.1$ ** $p<0.05$; *** $p<0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-31: DID Estimations - Gender Norms - Women (2023-2022)

	Conservative attitudes about gender (index)I	Conservative community norms (index)	Conservative community sanctions about norms (index)
NFWP x time	-0.150 (0.077)*	-0.079 (0.086)	0.017 (0.115)
Time	-0.159 (0.046)***	-0.127 (0.049)**	-0.065 (0.066)
Comparison Mean	4.09	4.38	4.01
N	9977	9977	9977

LGA-clustered standard errors in parentheses. * $p<0.1$ ** $p<0.05$; *** $p<0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity.

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated.

Table D-32: DID Estimations With Heterogeneous Effects - Food Consumption (2023-2022)

	Total monetary value of food HH consumed in last 7 days	Total monetary value of food HH consumed in last 7 days (Winsorized fraction 5 percent)
NFWP x time	2,625.444 (3,760.394)	976.976 (1,379.758)
NFWP x time x christianity	-3,152.926 (3,986.841)	-1,456.874 (1,685.599)
Time	13,716.928 (1,383.203)***	11,722.512 (482.092)***
Comparison Mean	14541.93	13539.06
N	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)
household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)
indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity
Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated

Table D-33: DID Estimations With Heterogeneous Effects - Food Consumption (2023-2022)

	Total monetary value of food HH consumed in last 7 days.	Total monetary value of food HH consumed in last 7 days (Winsorized fraction 5 percent).
NFWP x time	-799.547 (1,227.368)	-648.890 (988.096)
NFWP x time x north	4,415.407 (4,447.051)	2,179.829 (1,836.331)
Time	9,523.646 (806.811)***	9,131.482 (550.423)***
Comparison Mean	14541.93	13539.06
N	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)
household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)
indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity
Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated

Table D-34: DID Estimations With Heterogeneous Effects - Food Consumption (2023-2022)

	Total monetary value of food HH consumed in last 7 days	Total monetary value of food HH consumed in last 7 days (Winsorized fraction 5 percent).
NFWP x time	-803.503 (1,556.762)	209.263 (982.464)
NFWP x time x age_30orless	2,226.918 (2,600.147)	-127.635 (887.780)
Time	10,508.860 (1,118.682)***	9,248.147 (620.455)***
Comparison Mean	14541.93	13539.06
N	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)
household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)
indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity
Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated

Table D-35 DID Estimations With Heterogeneous Effects - Women's Food Security Outcomes (2023-2022)

	Total Food Security Score out of 7	Has fewer than 3 meals a day	Has 3 meals a day
NFWP x time	-0.206 (0.274)	0.033 (0.056)	-0.033 (0.055)
NFWP x time x christianity	0.746 (0.386)*	0.006 (0.060)	-0.000 (0.059)
Time	1.155 (0.121)***	0.018 (0.023)	-0.009 (0.022)
Comparison Mean	2.33	0.45	0.52
N	10986	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)
household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)
indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity
Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated

Table D-36 DID Estimations With Heterogeneous Effects - Women's Food Security Outcomes (2023-2022)

	Total Food Security Score out of 7	Has fewer than 3 meals a day	Has 3 meals a day
NFWP x time	0.475 (0.313)	0.040 (0.032)	-0.035 (0.033)
NFWP x time x north	-0.660 (0.424)	-0.011 (0.068)	0.006 (0.069)
Time	1.942 (0.120)***	0.025 (0.018)	-0.025 (0.019)
Comparison Mean	2.33	0.45	0.52
N	10986	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated

Table D-37: DID Estimations With Heterogeneous Effects - Women's Business Outcomes (2023-2022)

	Total Food Security Score out of 7	Has fewer than 3 meals a day	Has 3 meals a day
NFWP x time	0.108 (0.332)	0.014 (0.036)	-0.007 (0.040)
NFWP x time x age_30orless	0.189 (0.267)	0.032 (0.042)	-0.037 (0.046)
Time	1.850 (0.152)***	0.033 (0.020)	-0.030 (0.021)
Comparison Mean	2.33	0.45	0.52
N	10986	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated

Table D-38: DID Estimations With Heterogeneous Effects - Women's Income (2023-2020)

	LFP- Last 4 Weeks	Self- Employment- Last 4 Weeks	# of Economic Activities- Last 4 Weeks
NFWP x time	0.051 (0.026)*	0.058 (0.039)	0.073 (0.057)
NFWP x time x Christianity	-0.023	-0.057	0.088

	(0.031)	(0.054)	(0.088)
Time	-0.028	-0.027	-0.045
	(0.016)*	(0.019)	(0.044)
Comparison Mean	0.89	0.55	1.35
N	10986	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)
indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated

Table D-39: DID Estimations With Heterogeneous Effects - Women's Income (2023-2020)

	LFP- Last 4 Weeks	Self- Employment- Last 4 Weeks	# of Economic Activities- Last 4 Weeks
NFWP x time	0.021 (0.016)	0.022 (0.031)	0.128 (0.069)*
NFWP x time x north	0.047 (0.033)	0.005 (0.050)	0.000 (0.089)
time	-0.017 (0.011)	0.039 (0.019)**	-0.096 (0.033)***
Comparison Mean	0.89	0.55	1.35
N	10986	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)
indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated

Table D-40: DID Estimations With Heterogeneous Effects - Women's Income (2023-2020)

	LFP- Last 4 Weeks	Self- Employment- Last 4 Weeks	# of Economic Activities- Last 4 Weeks
NFWP x time	0.033 (0.024)	0.042 (0.042)	0.151 (0.073)**
NFWP x time x age_30orless	0.005 (0.028)	-0.029 (0.042)	-0.032 (0.075)
time	-0.016 (0.013)	-0.000 (0.021)	-0.082 (0.033)**
Comparison Mean	0.89	0.55	1.35
N	10986	10986	10986

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)
indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated

Table D-41: DID Estimations With Heterogeneous Effects – Women’s Empowerment (2023-2022)

	Solely decides to go to the market	Solely decides to visit family or relatives	Solely decides to visit friend or neighbor’s house	Solely decides to attend a training	Solely decides to go outside of community or village	Decision- making power, mobility, proportion affirmative, out of 5
NFWP x time	-0.031 (0.025)	-0.002 (0.033)	-0.007 (0.034)	-0.007 (0.023)	-0.027 (0.022)	-0.015 (0.024)
NFWP x time x Christianity	0.024 (0.034)	-0.009 (0.043)	-0.000 (0.037)	0.018 (0.034)	0.058 (0.032)*	0.018 (0.031)
Time	0.048 (0.012)***	0.050 (0.015)***	0.045 (0.019)**	0.045 (0.015)***	0.053 (0.014)***	0.048 (0.013)***
Comparison Mean	0.49	0.48	0.52	0.48	0.47	0.49
N	10952	10952	10952	10952	10952	10952

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated

Table D-42: DID Estimations With Heterogeneous Effects - Women's Empowerment (2023-2022)

	Solely decides to go to the market	Solely decides to visit family or relatives	Solely decides to visit friend or neighbor’s house	Solely decides to attend a training	Solely decides to go outside of community or village	Decision- making power, mobility, proportion affirmative, out of 5
NFWP x time	-0.009 (0.020)	-0.010 (0.022)	-0.003 (0.021)	0.007 (0.022)	0.019 (0.023)	0.001 (0.018)
NFWP x time x north	-0.021 (0.032)	0.006 (0.041)	-0.012 (0.041)	-0.008 (0.030)	-0.031 (0.032)	-0.013 (0.029)
Time	0.025 (0.014)*	0.019 (0.016)	0.019 (0.015)	0.017 (0.016)	0.015 (0.016)	0.019 (0.015)
Comparison Mean	0.49	0.48	0.52	0.48	0.47	0.49
N	10952	10952	10952	10952	10952	10952

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated

Table D-43: DID Estimations With Heterogeneous Effects - Women's Empowerment (2023-2022)

	Solely decides to go to the market	Solely decides to visit family or relatives	Solely decides to visit friend or neighbor's house	Solely decides to attend a training	Solely decides to go outside of community or village	Decision- making power, mobility, proportion affirmative, out of 5
NFWP x time	-0.015 (0.030)	0.002 (0.032)	0.022 (0.033)	0.029 (0.031)	0.013 (0.034)	0.010 (0.028)
NFWP x time x age_30orless	-0.001 (0.035)	-0.014 (0.038)	-0.040 (0.038)	-0.034 (0.037)	-0.005 (0.038)	-0.019 (0.033)
Time	0.030 (0.019)	0.037 (0.019)*	0.013 (0.020)	0.011 (0.019)	0.010 (0.020)	0.020 (0.018)
Comparison Mean	0.49	0.48	0.52	0.48	0.47	0.49
N	10952	10952	10952	10952	10952	10952

LGA-clustered standard errors in parentheses. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$

Estimations control for state fixed effects, women's demographics (age, education, and marital status)

household demographics (size, number of children under 5 years of age, number of adults who are 50 years old and above)

indicators for household religion and language, a recall asset index, and an indicator for whether the household has access to electricity

Weights applied to comparison observations correspond to $p/(1-p)$ where p corresponds to the likelihood of being treated

Appendix E: Detailed Power Calculations

We revisited our power calculations using information from the baseline and midline surveys to assess the statistical power of this study.

Power Calculations to Estimate Gendered Effects of the NFWP at the Individual and Household Levels. Power calculations at the individual level suggest that interviewing 6,776 women across 18 treatment LGAs and 70 comparison LGAs will be sufficient to detect small but meaningful effects for many NFWP key outcomes, as shown in Exhibit AE-1 below.

Table E-1: Revised Power Calculations – Individual-level Outcomes

Outcome	Comparison Mean	ICC (estimate from study sample)	Minimum Detectable Impact (in standard deviations)	Minimum Detectable Impact	Minimum Detectable Impact (as % of comparison mean)
Woman Has Savings	0.63	0.06	0.18	8.6 pp	14
Women's Cumulative Savings	21,610 NGN	0.03	0.14	10,575 NGN	49
Woman Has Loans	0.07	0.04	0.15	3.9 pp	56
Women's Labor Force Participation	0.89	0.04	0.14	4.4 pp	4.9
Self-Employment	0.55	0.07	0.19	9.4 pp	17
Women's Income	16,353 NGN	0.07	0.19	6,979 NGN	43
Woman solely owns at least one asset	0.96	0.04	0.15	3 pp	3
Woman solely or jointly owns at least one asset	0.86	0.04	0.15	5.3 pp	6

Note: We base the power calculations on the following assumptions: 80 percent chance of detecting impact, alpha of 5 percent.

Our updated power calculations indicate we will be able to identify impacts of between 0.14-0.19 standard deviations across key outcomes for ICCs varying between 0.03-0.07, respectively. In general, we are thus well-powered to identify if the NFWP leads to effects that are small in magnitude across many outcomes. These effect sizes are aligned with previous systematic reviews on the impact of self-help groups and vocational and business training on women's labor market outcomes (Brody et al., 2015; Chinen et al., 2017).

Power Calculations to Estimate Group-Level Effects. Power calculations at the group level suggest that a sample size of 1300 women’s groups across 18 treatment LGAs and 70 comparison LGAs will be sufficient to detect program impacts of between 0.22-0.30 standard deviations with 80% power for ICCs ranging between 0.03 and 0.15. Exhibit AE-2 below shows the revised power calculations for two key group-level outcomes.

Table E-2: Revised Power Calculations – Group-level Outcomes

Outcome	Comparison Mean	ICC (estimate from study sample)	Minimum Detectable Impact (in standard deviations)	Minimum Detectable Impact	Minimum Detectable Impact (as % of comparison mean)
Group Cumulative Savings	56,796 NGN	0.15	0.3	18,515 NGN	33
Group Has Collective Loans	0.03	0.03	0.22	3.7	123

Note: We base the power calculations on the following assumptions: 80 percent chance of detecting impact, alpha of 5 percent.

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