# Diagnostic report on Gender, Social Cohesion and Socio-Economic Resilience: Evidence from South Kivu (DRC)

Impact evaluation
July 2025

# Acknowledgements

# Disclaimer

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# Executive summary

1. With support from BMZ and the wider donor community, the WFP-FAO-UNICEF DRC Joint Resilience Programme created an ambitious platform to support and strengthen the socioeconomic resilience of smallholder farmers and vulnerable populations in targeted communities of North and South Kivu. Under Outcome 4, the aims of the Programme included building and reinforcing gender equality, women's empowerment and social cohesion.

2. Initially, an impact evaluation was planned as part of the DRC Joint Resilience Programme. However, contextual challenges made an impact evaluation unfeasible. To support learning, WFP – together with the World Bank Development Impact Unit and with support from BMZ – agreed to conduct a diagnostic study, with the aim of supporting programme efforts to build and reinforce gender equality and social cohesion.

3. This report provides a comprehensive diagnostic on the status of gender equality and women empowerment, social cohesion, and socioeconomic resilience of households in areas where the DRC Joint Resilience Programme was implemented, with a focus on indicators related to Outcome 4. While the activities of the DRC Joint Resilience Programme targeted selected villages in both North and South Kivu, data for this report have been collected only from South Kivu due to the deteriorating security in several of the targeted villages in North Kivu during 2023. In particular, the findings are based on cross-sectional data collected between August and September 2023 from a representative sample of 106 villages and 1,611 households in the Mwenga and Walungu territories of South Kivu, where a total of 3,222 male and female household heads were interviewed. The diagnostic helped inform the next phase of resilience programming in DRC.

4. **Gender equality and women's empowerment:** The report identifies binding constraints to women's social and economic empowerment in South Kivu by analysing gender disparities in educational attainment, labour force participation, earnings, time use, agency (decision making), attitudes, perception of norms and psychological well-being.

    - **Educational attainment:** Educational attainment is low for both genders, but women and girls have significantly less access to education than men and boys, as well as lower completion rates. For instance, the data show that 40 percent of women in South Kivu have never attended school, compared to 20 percent for men (a difference of 20 percentage points or 50 percent), and less than 5 percent of women and girls have completed secondary school. This is about less than half the completion rate of men.

    - **Labour force participation**: Women are significantly more likely than men (30 percentage points, or 68 percent) to participate in the labour market. This difference is mostly driven by more women than men working as self-employed at a household-owned farm or land. Most women (about two thirds) are self-employed workers on household-owned farms or land, while a quarter are in wage employment, and less than 10 percent are self-employed in non-agricultural family businesses.

    - **Earnings:** On average, the wage earnings of men are significantly higher than those of women. On average, full-time wage-employed women earn a monthly income equivalent to 60 percent of the income of a full-time wage-employed man (CDF 67,000 or USD 27 and CDF 110,000 CDF or USD 44 respectively).

    - **Time use**: Women spend more than three hours more on household chores than men, while men spend two hours more outside of home than women.

    - **Agency (decision making) over consumption:** Women report joint decision making on matters related to consumption decisions (for example major household purchases, purchases from male income, purchases from female income), but they tend to have less agency over decisions about their own health care.

- **Attitudes towards agency over consumption:** Both men and women *believe* that decisions on household consumption *should* be taken jointly, while decisions on women's health care *should* be taken by men. This finding shows consistency between agency and attitudes towards agency.
- **Perception of norms towards agency over consumption**
  - **Descriptive norms** (perceptions about <u>common consumption behaviours</u> in the community): Both men and women believe that men in their *community* are the ones who usually make decisions about household consumption (including decisions about women's health care).
  - **Injunctive norm** (perceptions about <u>attitudes on consumption behaviours</u> in the community): Both men and women believe that people in their community think decisions about consumption should be taken jointly. Again, the exception is with women's health-care decisions, where respondents believe that community members think men in the community *should* be the decision makers. The latter may be explained by the male-dominated health-care personnel in the communities, and the low level of trust in institutions that may encourage women to consult other family members prior to visiting a health facility.
- **Mental health:** There are high levels of reported depression across both genders (75 percent with at least mild depression), but women are significantly more likely to suffer from depression compared to men (a difference of 7 percentage points or 22.5 percent). For instance, among women, 38 percent reported symptoms of moderate, moderately severe or severe depression, compared to 31 percent of men.
- **Life satisfaction:** Both men and women report high levels of dissatisfaction towards life (above 60 percent for both genders when combining the categories of "dissatisfied" and "extremely dissatisfied"), but women are significantly *more* likely to be dissatisfied with life than men (a difference of 5 percentage points or 5.6 percent). For instance, 93.5 percent of women reported being "slightly dissatisfied", "dissatisfied" or "extremely dissatisfied" with life, compared to 88.5 percent of men.

5. **Overall, women in South Kivu face significant barriers to economic opportunities and empowerment**. Female illiteracy is one of the main causes of poverty and increased vulnerability, as it sets women towards a more disadvantaged path characterized by less access to assets, lower earnings, and lower voice and agency. Even though women in South Kivu tend to make some decisions about consumption jointly with their partners, intra-household gender inequality is still substantial (for example, men tend to be the main decision makers in decisions about women's health care). Women's lack of agency has a clear and established impact on their use of time, their fertility, and their participation in income-generating activities.

6. Based on these diagnostics, future programming/policy in North and South Kivu could focus on: (i) increasing women's educational attainment and skills through training in literacy and numeracy, entrepreneurship, and small business management; (ii) increasing women's access to capital and income-generating activities through savings and loan schemes and technical support to accumulate assets and diversify income sources; and (iii) increasing women's voice and agency through life skills training and behavioural change campaigns to challenge traditional practices, harmful social norms and religious beliefs that accentuate gender biases.

7. **Social cohesion:** The report also provides a diagnostic on social cohesion (that is, the sense of belonging and unity among members of a community and the interactions within social networks) for South Kivu using four indicators: trust in individuals and institutions, social connectedness or closeness to the community, financial support, and collective action/social participation in the community. Questions related to social cohesion indicators were addressed to women only.
   - **Trust in individuals and institutions:** While women in South Kivu report high levels of trust in their extended families, close neighbours, and the village chief, most of them report average-to-little trust in village inhabitants, and very little trust in the government and foreigners.

- **Closeness to the community**: Most women report relatively low levels of closeness to the community, characterized by low levels of trust and support from other village inhabitants. Despite the security challenges in the region, two thirds of the respondents reported little-to-no tension in the community in the six months preceding the survey.
- **Financial support:** In cases of financial difficulty, help from family and friends is very common. Around 75 percent of women report being able to ask family and friends for money, compared to less than half (44 percent) that report being able to ask other community members.
- **Collective action or social participation:** Most women (two thirds) tend to be active participants in their communities, working closely with other community members to achieve common goals and participating in volunteering activities.

8. **Social networks:** The report provides an in-depth look at social dynamics through an innovative survey tool that collects detailed information on respondents' interactions, their diversity and available support, as well as relational measures of trust, tension, and connectedness. For this social network module, respondents were randomly selected such that *either* the male respondent or female respondent completed the module.
   - **Composition and utility:** Women build and use their social networks in slightly different ways than men. Women are slightly more likely to have gender-diverse connections (5.9 percentage point or 7.6 percent), while men's connections are more likely to be geographically diverse (2.5 percentage point or 3.2 percent). In terms of utility of the social network, men are more likely to use their connections as potential sources of advice (3 percentage points or 15 percent), while women are more likely to use their connections for food support in times of need (2 percentage points or 7.6 percent).
   - **Trust and tension:** Both women's and men's own personal social networks showed low levels of tension and moderate-to-high levels of trust across relationships. There is no significant difference between men's and women's perceptions of tension and trust in their social worlds.
   - **Social connectedness:** The average social network of a respondent in this sample displays tightly connected clusters formed of those with similar traits. More specifically, the likelihood that people are interacting only with others of their same tribe is high, suggesting that inter-tribal relationships take place only rarely. No statistically significant differences were found between men and women regarding the diversity of their social networks.

9. **Even though women in South Kivu report having strong social support from the extended family and close friends, social cohesion in the community remains very weak.** For decades, the east of the Democratic Republic of the Congo (DRC) has been plagued by armed conflict, land disputes and ethnic tensions, leading to large numbers of both internally displaced persons (IDPs) and refugees. The high levels of violence have severely affected social cohesion in eastern DRC, as well as people's trust in the government. The latter is virtually absent in the region and does not have the capacity to respond to the needs of the population. Further, social network segregation along tribal lines is still predominant, signalling that tribal divisions and tensions are still a relevant issue for building social cohesion. In order to stabilize the region and build social cohesion, it is important to create trust and open dialogue among the local population, as well as between the local population and the authorities.

10. Based on these diagnostics, future programming and policy in North and South Kivu could focus on: (i) promoting intergroup social cohesion through school-based peace education interventions (for example, working with schoolchildren on sensitization for peace, while promoting acceptance of diversity and behavioural change to break the cycle of violence); (ii) intergroup dialogue interventions where participants are guided in conversations to find common ground and work through points of tension; and (iii) edutainment for peace interventions, which focuses on triggering social and behavioural changes through the use of media (such as television, radio or social media) to promote counter-narratives to violence.

11. **Socioeconomic resilience:** Finally, the report briefly describes the status of socioeconomic resilience (measured mainly through exposure to shocks, food security and coping mechanisms)

- **Shocks:** Households in South Kivu experienced on average six shocks throughout the year 2022/2023. Inflation, shocks related to farming and livestock activities, and extreme weather conditions (such as drought and irregular rain) were among the most prevalent, affecting more than three quarters of households.
- **Coping strategies:** In response to the shocks experienced, almost all households (9 out of 10) reported using at least one livelihood coping strategy. When looking at the severity of the strategy, a quarter of households resorted to using emergency coping strategies (such as selling a house or land, begging or migrating); close to half (43 percent) resorted to crisis coping strategies (such as selling productive assets), and 20 percent reported using stress coping strategies (such as borrowing money or selling household assets). That is, almost 70 percent of the households resorted to either crisis or emergency coping mechanisms (the most severe strategies), indicating a much longer recovery process.
- **Food security:** Most households (67 percent) in South Kivu are severely food insecure and have borderline or poor food consumption levels. In addition to inadequate consumption, at least a fifth of households do not receive proper nutrition as they never consume nutrient-rich foods (such as foods rich in protein, haem iron and vitamin A). When analysing food security for women, the study finds that only a third of women in South Kivu (31 percent) met the minimum dietary diversity (that is, consume at least 5 of the 10 different reference food groups on the day before the interview).

12. **Based on this diagnostic, households in South Kivu (Mwenga and Walungu) face increased vulnerability and low levels of socioeconomic resilience.** A large proportion of the households studied had high levels of food insecurity, low levels of food consumption and diets lacking nutritional diversity. Most households were also exposed to multiple shocks in the last year (an average of six shocks in the year). The very precarious situation in which the surveyed population lives is underscored by the coping strategies they revert to when experiencing shocks: borrowing money, consuming saved stocks and selling productive assets. Seventy percent of the households resorted to either crisis or emergency coping mechanisms (the most severe ones), suggesting a much longer recovery process.

# 1 Introduction

13. The Democratic Republic of the Congo (DRC) is one of the most fertile countries in the world, with tremendous endowments of natural resources and approximately 80 million hectares of arable land. It is the largest country in sub-Saharan Africa, and has Africa's largest contiguous forest and the second largest rainforest in the world. Despite its abundant resources, DRC is one of the five poorest countries in the world, with 73.5 percent of its population living below the poverty line of USD 2.15 a day.[1] DRC ranks 164 out of 174 countries on the 2020 Human Capital Index, reflecting decades of conflicts that constrained development and resulted in stagnating high levels of food insecurity. In total, 26.4 million people in DRC experience high levels of acute food insecurity and 6.4 million are affected by acute malnutrition.[2]

14. Girls and women are among the groups most adversely affected by the ongoing conflicts that have exacerbated an already existing gender imbalance. Persistent sociocultural disparities in DRC restrict women's engagement in social and economic life and in public decision making, as evidenced by the low representation of women in politics, (12.8 percent of parliamentary seats) and in managerial positions (29.6 percent of senior and mid management).[3] [4] Gender gaps in earnings and in land ownership are evident, despite the relatively high labour force participation of women (63.1 percent in 2022) in comparison to the sub-Saharan region, especially in agriculture (64.8 percent of working women).[5] Gender-based violence is also a pervasive challenge throughout DRC, with 36 percent of women between the age of 15 and 49 having experienced intimate partner violence at least once.[6] Aligned with these gender discrepancies, DRC ranks 151 out of 179 countries on the 2021 Gender Inequality Index, a composite metric of gender inequality using reproductive health, empowerment and the labour market as main dimensions.[7]

15. In addition, 6.3 million people are internally displaced across DRC (the highest figure in Africa in absolute terms), 5.6 million of whom are in the three eastern provinces of Ituri, North Kivu and South Kivu.[8] During the past five decades, eastern DRC has experienced varying levels of conflict and political instability. Consequently, large segments of the civilian population are displaced regularly and temporarily live with hosts in neighbouring communities until the local security situation improves. Additionally, political violence and instability in neighbouring states (especially Burundi, South Sudan, Rwanda and Uganda) produce refugee inflows into eastern DRC. Eastern DRC is therefore host to large numbers of both IDPs and refugees, which represents an important challenge in the region in many areas, including food security, gender equality, and social cohesion.

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[1] World Bank. 2023. Overview, The World Bank in DRC, World Bank, https://www.worldbank.org/en/country/drc/overview, (accessed 12 June 2025).

[2] Integrated Food Security Phase Classification (IPC). May 2023. Democratic Republic of the Congo: Acute Food Insecurity Situation Projection Update for January - June 2023. IPC, https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1156354/?iso3=COD.

[3] United Nations Development Programme. 2022. *Human Development Report - Uncertain Times, Unsettles Lives: Shaping Our Future in a Transforming World*. UNDP, New York.

[4] Inter-Parliamentary Union. no date. Women in Parliaments: World Classification, https://data.ipu.org/women-ranking?month=10&year=2023 (accessed 12 June 2025).

[5] International Labour Organization Modelled Estimates (ILOEST database). 2021. ILO Modelled Estimates and Projections Database (ILOEST).

[6] United Nations Inter-Agency Working Group on Violence Against Women Estimation and Data (VAW-IAWGED). 2021. Violence Against Women Prevalence Estimate for 2018. https://genderdata.worldbank.org/indicators/sg-vaw-1549-zs (accessed 12 June 2025).

[7] United Nations Development Programme. 2022. *Human Development Report - Uncertain Times, Unsettles Lives: Shaping Our Future in a Transforming World*. UNDP, New York.

[8] Office for the Coordination of Humanitarian Affairs, 'Aperçu Des Besoins Humanitaires République Démocratique Du Congo', 2023, https://www.unocha.org/democratic-republic-congo .

16. Given this context, with support from BMZ and the wider donor community, the WFP-FAO-UNICEF DRC Joint Resilience programme created an ambitious platform to support resilience building in DRC through a three-year commitment (2020-2023). The main objective of this programme was to strengthen the socioeconomic resilience of smallholder farmers and vulnerable populations in targeted communities of North and South Kivu. This project focused on building the resilience of food systems and livelihoods in the targeted communities, while also strengthening community structures to promote gender equity, social cohesion and peacebuilding. The programme targeted 180,000 persons directly and 410,000 persons indirectly in the two provinces. Directly targeted persons received agriculture and livelihoods interventions; community-based nutrition services; water, sanitation and hygiene (WASH) services; and social cohesion and peacebuilding activities. Others not directly targeted by the programme – including children and lactating women – benefited from activities rolled out at community level and/or health zone level, such as community-based nutrition activities, rehabilitated community assets and village peace committees.

17. This report contributes to a better understanding of *Outcome 4* of the FAO-UNICEF-WFP DRC Joint Resilience programme, "*Enhanced community structures and organizations to promote gender equity, peace and social cohesion*".[9] Initially, an impact evaluation was planned to assess impacts on resilience capacities. However, due to contextual and methodological challenges that made an impact evaluation unfeasible, WFP and the Development Impact Group (DIME) of the World Bank, supported by BMZ, agreed to conduct a diagnostic study. Specifically, the programme faced increased unrest and access challenges in North Kivu, as well as a volcano eruption, and the remaining interventions were not easily subject to impact evaluation methods. Instead, this diagnostic was commissioned to support the programme to build and reinforce gender equality and social cohesion through capacity building and peacebuilding activities (programme Outcome 4).

18. This study, hence, presents a snapshot of current levels of gender equality and social cohesion, and provides some evidence of the relationship between these variables and the socioeconomic resilience of vulnerable households. In addition, the study pilots an innovative approach to measuring social connectedness to broaden understanding of social cohesion and resilience in eastern DRC. It also highlights lessons learned to better inform the design of future programmes with "triple nexus" humanitarian, development and peacebuilding objectives.

19. While the activities of the DRC Joint Resilience programme were targeted at selected villages in both North and South Kivu, data for this study have only been collected from South Kivu due to the deteriorating security situation in several of the targeted villages in North Kivu during 2023. In particular, the findings of this report are based on cross-sectional data collected between August and September 2023 from a comprehensive list of villages in the Mwenga and Walungu territories of South Kivu. Data for this survey were collected from 106 villages, where male and female household heads from 1,611 households – representative of households co-headed by a man and a woman adult – were interviewed. The households were selected using a random walk approach and the sample size per village was selected to be proportional to the village size.

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[9] The DRC Joint Resilience Programme tracked its achievement through four outcomes: (1) Vulnerable smallholder farmers increase their agricultural production and productivity through sustainable and nutrition sensitive approaches; (2) Strengthened livelihoods of vulnerable communities and households, particularly female-headed households through improved market access and income diversification; (3) Improved family health and well-being through increased access to basic social services for households and communities (quality nutrition, essential WASH); and (4) Enhanced community structures and organizations to promote gender equity, peace and social cohesion.

20. This report is organized as follows. Section 2, "Gender equality and women's empowerment", presents a diagnostic of gender gaps in socioeconomic opportunities, and identifies binding constraints to women's social and economic empowerment. Section 3, "Social cohesion", presents a diagnostic of social cohesion indicators focusing mainly on trust in individuals, closeness to the community, financial support, social participation, collective action and social networks. Section 4, "Household resilience", briefly describes the status of socioeconomic resilience, measured mainly through food security and coping mechanisms. Lastly, Section 5, "Discussion and conclusions", summarizes the key findings and discusses implications for future programming.

# 2 Gender equality and women's empowerment

21. This section provides a comprehensive diagnostic of gender gaps in socioeconomic opportunities and outcomes for the territories of Mwenga and Walungu in South Kivu, where the WFP-FAO-UNICEF DRC Joint Resilience Programme was implemented. Specifically, it presents gender disparities in terms of educational attainment, labour force participation, earnings, time use, agency (decision making), attitudes, perception of norms, and psychological well-being. The section identifies binding constraints to women's social and economic empowerment as well as potential entry points for closing these gaps.

## 2.1    Educational attainment

22. Educational attainment is low for both genders, but women and girls have significantly less access to education than men and boys, as well as lower completion rates.

23. Figure 1 presents the proportion of men and women by educational attainment, and indicates whether the differences in proportions are statistically significant. The data show that 40 percent of women have never attended school, compared to 20 percent of men, which indicates that women and girls are significantly less likely than men and boys (by 20 percentage points; or 50 percent) to access schooling in South Kivu. Even when both genders can access school, the gender gap in educational attainment persists, as men are significantly more likely to reach higher education levels than women. Interestingly, women are more likely to have attended some level of primary education, but they are less likely than men to have completed primary education. The gender gap in educational attainment is highest when both genders reach secondary level: women and girls are 14 percentage points less likely than men and boys to have attended some secondary school, and 9 percentage points less likely to have completed secondary school. This difference is statistically significant at the 1 percent level. The percentage of those attending or completing vocational or university education is less than one percent for both men and women, indicating an overall low likelihood of attaining education levels beyond secondary among both genders.

**Figure 1: Gender gaps in educational attainment**
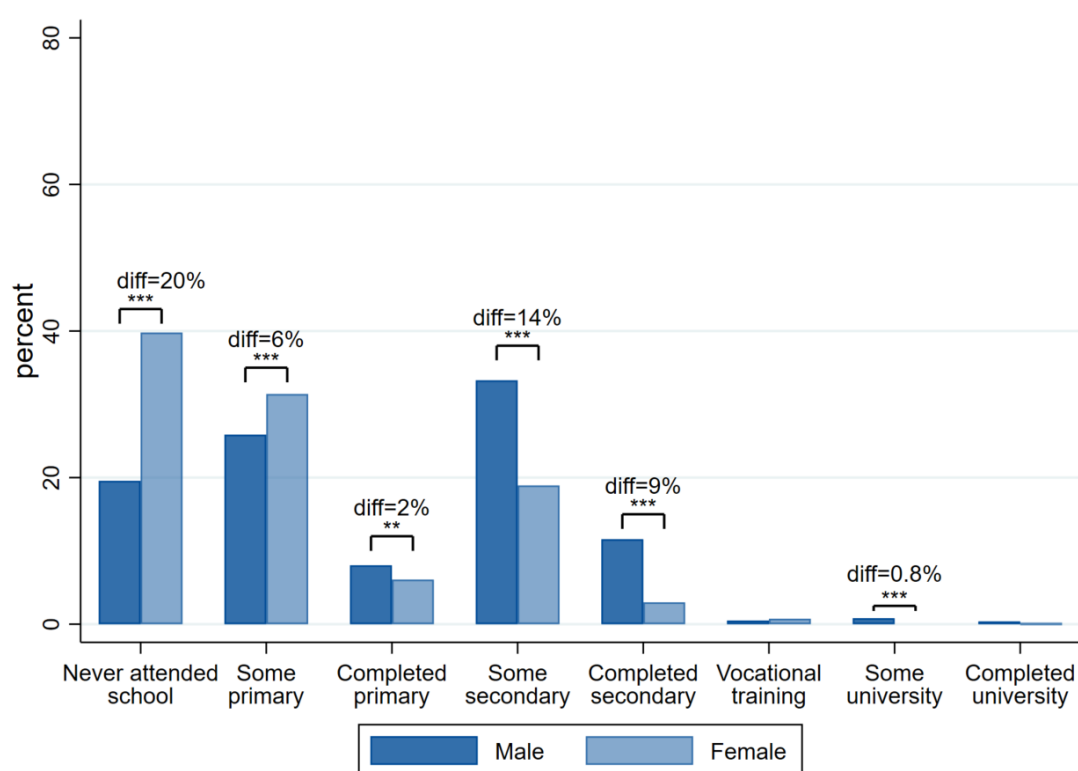


*Note*: Authors' own calculations. Gender differences in educational attainment (highest level of education attended or completed). *** represents a statistically significant difference at the 1 percent level, ** represents a statistically significant difference at the 5 percent level.

## 2.2    Labour force participation and earnings

*Labour Force Participation*

24.  Women are significantly more likely than men (30 percentage points) to participate in the labour market, particularly as self-employed at a household-owned farm or land.

25. Figure 2 presents the percentage of men and women that participate in the labour market in Mwenga and Walungu by type of employment. The data show that three-quarters (74 percent) of women are active in the labour market compared to just 44 percent of men, indicating a gender gap in labour force participation of 30 percentage points in favour of women (or 68 percent more women than men). Most women (about 2/3) work as self-employed at a household-owned farm or land, followed by one-quarter in wage employment, while less than 10 percent are self-employed in non-agricultural family business. Conversely, most men (about one-third) participate in wage employment, followed by about one-fifth (17 percent) working as self-employed at the household's farm and 6 percent as self-employed in non-agricultural family business. The gender gap in labour force participation is driven by self-employment at a household-owned farm or land: women are 45 percentage points (or 250 percent) more likely to work as self-employed at a household owned farm than men, a difference that is statistically significant at 1 percent and is not offset by the higher percentage of men in wage employment, which stands at 4 percentage points (or 16.6 percent) only.

**Figure 2: Gender gaps in labour force participation, by type of employment**
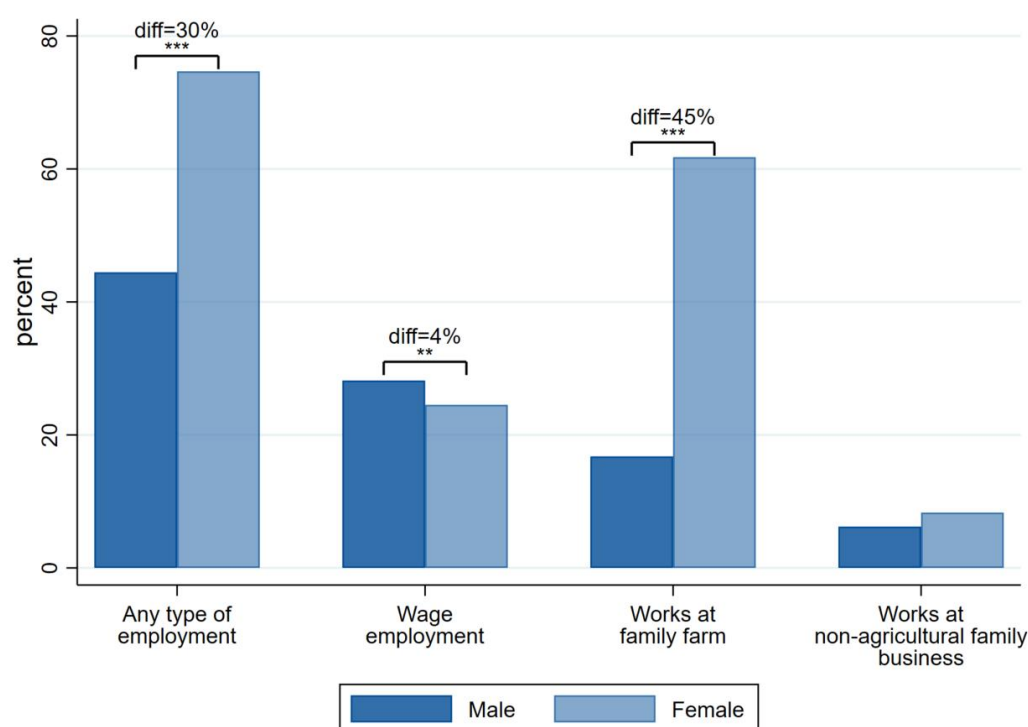


*Note*: Authors' own calculations. Labour force participation is defined as any type of income-generating activity that both women and men currently pursue including: (i) wage employment, (ii) agricultural self-employment, and (iii) non-agricultural self-employment. The sum of the percentage of all types of employment exceeds the percentage indicating labour force participation (Column 1) as some participants are active in more than one type of employment. *** represents a statistically significant difference at the 1 percent level, ** represents a statistically significant difference at the 5 percent level.

*Earnings*

26. On average, wage earnings of men are significantly higher than those of women.

27. Figure 3 presents gender gaps in wage earnings and business profits from non-agricultural activities. As mentioned above, men are more likely than women in South Kivu to be wage or salaried workers. In the same line, men's wage earnings are significantly higher than those of women. On average, wage-employed women earn a monthly income equivalent to 67,000 CDF (approximately 27 US dollars). That is 60 percent of the monthly income of a wage-employed man, which is equivalent to 110,000 CDF (approximately 44 US dollars), on average. The gender difference in monthly earnings is equivalent to 2 US dollars and is statistically significant at 1 percent. Similarly, non-agricultural businesses led by men have a monthly profit of 56,000 CDF (approximately 22 US dollars) while that of businesses owned by women is 34,000 CDF (approximately 14 US dollars). Despite the large difference in average profits from non-agricultural business, there is significant variation in reported profits and this difference is not statistically significant at conventional levels.

**Figure 3: Gender gaps in wage earnings and business profits**
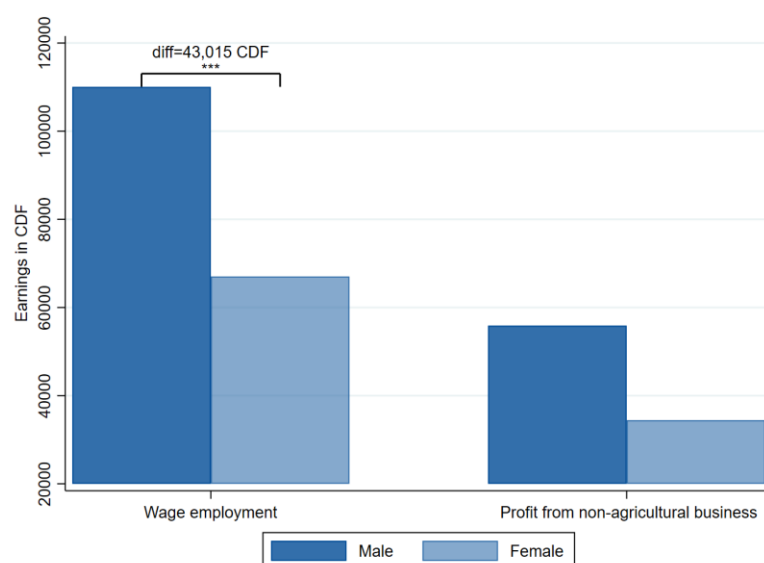


*Note*: Authors' own calculations. Employment earnings of each household member are measured for the previous 12 months by computing total earnings from *paid* main and secondary employment. Earnings from self-employment is collected via questions on income-generating activities from non-agriculture businesses. *** represents a statistically significant difference at the 1 percent level, ** represents a statistically significant difference at the 5 percent level.

## 2.3    Time Use

28. Women spend significantly more hours on household chores than men, while men spend significantly more hours outside of the home on non-agricultural work and on leisure.

29. Figure 4 presents the average time in hours spent by men and women on different types of activities such as agricultural work (encompasses both working on one's own farm and wage employment), non-agricultural work, household chores, personal time/leisure, time outside the home, and other activities. The data show that the average time spent outside the home is 8.52 hours for men compared to 6.28 hours for women – more than a two-hour difference which is significant at the 1 percent level. The time spent on non-agricultural work is low across genders (with a mean of 1.46 hours for men, and 0.63 for women), but men tend to spend significantly more time in non-agricultural work than women. This is consistent with the gender gap in wage earnings and profits from non-agricultural business observed in the previous section. In contrast, both women and men spend more time on agricultural work than non-agricultural work (3.95 hours for men and 3.81 for women), with both men and women spending almost the same number of hours in this activity. The gender gap in time use is highest for household chores: women spend on average 3.63 hours on household chores, while men spend only 0.05 hours, representing a gender gap of more than 3 hours which is significant at the 1 percent level. Conversely, women spend significantly less time on personal time and leisure than men (approximately 2 hours less). For instance, men spend on average 3 hours on leisure, while women spend only 1 hour on leisure.

**Figure 4: Gender gaps in time use**
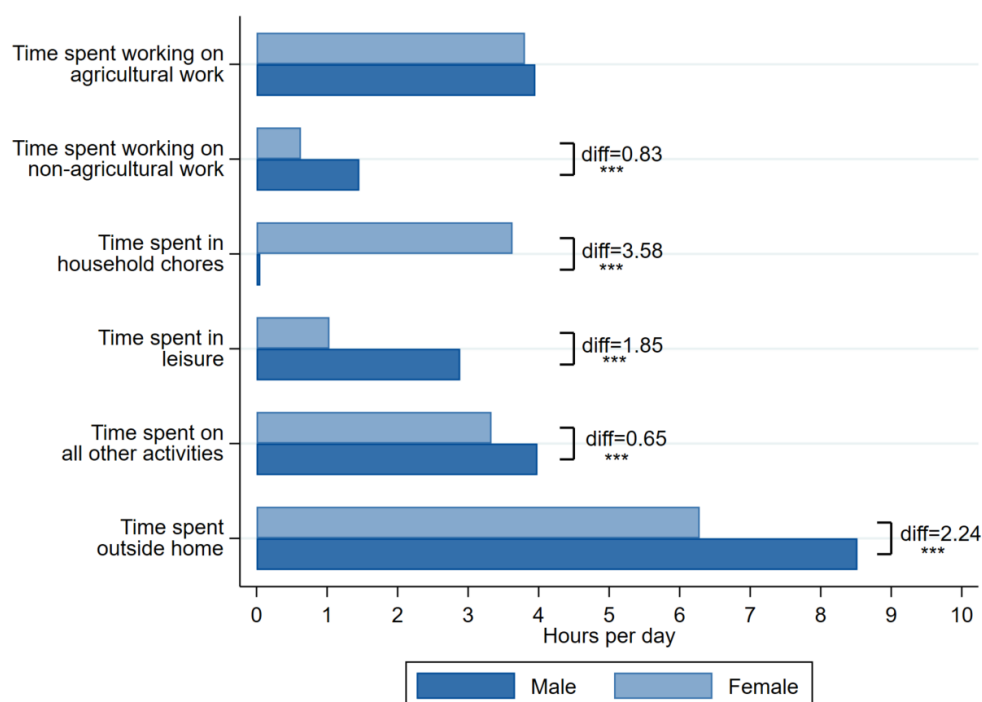


*Note*: Authors' own calculations. Time use is measured by asking respondents to recall activities they undertook during the last working day and specify the length and location of each. Activities are then aggregated by location (outside the home or inside the home) or by category (agricultural work, non-agricultural work, chores, personal time/leisure, and other activities). Agricultural work includes wage employment in agriculture as well as self-employment. Other activities include eating, personal hygiene, and transportation, among others. All values are in hours per day. *** represents a statistically significant difference at the 1 percent level, ** represents a statistically significant difference at the 5 percent level.

30. The greater number of hours spent on household chores by women is accompanied by reduced personal time or leisure after sunset in comparison to men. Figure 5 presents an overview of distribution of activities on a typical day for both women and men. During morning hours most women spent their time on agricultural work, which is then replaced with household chores and other activities (such as eating, personal hygiene) till the late hours of the afternoon and evening. On the other hand, men contribute significantly less time to household chores, which allows them to have more leisure and personal time following working hours in comparison to women.

**Figure 5: Female and male time use on a typical day: activity distribution**
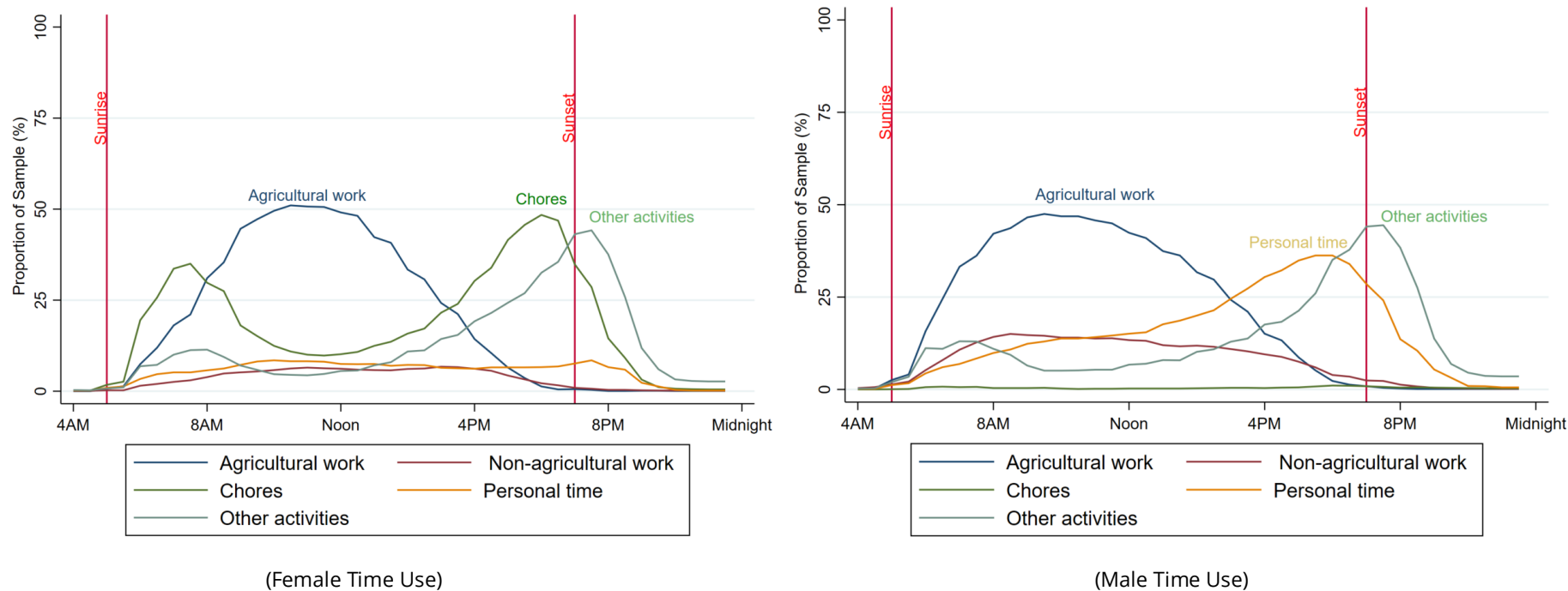


(Female Time Use)                                    (Male Time Use)

*Note*: Authors' own calculations. Time use is measured by asking respondents to recall activities they undertook during the last working day and specify the length and location of each. Activities are then aggregated by location (outside the home or inside the home) or by category (agricultural work, non-agricultural work, chores, personal time/leisure, and other activities). Other activities include eating, personal hygiene, and transportation, among others. The x-axis represents the time of the day, while the y-axis represents the proportion of the sample conducting a specific activity. This approach is based on the American Time Use Survey (*ATUS*, 2023).

## 2.4 Agency (decision making) over consumption

31. Women report joint decision making on matters related to consumption decisions (for example, major household purchases, purchases from male income, purchases from female income), but they tend to have less agency over decisions about their own health care. Intra-household "agency" refers to the ability of women to make decisions within the household. While the study observes significant differences in time use across genders (see the previous section), it is also important to ask if women have agency over consumption decisions in the household.

32. To measure agency over consumption decisions, the female respondent was asked, relative to the primary male decision maker in the household, how much her opinion would be considered over the following four consumption decisions: (i) major household purchases, (ii) purchases from the primary male decision maker's income, (iii) purchases from the female respondent's income, and (iv) female respondent's health care.[10] For each decision, the woman was asked who – in her view – actually makes the decision on these consumption activities in the household: the female household head, the male household head, or both. The responses were coded as +1 if the female household head decides, 0 if both and -1 if the male household head decides. To complete the index, a weighted average across responses is calculated that takes values between -1 and +1, where -1 suggests that the male head of the household has total agency, +1 suggests that the female head of the household has total agency, and 0 suggests that both have equal agency.

**Figure 6: Agency over intra-household consumption decisions**
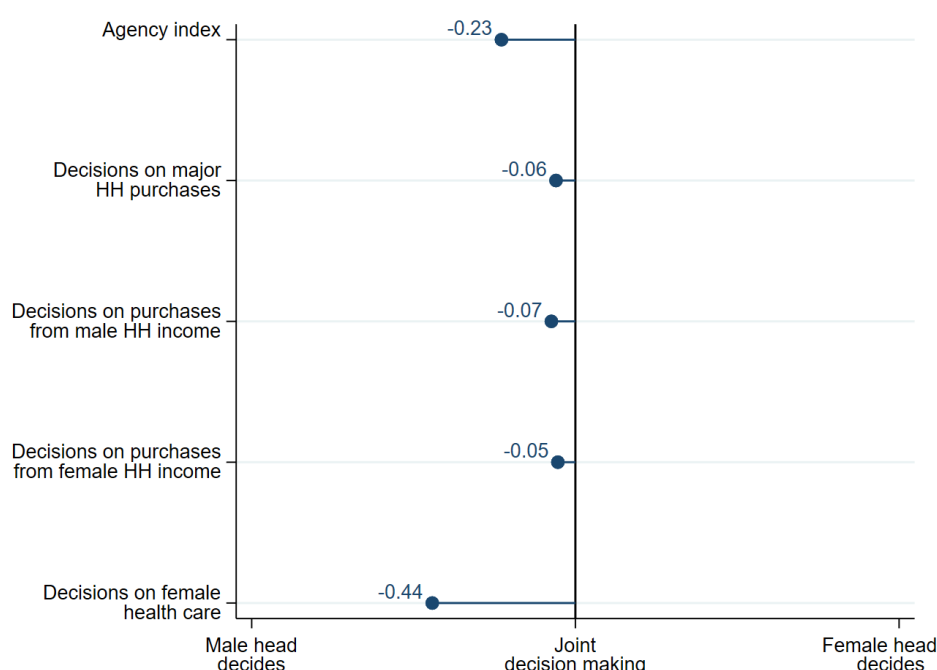


*Note*: Authors' own calculations. This figure displays results only for double-headed households. The agency over consumption index is based on questions about large household purchases, purchases made using each head of household's income, and the female head of household's health-care expenses. For each question, the woman was asked who actually makes decisions over consumption in the household: the male head of household, the female head of household, or both. Values are between -1 and 1, with 1

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[10] To construct the agency over consumption index, we follow the approach in the Demographic Health Survey (DHS).

meaning that the female household head decides, 0 if both and -1 if the male household head decides.

33. Figure 6 plots the results of the agency index over intra-household consumption decisions, as well as the breakdown of each one of its four components. The overall agency index in South Kivu is -0.23, suggesting that women tend to have less agency than men over consumption decisions in the household. Interestingly, this result is driven primarily by decisions over the female respondent's health care, indicating that men have more agency than women on matters concerning women's health. Even though the agency score for each of the three decisions related to household purchases (major purchases, purchases from male income, purchases from female income) is negative, the magnitude is very close to zero, suggesting joint decision making.

## 2.5 Attitudes towards agency over consumption

34. Both men and women believe that decisions on household consumption (for instance., major household purchases, purchases from male income, purchases from female income), should be taken jointly, while decisions on women's health care should be taken by men. Having considered who actually makes decisions about consumption, the study also examines who the male and female respondents think should be making these decisions. This is referred to as attitudes (personal beliefs) towards agency over consumption. Similar to the above, the index takes values between -1 to 1, where 1 means that the female household head should be the main decision maker over consumption, -1 means that the male household head should be the main decision maker, and 0 means that both should jointly decide. Hence, the more negative the attitudes index is, the stronger the negative attitudes towards women's agency over consumption and the lower their empowerment in the household.

**Figure 7: Attitudes towards agency over consumption**
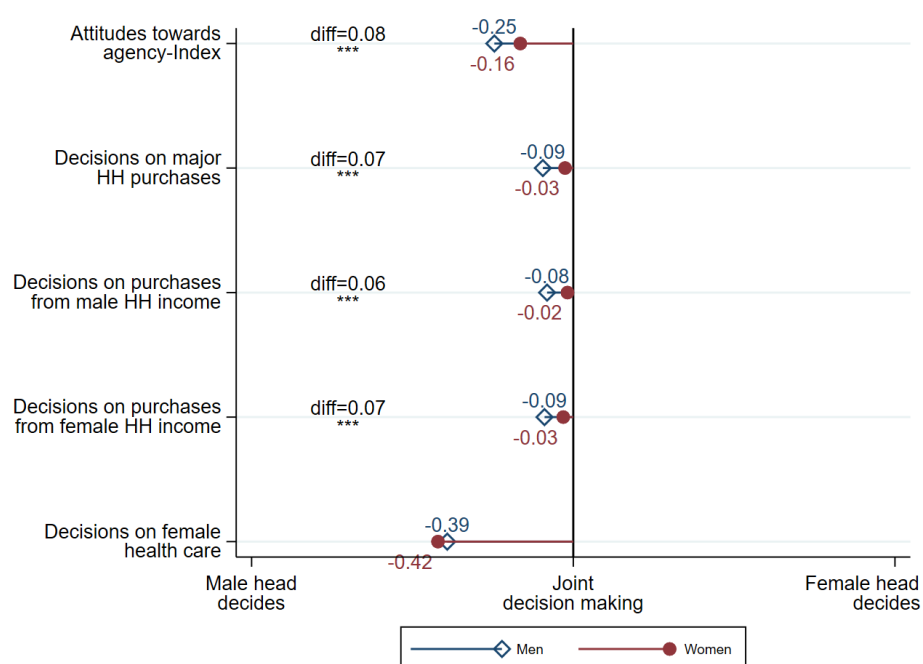


*Note*: Authors' own calculations. The attitudes towards agency index is based on questions about large household purchases, purchases made using each head of household's income, and the female head of household's health-care expenses. For each question, the respondent was asked who they thought should decide on each of these activities: the male head of household, the female head of household, or both. Values are between -1 and 1, with 1 meaning full agency and beneficial attitudes towards the female head of household and -1 meaning no agency and harmful attitudes towards the female head of household.

35. Figure 7 displays the overall index for both women's and men's attitudes towards agency over consumption, followed by the results for each of the index's components. The overall index for attitudes toward agency is negative for both women (-0.16) and men (-0.25) suggesting that both genders believe that men should be the main decision maker over consumption in the household. However, men's attitude index is significantly more negative than women's, indicating that they tend to have stronger negative or harmful attitudes towards women's agency. When examining each of the components of the attitudes index, the study finds that both women and men believe that decisions related to household purchases should be made jointly, despite the source of income. This is evident by the close to zero magnitude on the scale for both men and women for the three decisions related to household purchases. Surprisingly, however, both respondents believe that decisions related to women's health care should be taken by the male head of the household. The negative indexes for both genders are not significantly different but depict the most negative attitudes towards women's agency in comparison to the scores for other decisions. These findings are consistent with the ones on actual agency over consumption presented in the previous section.

## 2.6    Perception of norms towards agency over consumption

36. Perceptions of community norms play an important role in determining women's agency.[11, 12] How people perceive other's attitudes toward agency may feed into their own behaviour. We, therefore, asked both women and men respondents to report on: (i) who usually makes decisions over consumption *in their community* (descriptive norms), and (ii) who do they think *should* usually make decisions over consumption *in their community* (injunctive norms).

### *Descriptive norms: perceptions about common consumption behaviours in the community*

37. Both men and women believe that men in their *community* are the ones who usually make decisions about household consumption (including expenses on women's health care). To measure descriptive norms, both women and men were asked to report their perceptions about common consumption behaviours in their community. The responses are coded as +1 if the respondent perceives that women in their community usually make decisions over consumption, 0 if the respondent perceives that both women and men in their community usually decide together, and -1 if the respondent perceives that men in their community usually make decisions over consumption.

38. Figure 8 presents men's and women's perceptions of norms toward common consumption behaviour in the community where they reside. The overall perception towards agency index shows that both women and men think that men in their community are the ones who usually make decisions over household consumption. This result is driven by all the different components of the index, indicating that in general, both men and women believe that men in their community have more agency

[11] Lori Beaman et al. 2009. Powerful Women: Does Exposure Reduce Bias?* *The Quarterly Journal of Economics* 124, no. 4: 1497-1540..
[12] Leonardo Bursztyn, Alessandra L. González, and David Yanagizawa-Drott, 2018. '*Misperceived Social Norms: Female Labor Force Participation in Saudi Arabia*', Working Paper, Working Paper Series. National Bureau of Economic Research. Cambridge, United States.

over consumption decisions (including major household purchases, purchases from male income, purchases from female income, and women's health-care expenses) than women. It is interesting to note the difference in findings between what is usually reported in the household compared to perceptions of decision-making in the community. Both sexes tend to report joint decision making over consumption decision in their household, but when asked about agency in their community they report that the men are usually the ones who make the decisions about consumption.

**Figure 8: Perceptions about common consumption behaviours (descriptive norms)**



Note: Authors' own calculations. The perception towards agency index is based on questions about common consumption behaviours in the community (descriptive norms). For each question, both men and women were asked who usually decides about common consumption behaviours in their community: the male head of household, the female head of household, or both. Values are between -1 and 1, with 1 meaning perception of full agency and beneficial attitudes towards the female head of household and -1 meaning perception of no agency and harmful attitudes towards the female head.

*Injunctive norms: perceptions about appropriate consumption behaviours in the community*

39. **Both men and women believe that members of their community think that decisions about consumption should be taken jointly, except for women's health-care expenses where the belief is that community members think men should be the decision makers.** To measure injunctive norms, both men and women were asked to report their perceptions about what community members believe are appropriate or expected consumption behaviours in their community. As before, the responses are coded as +1 if the respondent perceives that community members think women should usually make decisions over consumption, 0 if the respondent perceives that community members think both women and men should decide together, and -1 if the respondent perceives that community members think men should usually make decisions over consumption.

40. Figure 9 presents men's and women's perceptions of community beliefs regarding appropriate consumption behaviour in the community where they reside. In this case, the data show that both women's and men's responses on perception towards injunctive norms are tilted towards men, suggesting that both sexes believe that members of their community think men should be the main decision makers about consumption. Interestingly, the perception index is more negative for women which means that they have a slightly more negative perception of community attitudes towards women's agency. However, when looking at the different components of the index, both men and women believed that their community members think decisions about consumption should be taken jointly, except for women's health-care expenses where the perception is that community members think men should be the decision maker. These findings are consistent with those on agency over consumption and attitudes towards agency, but they differ from perceptions of descriptive norms.

**Figure 9: Perceptions about community beliefs of appropriate consumption behaviours (injunctive norms)**



Note: Authors' own calculations. The perception towards agency index is based on questions about appropriate consumption behaviours in the community *(injunctive norms)*. For each question, both men and women were asked who in their community *should* decide about consumption behaviours: the male head of household, the female head of household, or both. Values are between -1 and 1, with 1 roughly meaning perception of full agency and beneficial attitudes towards the female head of household, and -1 meaning perception of no agency and harmful attitudes towards the female head.

41. The persistent finding on agency of men over women's health-care decisions may be explained by the male-dominated health-care personnel in the community, a fact that encourages women, in line with the common social practice in the context of DRC, to get the approval of the spouse or a male household member before accessing health care. Another factor is the overall low level of trust in institutions that may encourage women to consult other family members prior to visiting a health facility.

## 2.7   Psychological well-being

*Mental health*

42. There are high levels of reported symptoms consistent with depression across both genders (75 percent with at least mild depression), but women are significantly more likely to suffer from depression than men. An important aspect of agency and women's empowerment is also understanding women's psychological well-being and mental health status. To measure psychological well-being, the study uses a nine-question standardized screening tool[13] to assess the degree of potential depression severity. This tool is designed to capture how often respondents experienced a specific feeling (such as feelings of little worth) in the past seven days.

43. Figure 10 presents the proportion of men and women belonging to five categories of depression severity, as well as gender differences. The data show high frequency of reported depression for both genders, with 75 percent of men and 84 percent of women reporting at least mild depression. Women are more likely to suffer from more severe cases of depression (categories 3 to 5) than men. For instance, among women, 38 percent reported symptoms of moderate, moderately severe, or severe depression, compared to 31 percent of men (a difference of 7 percentage points or 22.5 percent). Reflecting the described proportions, on average, women's score on the scale is 2.34 while that of men is 2.11, indicating that most men and women report symptoms consistent with either mild or moderate depression. The difference of 0.25 between the two scores is statistically significant at 1 percent and suggests that women are more likely to suffer from depression than men. High levels of food insecurity and low ability to cope with shocks could be a contributing factor to this situation, especially for women.

*Life satisfaction*

44. Both men and women report high levels of dissatisfaction towards life (above 60 percent for both genders when combining the categories of "dissatisfied" and "extremely dissatisfied"), but women are significantly *more* likely to be dissatisfied with life than men. Life satisfaction is measured using Diener's Satisfaction with Life Scale.[14] This tool consists of five questions about satisfaction with different aspects of life. Both women and men were asked to indicate their answers on a Likert scale of seven categories. The responses were then grouped to form an index where one corresponds to being extremely satisfied and seven corresponds to being extremely dissatisfied.

45. Figure 11 presents the proportion of men and women belonging to each of the categories on the life-satisfaction scale, in addition to measuring gender gaps. The data show that the vast majority of both women and men in South Kivu are very dissatisfied with their life conditions (9 out of 10 reported being at least dissatisfied), which reflects the harsh conditions of this region in DRC. Even though the overall life satisfaction is very low for both genders (6.1 for women and 5.5 for men), women are significantly less likely to be satisfied with life than men. For instance, 93.5 percent of women reported being either "slightly dissatisfied", "dissatisfied" or "extremely dissatisfied" with life, compared to 88.5 percent of men (a difference of 5 percentage points or 5.6 percent).

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[13] Kurt Kroenke, Robert L. Spitzer, and Janet B. W. Williams. 2001. The PHQ-9. *Journal of General Internal Medicine* 16, no. 9: 606–13.

[14] Ed Diener et al. 1985. The Satisfaction With Life Scale. *Journal of Personality Assessment* 49, no. 1: 71-75.

**Figure 10: Gender gaps in psychological well-being (depression scale)**
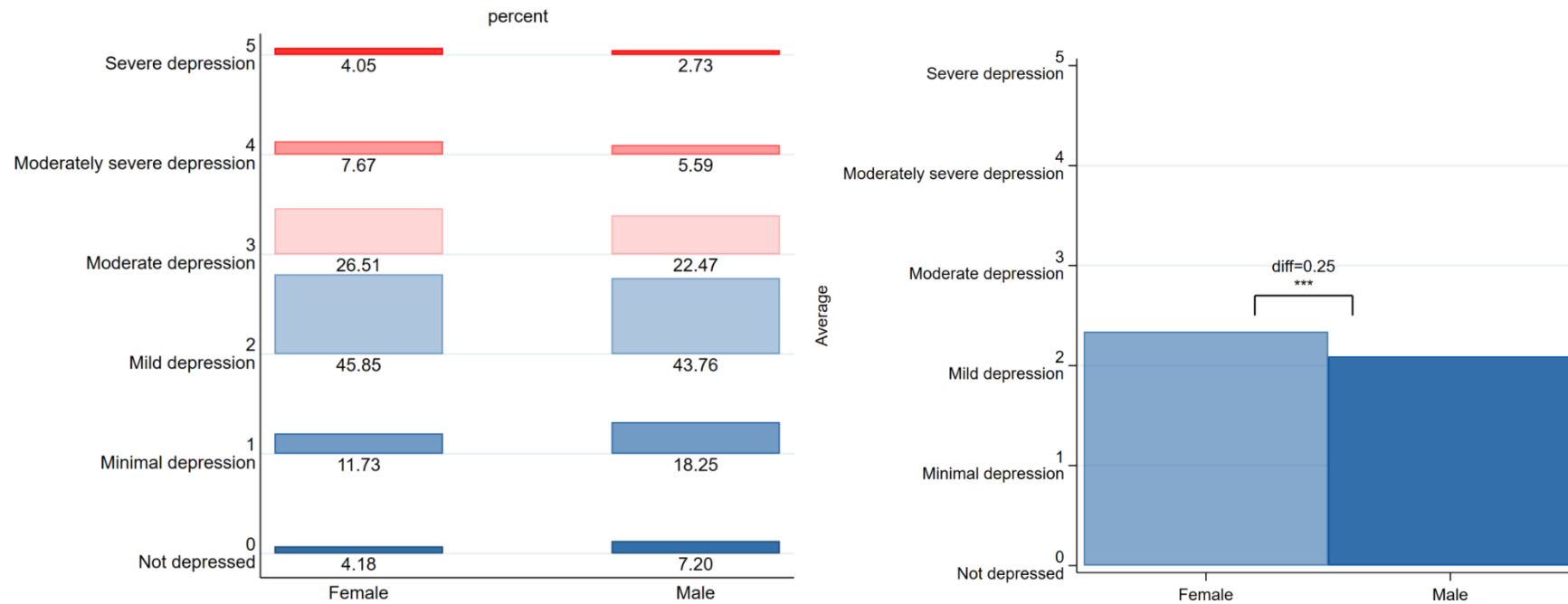


*Note*: Authors' own calculations. Depression score was calculated using the standard Patient Health Questionnaire (PHQ-9) and ranges from 0 to 5, where 0 corresponds to "not depressed", 1 to "minimal depression", 2 to "mild depression", 3 to "moderate depression", 4 to "moderate severe depression", and 5 to "severe depression". *** represents a statistically significant difference at the 1 percent level, ** represents a statistically significant difference at the 5 percent level.

**Figure 11: Gender gaps in life satisfaction**
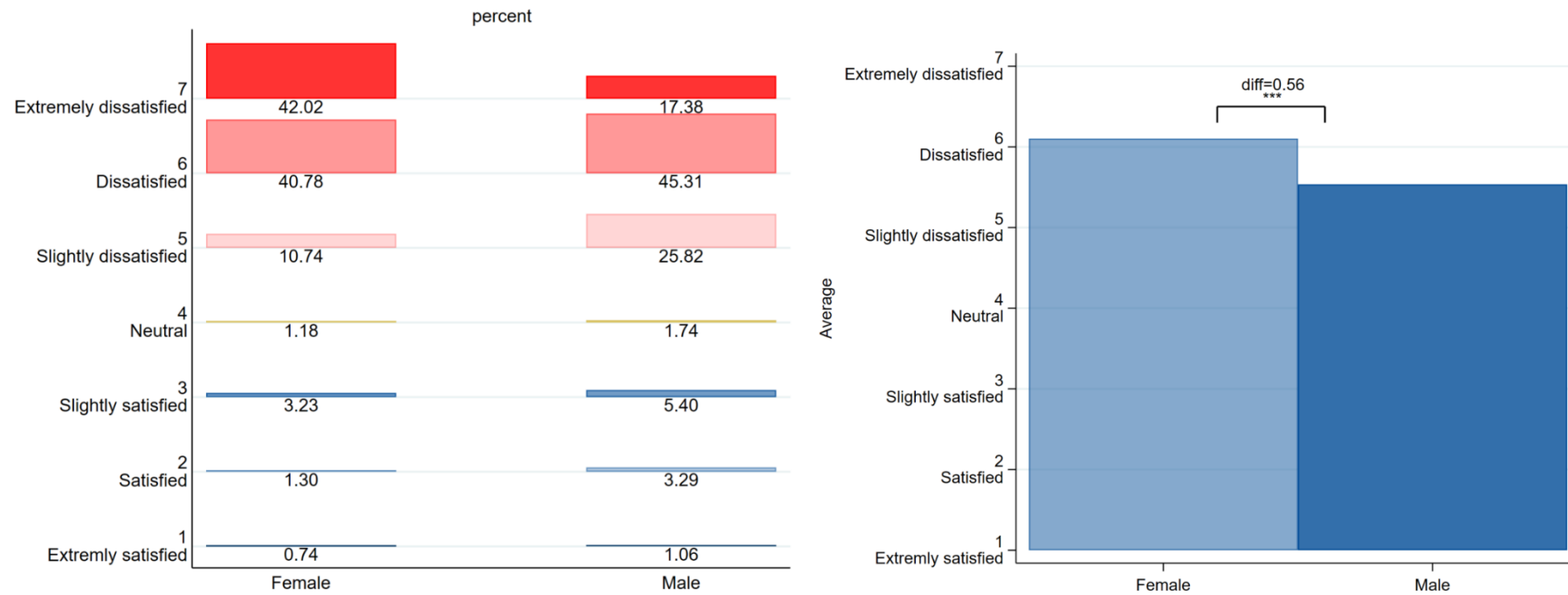


*Note*: Authors' own calculations. Life satisfaction score was calculated using Diener et al. (1985) and ranges from 1 to 7, where 1 corresponds to extremely satisfied, 2 to satisfied, 3 to slightly satisfied, 4 to neutral, 5 to slights dissatisfied, 6 to dissatisfied, and 7 to extremely dissatisfied. *** represents a statistically significant difference at the 1 percent level, ** represents a statistically significant difference at the 5 percent level.

# 3 Social cohesion

46. While common ideas underlay the concept of social cohesion, there is still no consensus in the literature on the specific components that constitute it nor on the measurement of the concept. The concept of social cohesion has been used to describe social relations, including cooperation and solidarity between groups and individuals in a society, and how these concepts are correlated with economic, social and political outcomes.[15] The Council of Europe is one of the most active promoters of the concept and its measurement and has broadly referred to social cohesion as "the capacity of a society to ensure the welfare of all its members, minimizing disparities and avoiding polarisations".[16]

47. The strength and "connectedness" of relationships within a community are of particular importance when studying social cohesion in contexts with high levels of displacement. Indeed, evidence shows that social networks are one of the most important factors to mitigate impacts of humanitarian disasters, from preparedness to recovery.[17] Poor quality or lack of diversity of connections within a community can signal a lack of integration or social cohesion, which could exacerbate tensions during times of conflict or extreme deprivation. Conversely, social connections within a community are often the first assistance mechanism in a crisis, providing vital support before humanitarian aid can arrive.[18] Affected populations mobilize their social connections for both material and non-material support.[19] In post-crisis settings such as eastern DRC, social connections are important for navigating resources and finding economic opportunities that facilitate long-term recovery.[20]

48. In line with BMZ's Learning Agenda for Social Cohesion in Transitional Development Assistance, this section provides a diagnostic assessment on the status of social cohesion for South Kivu using four indicators that together speak to the overall level of social cohesion in this area: (i) trust in individuals and institutions, (ii) financial support, (iii) collective action/social participation in the community, and (iv) social connectedness. The first three indicators were measured using data only from female respondents. For the social connectedness indicator, respondents were randomly selected such that *either* the male respondent or female respondent completed the interview. The social connectedness indicator provides an in-depth look at social dynamics through an innovative survey tool that collects detailed information on respondents' interactions, their diversity and available support, as well as relational measures of trust, tension, and connectedness.

## 3.1 Trust in individuals and institutions

49. While women in South Kivu report high levels of trust in their extended family, close neighbours, and the village chief, most of them report average to little trust in other village inhabitants and very little trust in the government and foreigners. On average women perceive that only 3 out of 10 of village inhabitants are trustworthy and honest. To measure trust in individuals, women respondents were asked to determine on a scale from 1 to 5 the level of trust they have towards each of the following categories: "extended family", "close neighbours", "village inhabitants", "village chief", "the government", and "foreigners". This indicator is reported on a Likert scale ranging from

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[15] Babken Babajanian. 2012. *Social Protection and Its Contribution to Social Cohesion and State-Building*. Eschborn, Germany: Deutsche Gesellschaft für Internationale Zusammenarbeit.

[16] European Committee for Social Cohesion. 2004. *A New Strategy for Social Cohesion.* Strasbourg, France.

[17] Spencer Moore et al. 2004. After Hurricane Floyd Passed: Investigating the Social Determinants of Disaster Preparedness and Recovery. *Family & Community Health* 27, no. 3: 204.

[18] Jeeyon Kim. 2020. The Currency of Connections: Why Do Social Connections Matter for Household Resilience in South Sudan? Policy Commons, Mercy Corps. https://policycommons.net/artifacts/1809883/the-currency-of-connections/2545316/ .

[19] Elizabeth Stites, Alex Humphrey, and Roxani Krystalli. 2021. Social Connections and Displacement from South Sudan to Uganda: Towards a Relational Understanding of Survival during Conflict. *Journal of Refugee Studies* 34, no. 3.

[20] Romina Cachia and Daniel Holgado Ramos, 2020. Network Analysis as a Tool for Humanitarian Protection: Research and Practic., *Journal of International Humanitarian Action* 5, no. 1: 5.

1 (no trust at all) to 5 (total trust). In addition, respondents were asked to determine out of 10 village inhabitants how many they believe to be trustworthy and honest.

50. Figure 12 presents the level of trust for each one of the categories mentioned above. The data show that women in South Kivu trust their extended family members the most (half reported more than average trust or total trust), followed by the village's chief and close neighbours (around one third of women, respectively). In contrast, women report average to low levels of trust in village inhabitants (31 percent and 42 percent, respectively), and respondents consider that on average only 3 out of 10 people in their community can be considered trustworthy and honest (

52. Figure **13**). The lowest levels of trust are directed at the government (with nearly 70 percent reporting no trust at all or little trust) and foreigners (71 percent).

**Figure 12: Level of trust in individuals and institutions**
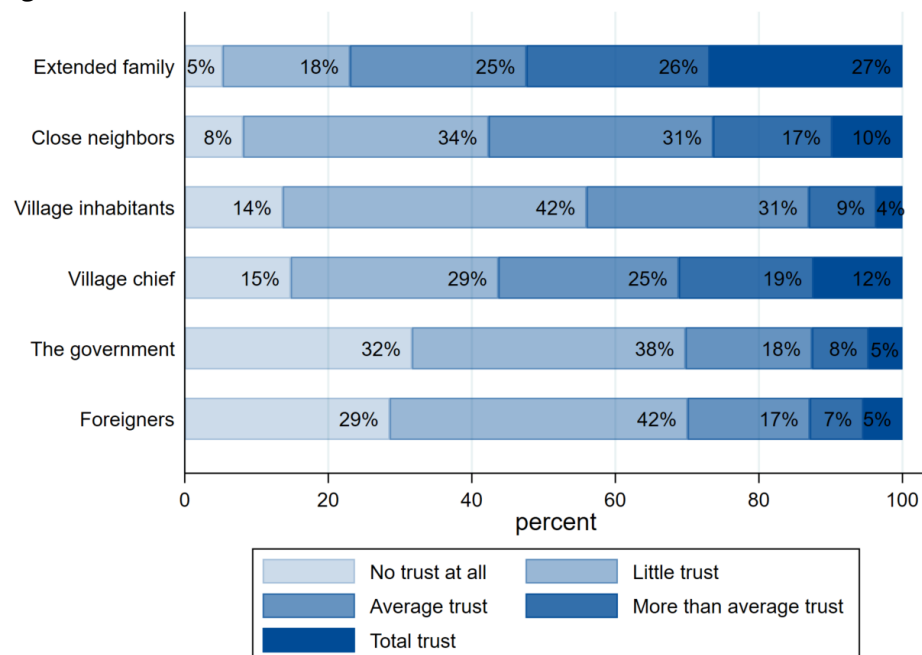


*Note*: Authors' own calculations. Trust in individuals and the community is measured on a Likert scale ranging from 1 (no trust at all) to 5 (total confidence) towards each of the following categories: "extended family", "close neighbours", "village inhabitants", "village chief", "the government", and "foreigners".

**Figure 13: Number of village members considered honest and trustworthy**
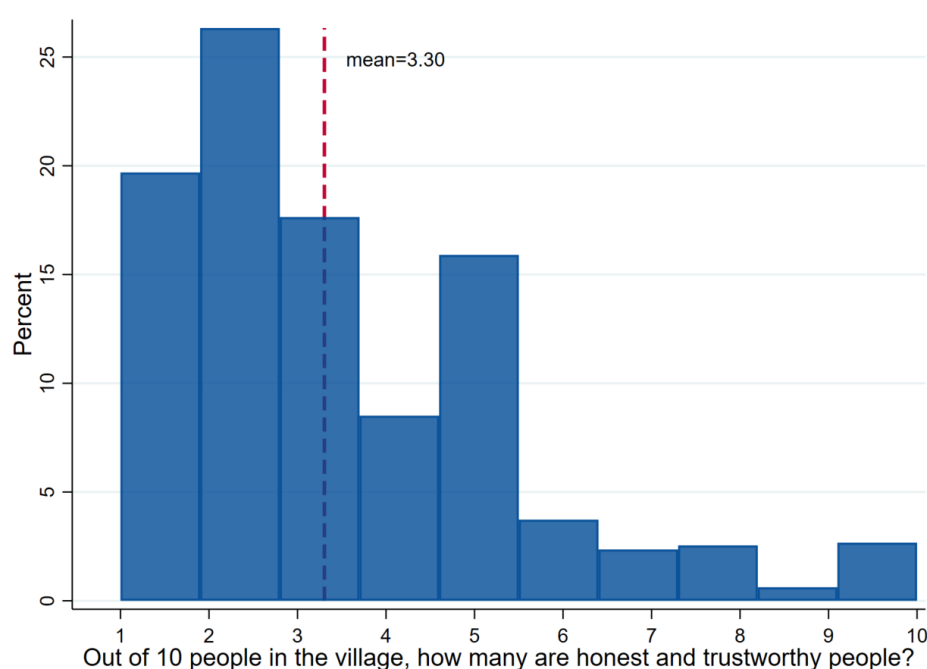


*Note*: Authors' own calculations. This figure shows the number of village members (out of 10 people in the village) that are considered honest and trustworthy by the respondent.

## 3.2   Financial support

53.   In case of financial difficulty, help from family and friends is very common. Around 75 percent of women report being able to ask family and friends for money, compared to less than half (44 percent) that report being able to ask other community members. Financial support can sometimes serve as a protective factor to help improve livelihoods and cope with shocks. To measure a household's access to financial support, women respondents were asked whether they can count on family members, friends, and other community members for help in case of financial difficulties.

54.   As shown in Figure 14, help from family and friends is very common, with 75 percent and 70 percent of households being able to ask family and friends for money, respectively. The study also finds that the number of family members and friends that a female household head could ask for money is around two, on average (Figure 15). The standard deviation is especially high for family financial support, meaning that many households can count on more than two family members for money in case of difficulty. In contrast, the data show that less than half of women (44 percent) report being able to ask other community members for financial support, which is consistent with a lower level of trust in other village inhabitants and low levels of closeness to community. They also report that, on average, they can ask only one village member for financial support. Overall, the average number of people (including family, friends, and other community members) a household head could ask for money is around five.

**Figure 14: Financial support**
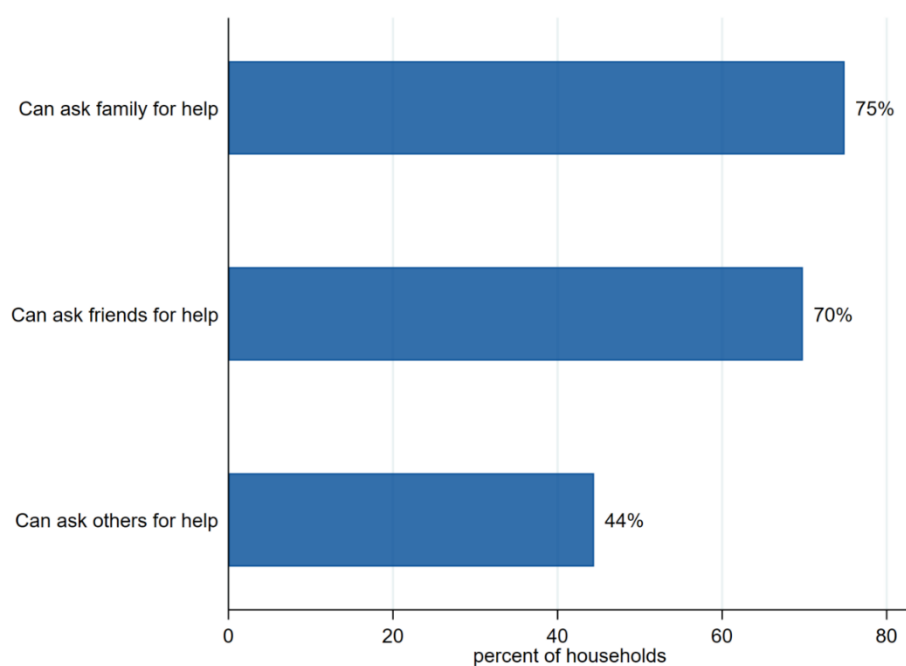


*Note*: Authors' own calculations. This figure shows the proportion of households that can ask for financial help either from family, friends, or other community members.

**Figure 15: Number of individuals to ask for financial support**
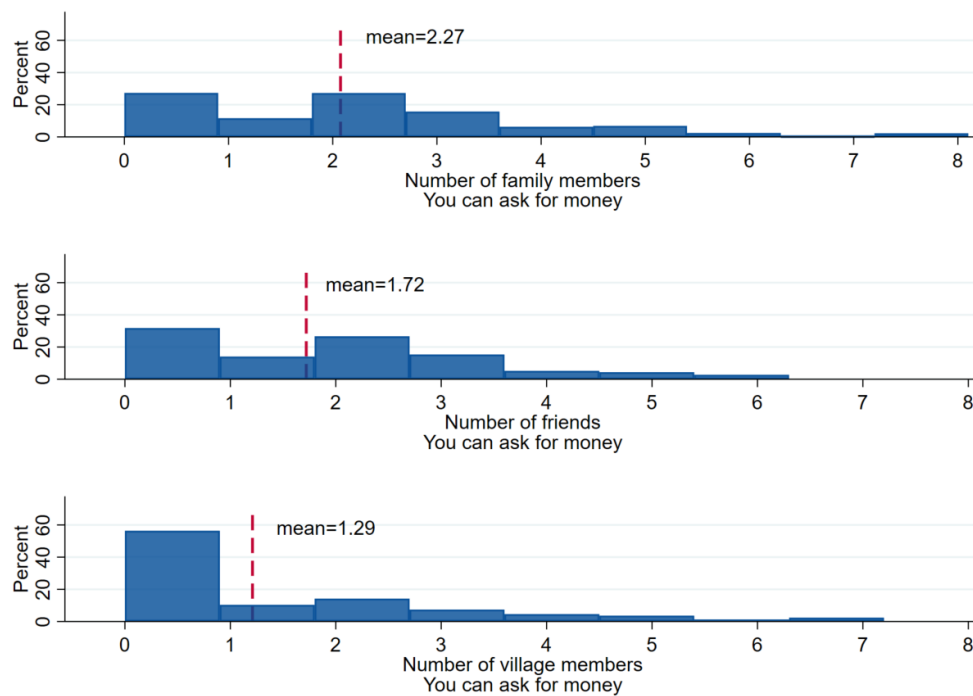


*Note*: Authors' own calculations. This figure shows the number of individuals (family, friends, or other community members) that the respondent is able to ask for money.

## 3.3    Collective action and social participation

55.  Most women (nearly two thirds) tend to be active participants in their community and work closely with community members to achieve common goals and to participate in volunteering activities. Figure 16 presents the level of engagement in the community and participation in collective action for women in South Kivu. The data show that 69 percent of women reported having been a member of at least one group or association in the past 12 months. Active participants in the community have participated in more than one group or association and half of them have held positions of responsibility. In addition, half of women have also sent donations to community projects. For instance, women donated approximately 6,700 CDF (approximately USD 2.71) for community projects in the last 12 months. Lastly, most women (around two thirds) reported having worked closely with community members to achieve common goals and having actively participated in volunteering activities in the past 12 months. They tend to spend five days on volunteering activities, on average.

**Figure 16: Collective action and social participation**
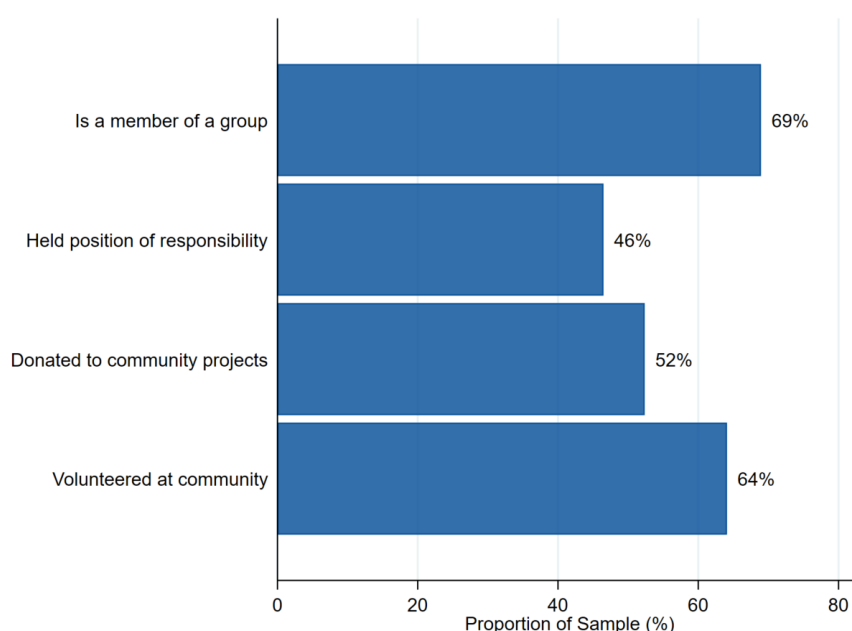


*Note*: Authors' own calculations. This figure shows the proportion of women that engage actively in their community through group participation, positions of responsibility, donations to the community and volunteering activities.

## 3.4    Closeness to the community

56.  Most women report relatively low levels of closeness to the community, characterized by low levels of trust and support from other village inhabitants. To measure closeness to community, women respondents were asked to report on a scale ranging from 1 (not at all) to 4 (totally) the level of closeness they felt toward the community in terms of three categories: (i) social support (measures whether respondent can count on the help of people in the village in case of difficulty), (ii) tensions (measures tensions between members of the community in the last 6 months), and (iii) social integration (measures whether the respondent feels close to their community). Respondents were also asked about their trust in individuals, capturing a respondent's perceptions of how many people in their village can be considered honest and trustworthy.

**Figure 17: Closeness to the community**
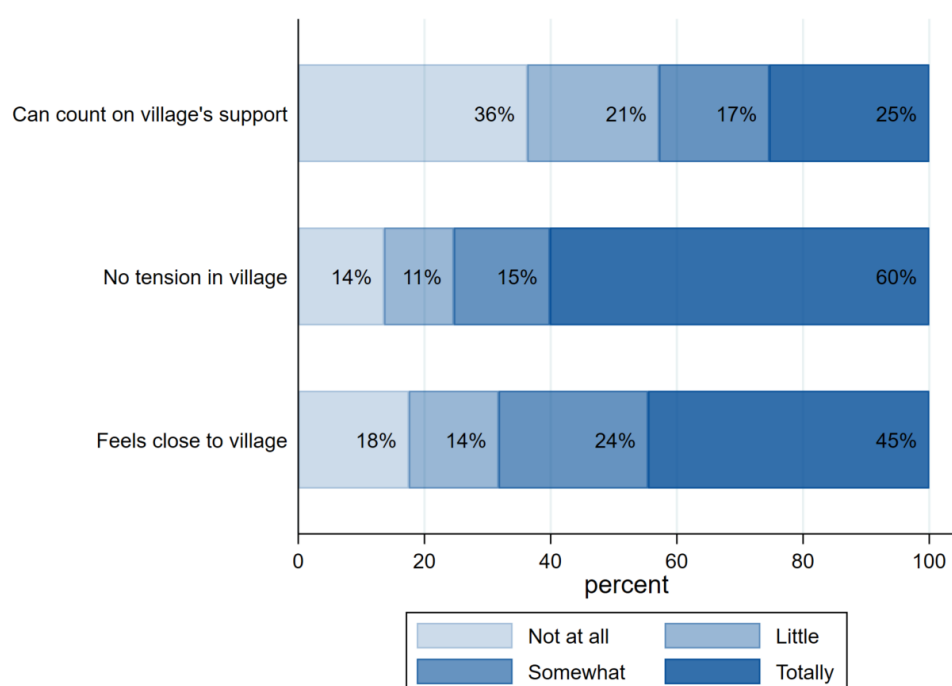


*Note*: Authors' own calculations. Closeness to the community is measured through the following indicators: (i) social support, (ii) tensions, and (iii) social integration, which are reported on a Likert scale ranging from 1 (not at all) to 4 (totally). The mean value displayed here represents the proportion of the sample that belongs in each category.

57. Figure 17 presents the level of closeness to the community for each one of the measures mentioned above. Consistent with the findings reported in the previous section on trust, more than half of the women respondents (57 percent) reported that they can count very little or not at all on the help of other village inhabitants in case of difficulty. Despite the security realities of the region, two thirds of women respondents reported no tensions in their community in the past six months. Lastly, more than half of women respondents reported low levels of closeness to the community or integration (when combining the categories of "not at all", "little" and "somewhat").

## 3.5    Social networks

*Composition and utility*

58.  Women are slightly more likely to have gender-diverse connections, while men's connections are more likely to be geographically diverse. Figure 18 shows the composition of the respondent's social networks by gender. Both women and men reported just over ten connections with whom they had significant interaction in the last two weeks, composed of an average of 6 friends and around 4.5 acquaintances (such as shopkeepers, coworkers, or neighbours). No statistically significant difference is found between women and men in the size of the network or closeness category (that is, friend or acquaintance) of those comprising the network.

59.  When examining the diversity of the network, however, women build and use their social networks in a marginally different way to men. Women have slightly more diverse connections along gender lines: 71.7 percent of women's connections are also women, whereas with men, 77.6 percent of their connections are men. This is a 5.9 percentage point difference, or 7.6 percent more gender diversity. Women also have connections which are more diverse along tribal lines, but this difference is not statistically significant. Overall, for both men and women, over three quarters of their social worlds are made up of people from their own tribe. Regarding geography (that is, current location of their connections), men have slightly greater diversity (2.5 percentage point or 3.2 percent): approximately 78.2 percent of their connections are located in their community, whereas 80.7 percent of women's connections are local.

**Figure 18: Composition of the social network by gender**
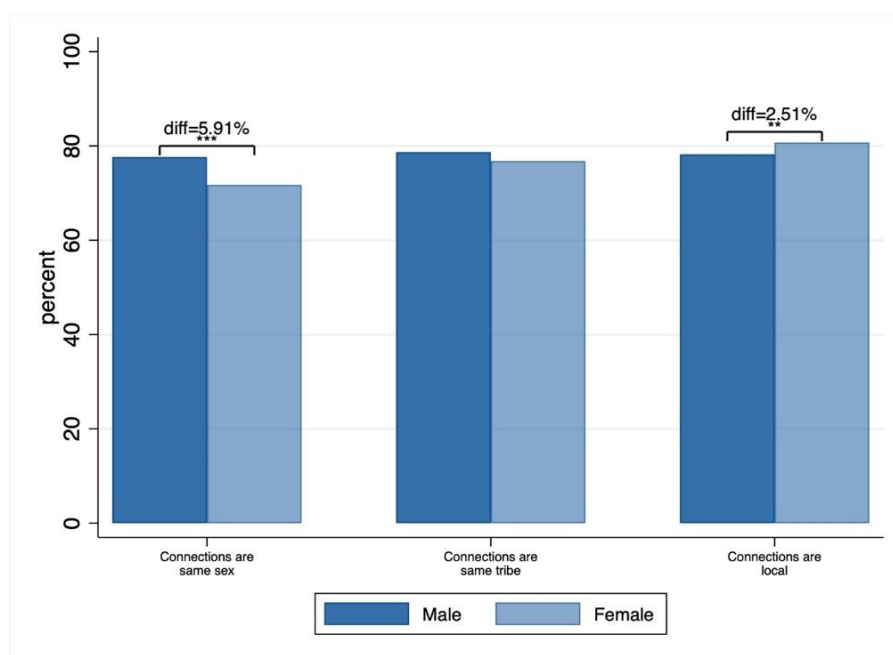


*Note*: Authors' own calculations. The composition of the social networks is measured using the following indicators: (i) connections are same sex, (ii) connections are same tribe, and (iii) connections are local. The figure shows the average proportion of respondents' networks which are comprised of each identity group or descriptor. All indicators are binary.

60.  In terms of utility of the social network, men are more likely to use their connections as potential sources for advice, while women are more likely to use their network for food support in times of need. Figure 19 shows the utility of the social network by gender. The data indicate that a greater proportion of men's networks than women's (3 percentage points or 15 percent) had connections which were reported as reliable for "advice on important matters", whereas a larger proportion of

women's networks are comprised of connections that can be relied on for food support (2 percentage points or 7.6 percent). This relates to two findings described above. First, lower levels of women's mental health compared to men may be in part explained by the lesser presence of connections that provide "non-material support".[21]. Second, that women's networks are more likely made up of those who can provide food support speaks to their gendered roles in the domestic domain.
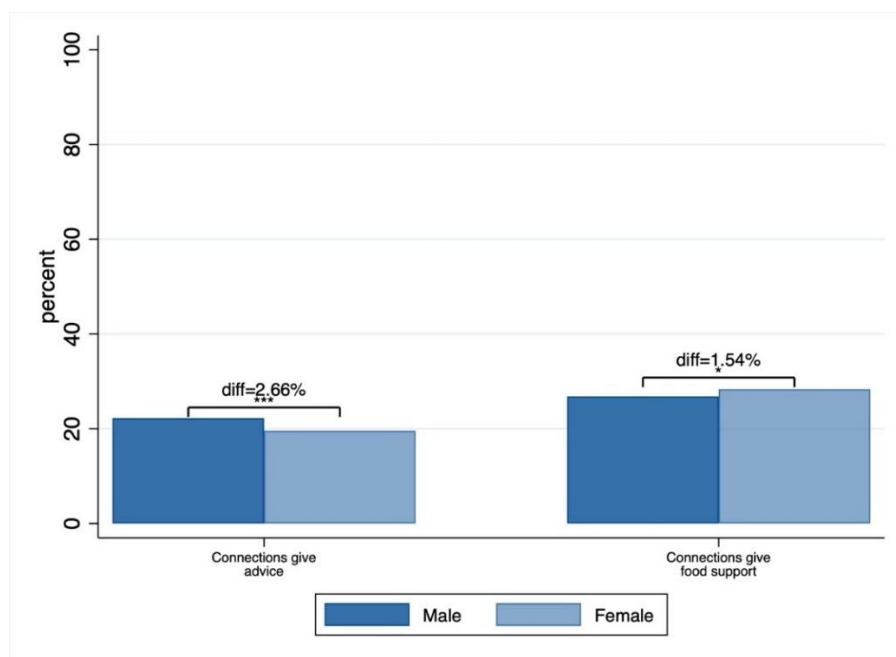
**Figure 19: Utility of the social networks by gender**



*Note*: Authors' own calculations. Utility of the social network is measured using the following indicators: (i) connections give advice, and (ii) connections give food support. The figure shows the average proportion of respondents' networks in each category. All indicators are binary.
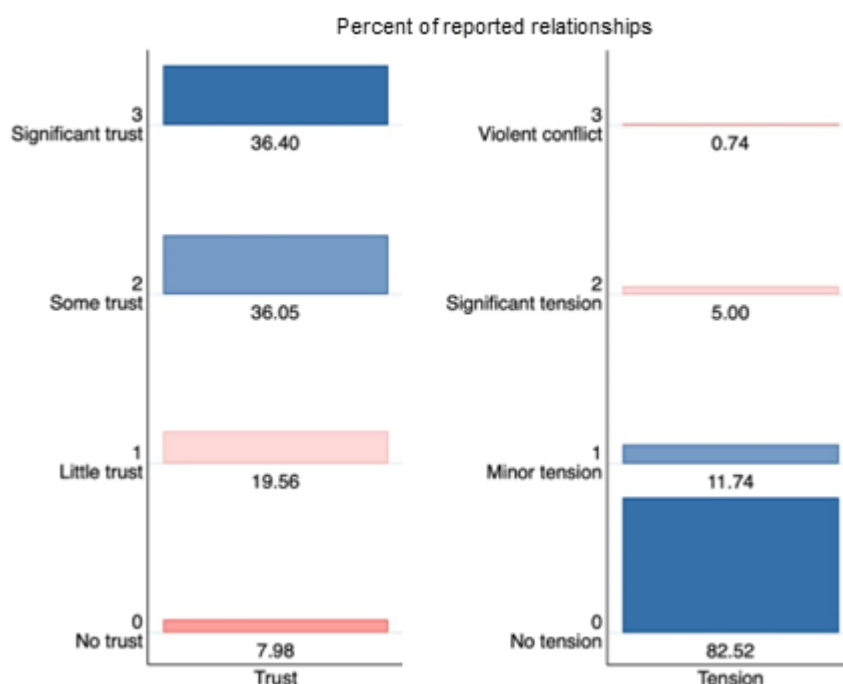
*Trust and tension*

61. Both women's and men's own personal networks showed low levels of tension and moderate to high levels of trust across relationships. Both trust and tension indicators are measured using the total relationships existing in the respondent's social world. These indicators measure the respondent's perception of *trust (tension) existing in other relationships in his or her immediate social network*.[22] Trust is measured using a Likert scale ranging from 0 (no trust) to 3 (significant trust). Tension is measured using a Likert scale ranging from 0 (no tension) to 3 (violent conflict). It is important to note that this measurement of trust differs from the one used in Section 3.1, where respondents are asked only about their own trust towards others. This allows for a fuller picture of trust (and tension) as dimensions of social cohesion.

62. Figure 20 displays the average levels of trust and tension in the social network for both men and women. Around three quarters of men and women in South Kivu reported high levels of trust in other relationships within their social network. Just over one third reported "significant trust" in their social network, another third reported "some trust", while the remaining third reported "little to no trust". These findings are in line with those in Section 3.1, where high levels of trust were reported toward extended family and close neighbours (those with whom the respondent is most

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[21] Stites, Humphrey, and Krystalli. Social Connections and Displacement from South Sudan to Uganda.
[22] This method functions as a test of construct validity, to assess whether the measurement outputs of the social network module do in fact relate to other indicators with which they should theoretically correlate. In other words, if the pilot social network tool is indeed a useful approach to measurement, its outputs of trust and tension should be congruent with those measured above.

likely to interact frequently). On average, networks showed low prevalence of tension, with the majority of the occurrences of tension identified as "minor". The vast majority of the respondents (82.5 percent) reported no tension in their social circles during the last month, with almost 12 percent having experienced minor tension, and only 5.74 percent having experienced any significant tension or violent conflict. This is in line with the findings in section 3.4 where the majority of women report feeling no tension in the village. No significant difference was found between men and women on the levels of trust or tension in their social networks.

**Figure 20: Trust and tension among relationships of the social network**



*Note*: Authors' own calculations. Both trust and tension measure the respondent's perception of the trust (tension) existing in the other relationships in his or her immediate social network. Trust is measured using a Likert scale ranging from 0 (no trust) to 3 (significant trust). Tension is measured using a Likert scale ranging from 0 (no tension) to 3 (violent conflict).

*Social connectedness*

63. Both men and women in South Kivu are very likely only to interact with members of their own tribe, suggesting a very clustered social network where inter-tribal relationships rarely exist. To measure social connectedness, the structural qualities of men's and women's social networks were examined using the following indicators: (i) density, (ii) components, and (iii) homophily.

(i) *Density* measures the number of relationships within the network out of the total possible. The density measure functions as a ratio ranging from 0 to 1, with zero indicating that none of the listed acquaintances know each other (they are only connected to the respondent, and no one else) and 1 indicating that each of the acquaintances listed by the respondent is also connected to every other person in the respondent's network.

(ii) *Components* measure the number of distinct clusters found in the network. Clusters are groups of acquaintances that know each other, but which are *not* connected to other clusters except through the respondent. The components measure is a simple count variable.

(iii)     *Homophily* measures the likelihood that diverse connections interact with each other. Homophily measures range from -1 to 1, with negative 1 indicating "complete" diversity (connections form with no regard to similarity) and positive 1 indicating complete segregation (connections form only between similar individuals). This study examines homophily along tribal identity. Thus, homophily measures the likelihood that individuals only interact with others of a similar tribe.

64. Figure 21 shows the social network qualities of men and women by density, components and homophily, respectively. The findings are presented using boxplots that compare the mean and range of data for each of the above social network measures across sexes. Each plot shows the cumulative distribution of the network quality – that is, for each value plotted, the graph stretches to the right depending on what fraction of the whole distribution that value occupies in the data. Values with only a few observations will thus appear more transparent and rise more steeply upward. The solid line indicates the median value, with the dotted line indicating the mean value.

65. The low density and multiple components suggest that the average respondent has several different groups of connections who do not necessarily interact with each other. The positive but small homophily measure means that respondents in the sample report that their connections tend to interact with others of the same tribe, though this segregation is not pronounced. No statistically significant differences were found between men and women on the diversity of their social networks. Overall, the average social network of women and men in South Kivu displays tightly connected clusters formed of other members in the community with similar traits. More specifically, the likelihood that people are interacting only with others of their same tribe is high, suggesting that inter-tribal relationships rarely occur.

**Figure 21: Social connectedness (density, components and homophily)**
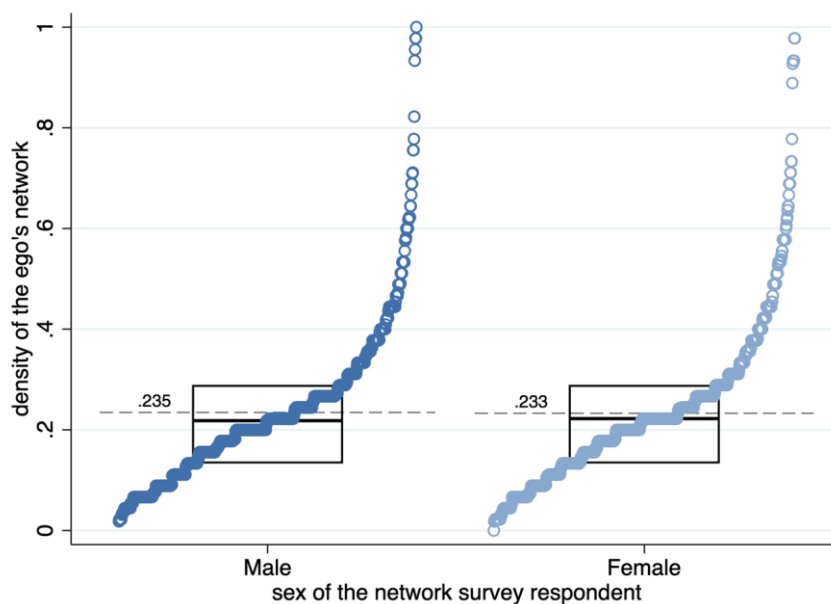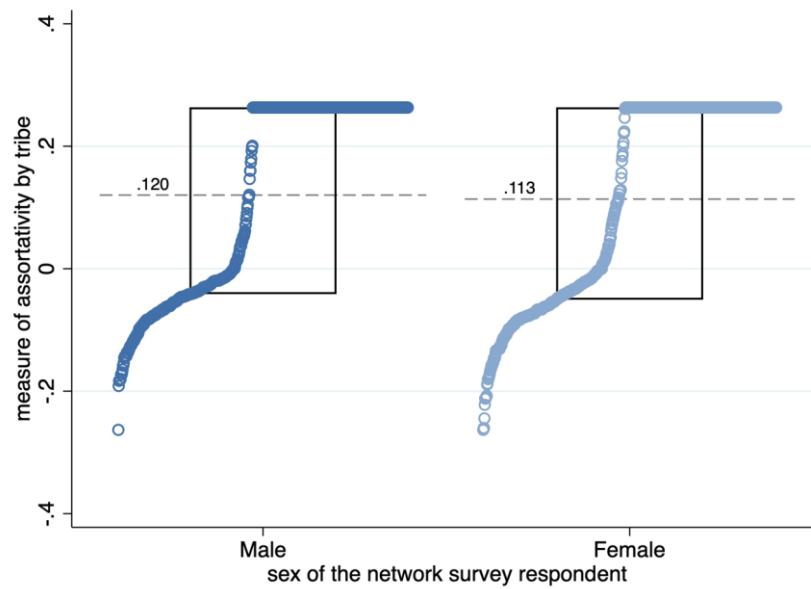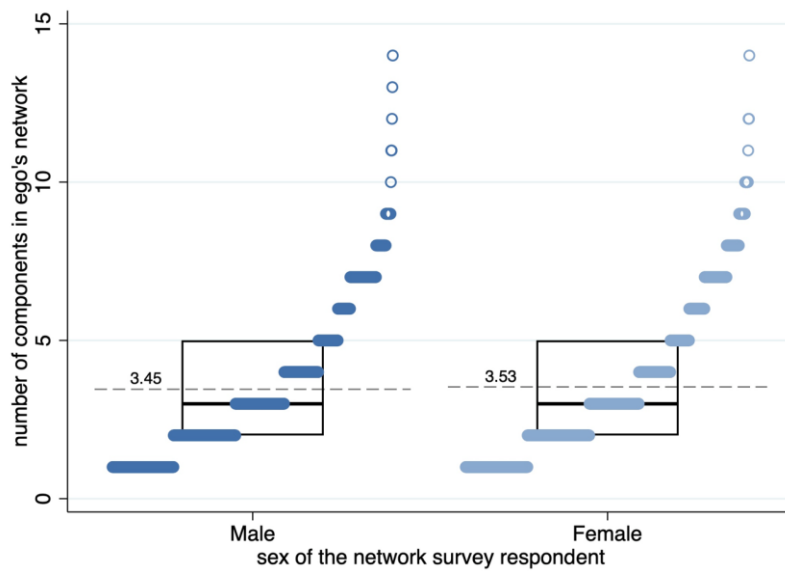
Note: Authors' own calculations. Density measures the number of relationships within the network out of the total possible. Components measures the number of distinct clusters found in the network. Homophily measures the likelihood that diverse connections interact with each other. The figures show the range spanning the second and third quartiles, with a solid line indicating the median and dotted line indicating the mean. The numbers presented in the figures represent the mean value.

# 4 Household resilience

66. This section describes the socioeconomic resilience of households located in the territories of Mwenga and Walungu in South Kivu, where the WFP-FAO-UNICEF DRC Joint Resilience Programme was implemented, with particular focus on shocks, coping strategies and food security.

## 4.1 Measuring socioeconomic resilience

67. Following WFP's definition, socioeconomic resilience is the capacity of households and communities to cope with adverse stressors and shocks and to ensure that these do not have long-lasting adverse consequences for development. This indicator is generally used to measure a household's perception of four kinds of resilience capacity: anticipatory (ability to minimize exposure to shocks and stresses by preventive measures); absorptive (ability to reduce, and cope with, the immediate impact of shocks on people's livelihoods and basic needs, during and after the shock); adaptive (ability to make proactive and informed choices about alternative livelihood strategies based on an understanding of changing conditions); and transformative (ability to reduce the impact of shock through empowerment, improved governance and an enabling environment, leading to positive changes in systems, structures and livelihoods).

68. The concept of socioeconomic resilience or household resilience has gained attention because it recognizes the importance of addressing shorter-term humanitarian needs while also supporting communities to face future crises induced by climate change, conflict and other factors. To measure the socioeconomic resilience of households in South Kivu, the study uses the following indicators or proxies for household resilience capacity: (i) exposure to shocks, (ii) coping strategies, and (ii) food security. The objective of this section is to better understand the ability of households to maintain a certain level of well-being in the face of risks and shocks since the implementation of the DRC Joint Resilience Programme.
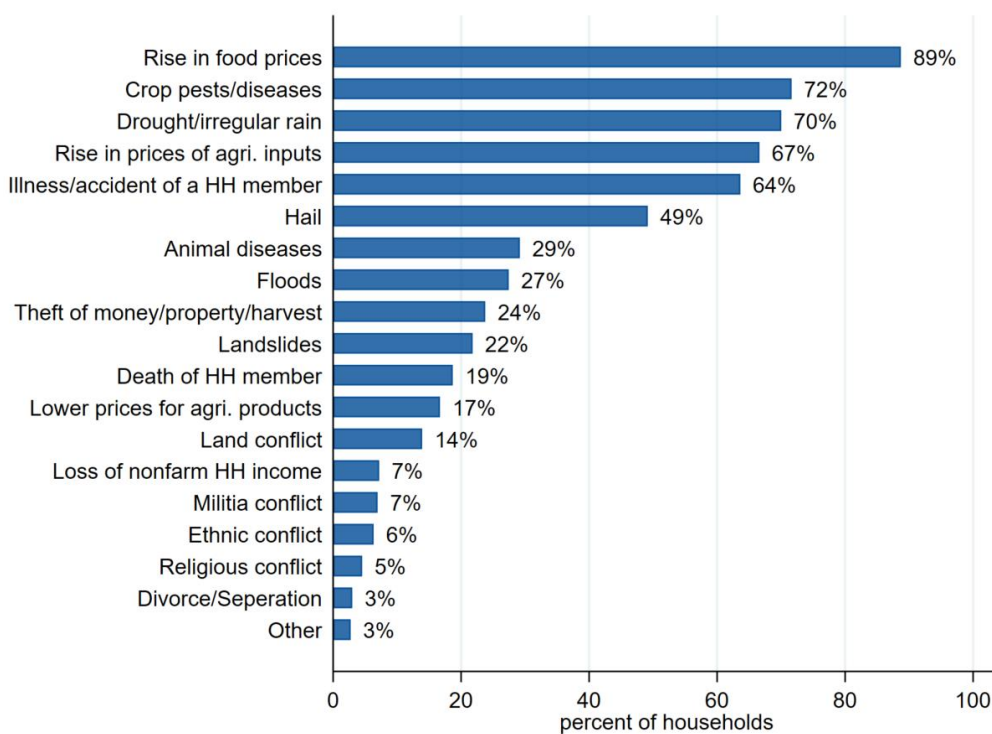
### Shocks

69. Households in South Kivu experienced on average six shocks throughout the year 2022-2023. Inflation, shocks related to farming and livestock activities, and extreme weather conditions (for instance, drought or irregular rain) were among the most prevalent, affecting more than three quarters of households. To explore how food insecurity is affected by shocks, respondents were asked whether their household had been negatively affected by a list of 19 predefined shocks in the previous 12 months.

70. Figure 22 shows the distribution of the sample against the number of unexpected external shocks experienced. On average, households in South Kivu reported experiencing six shocks throughout the year. The figure also suggests that less than 5 percent did not experience any shocks in the past 12 months, while close to 60 percent of the sample experienced between 5 and 10 shocks.

71. Figure 23 shows the percent of households that reported experiencing different challenges. Almost all households (96 percent) reported experiencing at least one shock in the past 12 months. The five most common shocks experienced by household members included inflation (experienced by 89 percent of households), crop pest/diseases (experienced by 72 percent of households), drought/irregular rain (experienced by 70 percent of households), rise in prices of agricultural inputs (experienced by 67 percent of households), and illness or injury of a household member (experienced by 64 percent of households). Given the context of eastern DRC, a surprisingly low percentage of households (less than 10 percent) mentioned experiencing any ethnic conflicts that might have negatively affected the well-being of the household.

**Figure 22: Frequency of shocks**
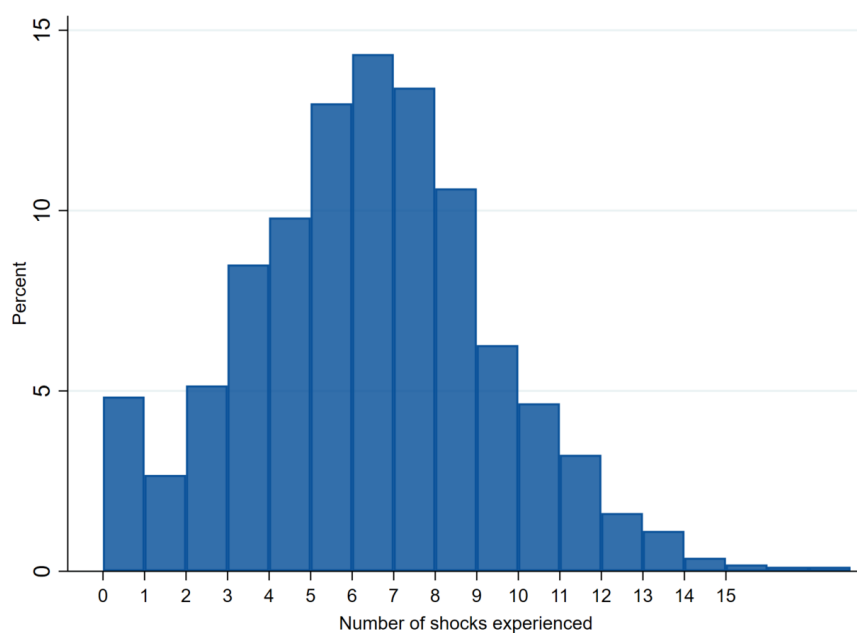


*Note*: Authors' own calculations. This figure shows the number of shocks a household has experienced in the last 12 months.

**Figure 23: Shocks experienced by households (last 12 months)**



*Note*: Authors' own calculations. This figure shows the proportion of households that have experienced shocks in the last 12 months by type of shock. HH stands for household.

72. In response to shocks experienced, almost all households (9 out of 10) reported using at least one livelihood coping strategy. When looking at the severity of the strategy, one quarter of households resorted to using emergency coping strategies (such as selling a house or land, begging, or migrating); close to half (43 percent) resorted to crisis coping strategies (for instance selling productive assets); and 20 percent reported using stress coping strategies (such as borrowing money, selling household assets). That is, almost 70 percent of the households resorted to either crisis or emergency coping mechanisms (the most severe strategies), suggesting a much longer recovery process.

73. To better understand household behaviour in response to unexpected shocks, the survey asked about different livelihood coping strategies used in the last 12 months. For example, households may resort to a wide range of costly or negative coping strategies when exposed to shocks. These coping strategies could make them further vulnerable to future shocks and stressors. The households were asked about 16 coping strategies with focus on: (1) reduced health/education spending; (2) used remittances and savings; (3) sold household assets; (4) consumed food stocks; (5) borrowed money; (6) purchased food on credit or borrowed food; (7) sold a house or land; (8) begged; (9) migrated; and (10) sold productive assets. Respondents were then presented with additional coping strategies such as: received help from government, NGOs, or friends and family; reduced food expenses; reduced non-food expenses; took on additional activities; and withdrew children from school.

74. All coping strategies were then categorized into three groups based on guidance from the WFP country office and Consolidated Approach for Reporting Indicators of Food Security (CARI) guidelines: stress strategies, crisis strategies, and emergency strategies. Reliance on stress strategies indicates a reduced ability to deal with future shocks due to a current reduction in resources or increase in debt, such as selling household items or borrowing money. Reliance on crisis coping strategies indicates harmful approaches that directly reduce future productivity, including human capital formation. Examples of crisis coping strategies include reducing health and education expenses and selling productive assets. Finally, the most harmful coping strategies are emergency strategies, as these affect future productivity but are more difficult to reverse or more dramatic in nature. Examples of emergency strategies include selling a house or land, or engaging in high-risk activities to earn money. For the analysis, the most prevalent ten coping strategies were selected from each group using a combination of four stress, three crisis and three emergency coping strategies.

75. Figure 24 shows the percentage of households that reported using each of these coping strategies in the last 12 months in South Kivu. The figure shows that the five most commonly used coping strategies used by households include purchasing food on credit (75 percent), borrowing money (62 percent), consuming seed stocks saved for the next season (47 percent), reducing health and education expenses (31 percent), and selling productive assets (20 percent). Purchasing food on credit, borrowing money (probably from relatives and friends) and selling saved food stocks and household assets could leave the household poorer and more vulnerable in the long term. Similarly, reducing health and education expenses and selling productive assets could lead to longer term implications for children's well-being and educational attainment, which could ultimately impact negatively on their future economic opportunities.

76. Households were then grouped according to the most extreme strategy that they employed. Households that did not use any coping strategies or only used strategies categorized as neutral or unharmful (for instance, receiving aid) were grouped together. Figure 25 shows the percentage of households within each group of coping strategies. The higher the share of people using crisis and emergency coping strategies, the more severe and long-term consequences and the longer the recovery process. In South Kivu, close to half of households (43 percent) resorted to crisis coping strategies, 25 percent resorted to emergency coping strategies (such as selling a house or land,

begging, or migrating); and 20 percent used stress coping strategies. Just 10 percent of households reported using no coping strategies at all.

**Figure 24: Livelihood coping strategies (last 12 months)**
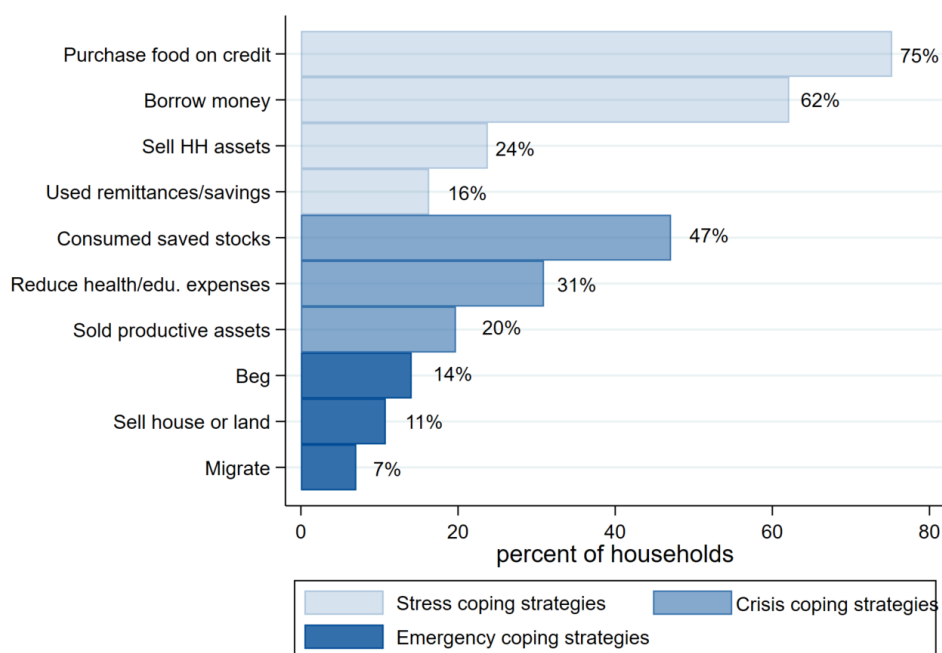


*Note*: Authors' own calculations. Respondents were provided with a list of 16 coping strategies to choose from. Coping strategies were grouped into stress, crisis and emergency categories based on guidance from the WFP country office and Consolidated Approach for Reporting Indicators of Food Security (CARI) guidelines. The most common coping strategies (four stress, three crisis and three emergency) were selected and presented in the figure.

**Figure 25: Group of livelihood coping strategies (last 12 months)**
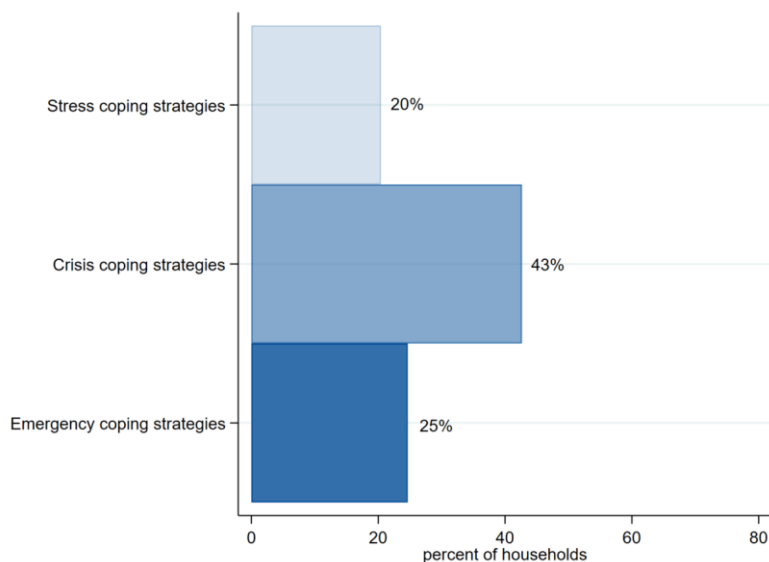


*Note*: Authors' own calculations. Coping strategies were grouped into stress, crisis and emergency categories based on guidance from the WFP country office and Consolidated Approach for Reporting Indicators of Food Security (CARI) guidelines.

77. Most households (67 percent) in South Kivu are severely food insecure and have borderline or poor food consumption levels. To measure socioeconomic resilience of vulnerable households, the study uses food security and nutrition as primary outcomes of interest due to their immediate and long-term impact on household welfare. To assess food security in South Kivu, the following indicators were used: (i) Food Consumption Score (FCS), (ii) Food Consumption Score-Nutrition (FCS-N), and (iii) Minimum Dietary Diversity for Women (MDD-W).

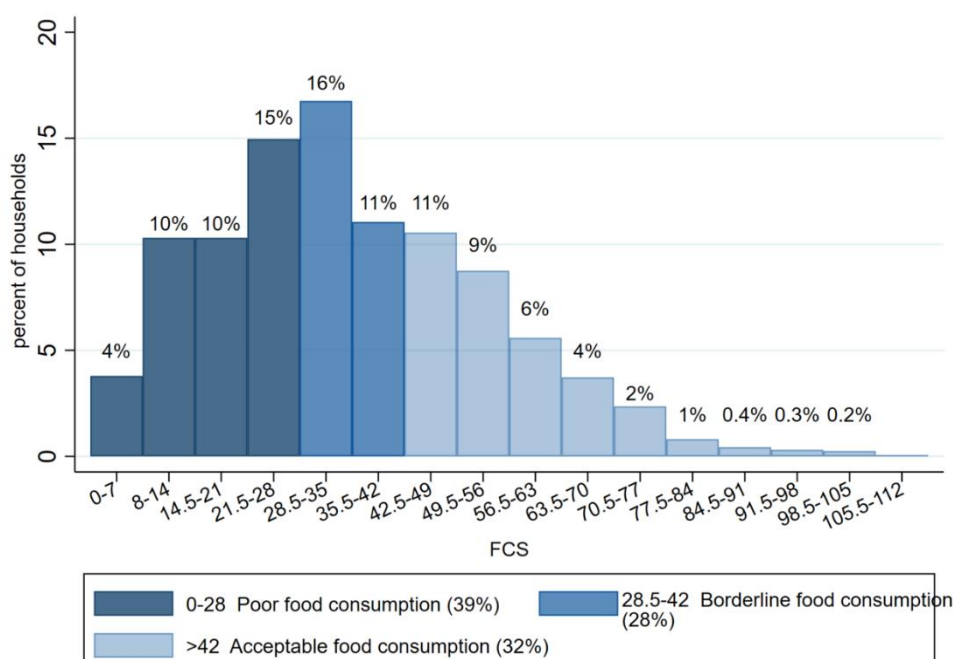78. The Food Consumption Score (FCS) is calculated from the frequency of consumption of different food groups (staples, pulses, vegetables, animal products, fruits, oil, sugar, and milk products) over a seven-day period. This indicator categorizes households into three food consumption groups based on a usual household diet: "poor" (score less than 28), "borderline" (score between 28.5 and 42) and "acceptable" (score above 42). The FCS provides essential information on people's current diets and is helpful in deciding the most appropriate type and scale of food security intervention, as well as the right target group for assistance. Figure 26 presents the distribution of the FCS across the sampled households and the share of households belonging to each one of the three food consumption groups. The data show that, at the time of the survey, only 33 percent of households in the sample had acceptable levels of food consumption, while the remaining 67 percent had borderline or poor food consumption levels.

**Figure 26: Food consumption score (FCS) (last 7 days)**



*Note*: Authors' own calculations. Food Consumption Score (FCS) is calculated using the frequency of consumption of different food groups during a seven-day period. FCS ranges from 0 to 112. A high FCS increases the probability that a household's intake is adequate.

79. In addition to inadequate consumption, at least one fifth of households do not have proper nutrition based on not reporting any consumption of nutrient-rich foods (such as protein, heme iron, and vitamin A-rich foods) in the past seven days. While the FCS serves as a good proxy for the food security status of households, FCS-N analyses the actual quality of the diet in terms of regular intake of protein and important micro-nutrients based on three nutrient-rich groups: protein, heme iron and vitamin A-rich foods. In addition to inadequate consumption among most of the households in the sample, Figure 27 provides potential evidence of suboptimal nutrition, with only one third (31 percent) of households having consumed vitamin-A rich foods daily. Additionally, 20

percent of households reported never consuming protein-rich foods, which are crucial for the prevention of wasting and stunting in children under 3 years of age. Finally, one third of households reported never consuming heme iron-rich foods; this can lead to iron deficiency, one of the main causes of anaemia.

**Figure 27: Food consumption score (FCS) – nutrition (last 7 days)**
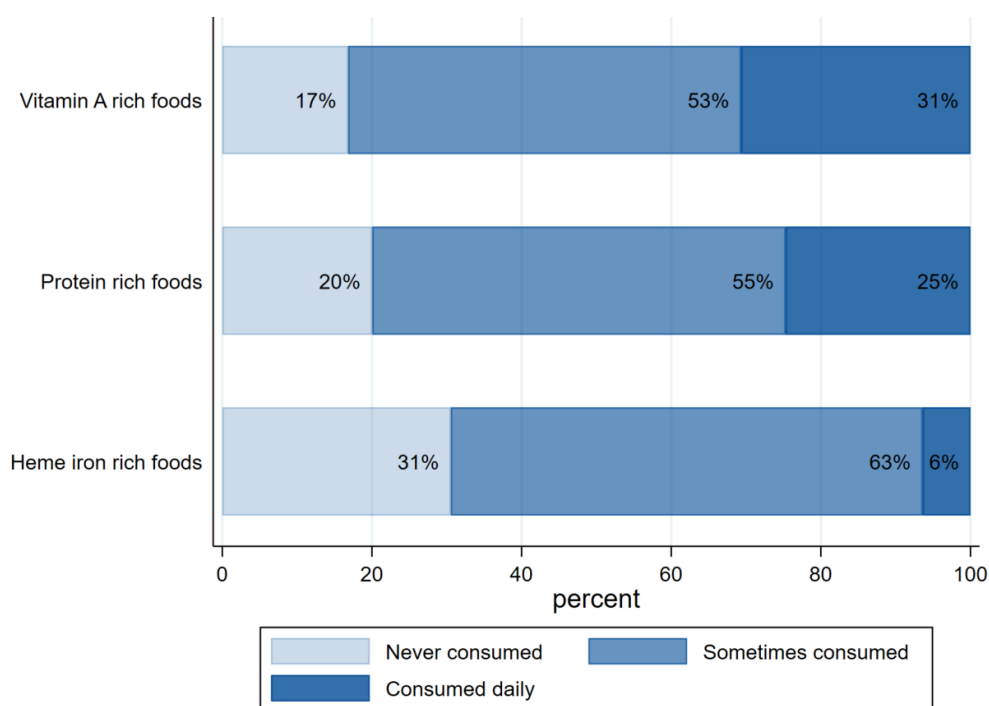


*Note*: Authors' own calculations. Food Consumption Score – Nutrition measures the quality of the diet in terms of regular intake of protein and important micro-nutrients based on three nutrient-rich groups: protein, heme iron- and vitamin A-rich foods. Protein rich foods: pulses, dairy, flesh meat, organ meat, fish and eggs; Heme iron-rich foods: flesh meat, organ meat and fish; Vitamin A-rich foods: dairy, organ meat, eggs, orange vegetables and orange fruits.

80. Only one third (31 percent) of women in South Kivu met the minimum dietary diversity (that is, consumption of at least five of ten different food groups). Lastly, the study collected information on the dietary practices of women. To measure Minimum Dietary Diversity for Women (MDD-W), women were asked about their consumption of food and drinks from ten different food groups on the previous day.[23] According to the minimum dietary diversity for women (MDD-W) index, women who have consumed at least five of the ten groups are classified as meeting the minimum required dietary diversity. As reported in

81. Figure 28, only one third (31 percent) of the women in the South Kivu met the minimum dietary diversity. Most women (three quarters) reported consuming grains, roots and plantains the day prior to the interview, while only a very low percentage reported consuming milk products (9 percent), eggs (12 percent) or nuts and seeds (21 percent). Note that 42 percent of women reported consuming unhealthy foods such as deep fried and foods high in sugar and fat. In most cases, this proportion is higher than the rate of consumption of essential foods.

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[23] The 10 food groups are: (1) cereals and tubers; (2) pulses; (3) nuts and seeds; (4) milk and milk products; (5) meat, poultry, fish, or organ meat; (6) eggs; (7) dark leafy green vegetables; (8) vitamin-A rich fruits (for example, mango, papaya); (9) other vegetables; and (10) other fruits.

**Figure 28: Minimum dietary diversity for women (MDD-W)**
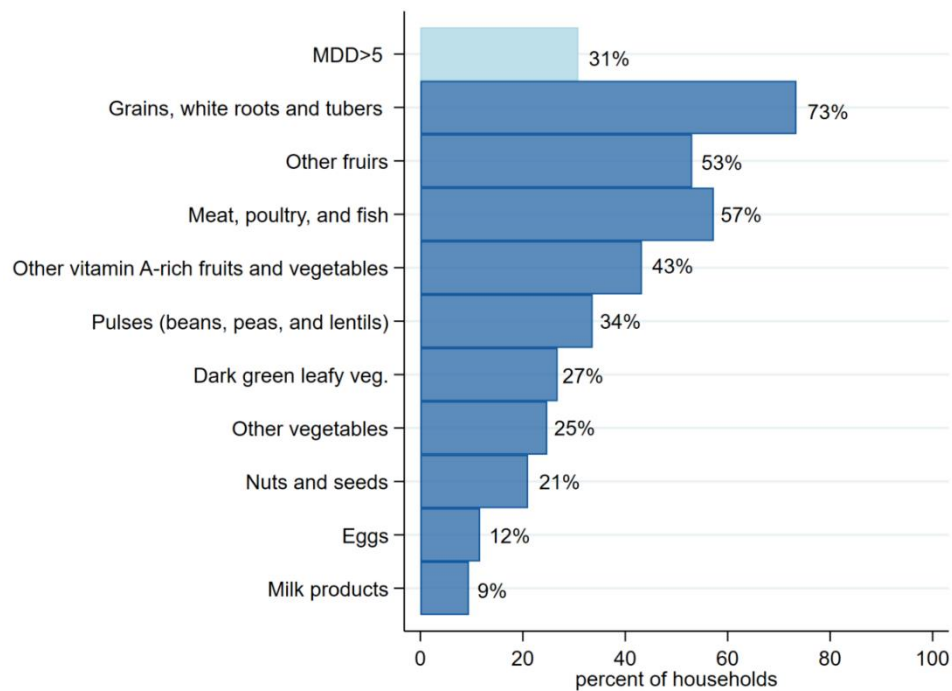


*Note*: Author's own calculations. Unhealthy foods include deep fried food, and drinks and food that are high in sugar (sweets, soft drinks, cake, and so forth). Categorical variables are displayed as "yes/no" variables where a respondent answering "yes" ascribes a value of 1, and "no" a value of 0. Thus, the mean value displayed here represents the proportion of the sample that belongs in a given category.

# 5 Conclusion  and programming implications

82. Based on this diagnostic analysis, households in South Kivu (Mwenga and Walungu) face high vulnerability and low levels of socioeconomic resilience. A large percentage of the households studied had high levels of food insecurity, low levels of food consumption and diets lacking nutritional diversity. Most households were also exposed to multiple shocks in the last year (an average of six shocks per year), which is very high. The very precarious situation in which the surveyed population lives is underscored by the coping strategies they revert to when experiencing shocks: borrowing money, consuming saved stocks, and selling productive assets. Almost 70 percent of households resorted to either crisis or emergency coping mechanisms (the most severe ones), suggesting a much longer recovery process.

83. Overall, women in South Kivu face significant barriers to economic opportunities and empowerment. Female illiteracy is one of the main causes of poverty and increased vulnerability, as it sets women toward a more disadvantaged path characterized by less access to assets, lower earnings, as well as lower voice and agency. Even though women in South Kivu tend to make decisions about consumption jointly with their partners, intra-household gender inequality is still substantial (for instance, men tend to be the main decision makers regarding women's health care). Women's lack of agency has a clear and established impact on their use of time, their fertility, and their participation in income-generating activities.

84. Even though women in South Kivu report having strong social support from the extended family and friends, social cohesion in the community remains very weak. Further, people in South Kivu tend to interact mostly with members of their own community, suggesting a very clustered social network where inter-tribal relationships very rarely occur. This means that social network segregation along tribal lines is still predominant, signalling that tribal divisions and tensions are a relevant issue for building social cohesion. For decades, eastern DRC has been plagued by armed conflict, land disputes and ethnic tensions, leading to large numbers of both internally displaced persons (IDPs) and refugees. The high level of violence has severely affected social cohesion in eastern DRC, as well as people's trust in the government. The government is virtually absent in the region and does not have the capacity to respond to the needs of the population. In order to stabilize the region and build social cohesion, it is important to create trust and an open and gender-inclusive dialogue between the local population and the authorities.

## Programming implications

85. In terms of gender, future programming in North and South Kivu should consider focusing on: (i) increasing women's educational attainment and skills through training in literacy and numeracy, entrepreneurship, and small business management; (ii) increasing women's access to capital and income-generating activities through savings and loan schemes and technical support to accumulate assets and diversify income sources; and (iii) increasing women's voice and agency through life skills training and behavioural change campaigns to challenge traditional practices, harmful social norms and religious beliefs that accentuate gender biases.

86. In terms of social cohesion, future programming/policy in North and South Kivu should consider focusing on: (i) promoting intergroup social cohesion through school-based peace education interventions (for instance, working with schoolchildren on sensitization for peace, while promoting acceptance of diversity and behavioural change to break the cycle of violence); (ii) intergroup dialogue interventions where participants are guided in conversations to find common ground and work through points of tension; and (iii) edutainment for peace interventions, which focus on triggering social and behavioural changes through the use of media (such as TV, radio, or social media) to promote counter-narratives to violence.

# References

Alderman, H., Gentilini, U. & Yemtsov, R. 2017. The 1.5 billion people question: Food, vouchers, or cash transfers? World Bank Publications.

Alesina, A., & Dollar, D. 2000. Who gives foreign aid to whom and why? *Journal of Economic Growth*, 5(1), 33–63. https://doi.org/10.1023/A:1009874203400

Alatas, Vivi, Abhijit Banerjee, Arun G. Chandrasekhar, Rema Hanna & Benjamin A. Olken. 2016. Network Structure and the Aggregation of Information: Theory and Evidence from Indonesia. *American Economic Review* 106 (7): 1663–1704. https://doi.org/10.1257/aer.20140705.

Babajanian, Babken. 2012. *Social Protection and Its Contribution to Social Cohesion and State-Building*. Eschborn, Germany: Deutsche Gesellschaft für Internationale Zusammenarbeit. https://cdn.odi.org/media/documents/7759.pdf.

Banerjee, Abhijit, Arun G Chandrasekhar, Esther Duflo & Matthew O Jackson. 2019. Using Gossips to Spread Information: Theory and Evidence from Two Randomized Controlled Trials. *Review of Economic Studies*, Volume 86, Issue 6, November. https://doi.org/10.1093/restud/rdz008.

Beaman, Lori, Raghabendra Chattopadhyay, Esther Duflo, Rohini Pande & Petia Topalova. 2009. Powerful Women: Does Exposure Reduce Bias?*. *The Quarterly Journal of Economics* 124 (4): 1497–1540. https://doi.org/10.1162/qjec.2009.124.4.1497.

Bursztyn, Leonardo, Alessandra L. González & David Yanagizawa-Drott. 2018. Misperceived Social Norms: Female Labor Force Participation in Saudi Arabia. Working Paper. Working Paper Series. National Bureau of Economic Research. https://doi.org/10.3386/w24736.

Cachia, Romina & Daniel Holgado Ramos. 2020. Network Analysis as a Tool for Humanitarian Protection: Research and Practice. *Journal of International Humanitarian Action* 5 (1): 5. https://doi.org/10.1186/s41018-020-00071-7

Diener, Ed, Robert A. Emmons, Randy J. Larsen & Sharon Griffin. 1985. The Satisfaction With Life Scale. *Journal of Personality Assessment* 49 (1): 71–75. https://doi.org/10.1207/s15327752jpa4901_13.

European Committee for Social Cohesion. 2004. A New Strategy for Social Cohesion. Strasbourg, France.

Hogan, Bernie, Joshua R. Melville, Gregory Lee Phillips II, Patrick Janulis, Noshir Contractor, Brian S. Mustanski & Michelle Birkett. 2016. Evaluating the Paper-to-Screen Translation of Participant-Aided Sociograms with High-Risk Participants | Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems. *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, pp. 5360-5371. https://doi.org/10.1145/2858036.2858368.

International Labour Organization Database on International Labour Statistics. 2021. ILO Modelled Estimates and Projections Database (ILOEST). 2021.

Integrated Food Security Phase Classification. 2023. Democratic Republic of the Congo: Acute Food Insecurity Situation Projection Update for January - June 2023. IPC. https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1156354/?iso3=COD.

Inter-Parliamentary Union. 2018. 'Women in Parliaments: World Classification'. 2018. https://data.ipu.org/women-ranking?month=10&year=2023.

Kim, Jeeyon. 2020.'The Currency of Connections: Why Do Social Connections Matter for Household Resilience in South Sudan? | Policy Commons. Mercy Corps. United States of America. https://policycommons.net/artifacts/1809883/the-currency-of-connections/2545316/.

Kroenke, Kurt, Robert L. Spitzer & Janet B. W. Williams. 2001. The PHQ-9. *Journal of General Internal Medicine* 16 (9): 606–13. https://doi.org/10.1046/j.1525-1497.2001.016009606.x.

Moore, Spencer, Mark Daniel, Laura Linnan, Marci Campbell, Salli Benedict & Andrea Meier. 2004. After Hurricane Floyd Passed: Investigating the Social Determinants of Disaster Preparedness and Recovery. *Family & Community Health* 27 (3): 204.

Office for the Coordination of Humanitarian Affairs. 2023. 'APERÇU DES BESOINS HUMANITAIRES RÉPUBLIQUE DÉMOCRATIQUE DU CONGO'. https://www.unocha.org/democratic-republic-congo.

Stites, Elizabeth, Alex Humphrey & Roxani Krystalli. 2021. Social Connections and Displacement from South Sudan to Uganda: Towards a Relational Understanding of Survival during Conflict. *Journal of Refugee Studies* 34 (3): 2720–39. https://doi.org/10.1093/jrs/feaa109.

United Nations Development Programme. 2022. *Human Development Report – Uncertain Times, Unsettles Lives: Shaping Our Future in a Transorming World.*

United Nations Evaluation Group. 2020. 'UNEG Ethical Guidelines for Evaluation'.

United Nations Inter-Agency Working Group on Violence Against Women Estimation and Data (VAW-IAWGED). 2021. Violence Against Women Prevalence Estimates, 2018. https://genderdata.worldbank.org/indicators/sg-vaw-1549-zs.

United States Bureau of Labor Statistics 'American Time Use Survey. 2023. Bureau of Labor Statistics. November 2023. https://www.bls.gov/tus/.

Vacca, Raffaele, Giacomo Solano, Miranda Jessica Lubbers, José Luis Molina, and Christopher McCarty. 2018. A Personal Network Approach to the Study of Immigrant Structural Assimilation and Transnationalism. *Social Networks, The missing link: Social network analysis in migration and transnationalism*, 53 (May):72–89. https://doi.org/10.1016/j.socnet.2016.08.007.

World Bank 'Overview, The World Bank in DRC'. 2023. Text/HTML. World Bank. March 2023. https://www.worldbank.org/en/country/drc/overview.

# Appendix

This section provides an overview of the survey instrument, outcome variables, sampling approach, and the demographics of the final sample used in the analysis.

## Survey instrument and data collection process

The data for this diagnostic report were collected between August and September 2023 using a multi-module household survey covering outcomes of interest on gender, social cohesion, and household resilience. This survey instrument was based on two validated questionnaires that have been developed as part of the DIME-WFP partnership: (i) the Gender Equality and Women's Empowerment (GEWE) survey, and (ii) the Resilience survey. The questionnaire was developed with inputs from the WFP Office of Evaluation and the DRC WFP Country Office, and piloted with local communities in South Kivu to ensure that questions were gender sensitive and relevant to the context. The multiple module survey instrument was administered to households with both male and female household heads. In cases where the male head of the household was not present, data were collected from a primary male household member, that is a male household member who participated in household decision making. The multi-module household survey recorded indicators in the following domains:

- Gender and women's empowerment outcomes (individual level)
    - Educational attainment
    - Labour force participation
    - Earnings
    - Time use
    - Agency (decision making over consumption)
    - Attitudes towards agency over consumption
    - Perception of norms
    - Psychological well-being

- Social cohesion outcomes (individual level)
    - Trust in individuals
    - Closeness to the community
    - Financial support
    - Collective action and social participation
    - Social connectedness

- Socio-economic/household resilience (household level)
    - Shocks
    - Coping strategies
    - Food security

The survey had an average duration of approximately two hours. Data were collected electronically using SurveyCTO software. The enumerator training lasted over two weeks, including piloting the survey in similar communities. During the data collection, high-frequency quality checks (HFC) were conducted daily. These checks included flagging missing and duplicate observations, abnormal survey duration and number of "no-consent" responses, and other inconsistent patterns in the data. To ensure that data collection met the highest data-quality standards, the team also performed a set of back-checks. This refers to drawing a random 10–20 percent sample of households and revisiting them to validate a subset of their answers. The HFCs and back-checks allowed the research team to provide feedback to the data collection firm in a timely matter. As a means of fortifying data quality, an additional validation step involved checking the visitation

status of the sampled villages by mapping the data. To mitigate the potential disruptions during the data collection, a list of replacement households and villages was selected upfront. This strategic measure proved to be essential given the dynamic, conflict-affected context of DRC.

## Study sample, site mapping and demographics

Data for this report were collected from a comprehensive list of villages in the Mwenga and Walungu territories of South Kivu, where activities from the DRC Joint Resilience Programme were implemented. In the territory of Mwenga, data were collected from 51 villages distributed across 8 village groupings or *groupements*, while in the territory of Walungu, data were collected from 55 villages distributed across 3 village groupings. To ensure representation, the sample size per village was set to be proportional to the size of each village, that is based on the contribution of the village to the total sample.

Data for this study were collected from a representative sample of 1611 households located in 106 villages, where a total of 3,222 male and female household heads were interviewed. A random walk approach was used for sampling and to ensure a random selection of households. Due to security concerns, 21 villages from the territory of Mwenga were replaced with villages outside of the main sample, but the replacement villages were selected from the same village grouping and territory as those villages which were inaccessible. **Appendix Table 1** presents the sample distribution per village grouping and **Appendix Figure 1** shows a birds-eye view of the areas where data collection took place.

**Appendix Table 1: Number of sampled villages and households**

| Village grouping | Number of Villages | Number of Households |
|---|---|---|
| **Walungu** | | |
| Izege | 14 | 105 |
| Kaniola | 22 | 293 |
| Mulamba | 19 | 279 |
| | | |
| **Mwenga** | | |
| Balobola | 6 | 94 |
| Bamulinda | 8 | 163 |
| Bashilubanda | 10 | 160 |
| Bashimwenda 1Er | 6 | 82 |
| Batumba | 3 | 70 |
| Irangi | 4 | 108 |
| Kigogo | 10 | 146 |
| Kyonvu | 4 | 111 |
| | | |
| **Total** | 106 | 1611 |

**Appendix Table 2** shows a summary of the sociodemographic section of the survey. An average household in the sample has 7.14 members and 4.47 children under the age of 18. In 94 percent of the households, the male respondent was the spouse of the female respondent. The average age of the female respondents is 39 years, and the average age of the male respondents is 44 years.

**Appendix Table 2: Demographics**

| | Mean | Standard Deviation | Total sample |
|---|---|---|---|
| Household Size | 7.14 | 2.65 | 1611 |
| Number of children (<18) if household has at least one child. | 4.47 | 2.24 | 1508 |
| *Relation of male respondent to female respondent* | | | |
|     Spouse | 0.94 | 0.25 | 1611 |
|     Son/daughter | 0.04 | 0.21 | 1611 |
|     Other | 0.02 | 0.14 | 1611 |
| Age of female respondent | 38.91 | 14.27 | 1611 |
| Age of male respondent | 43.59 | 15.33 | 1611 |

*Note:* Categorical variables are displayed as "yes/no" variables where a respondent answering "yes" ascribes a value of 1, and "no" a value of 0. Thus, the mean value displayed here represents the proportion of the sample that belongs in a given category.

**Appendix Figure 1: Mapping of village sites in South Kivu (DRC)**
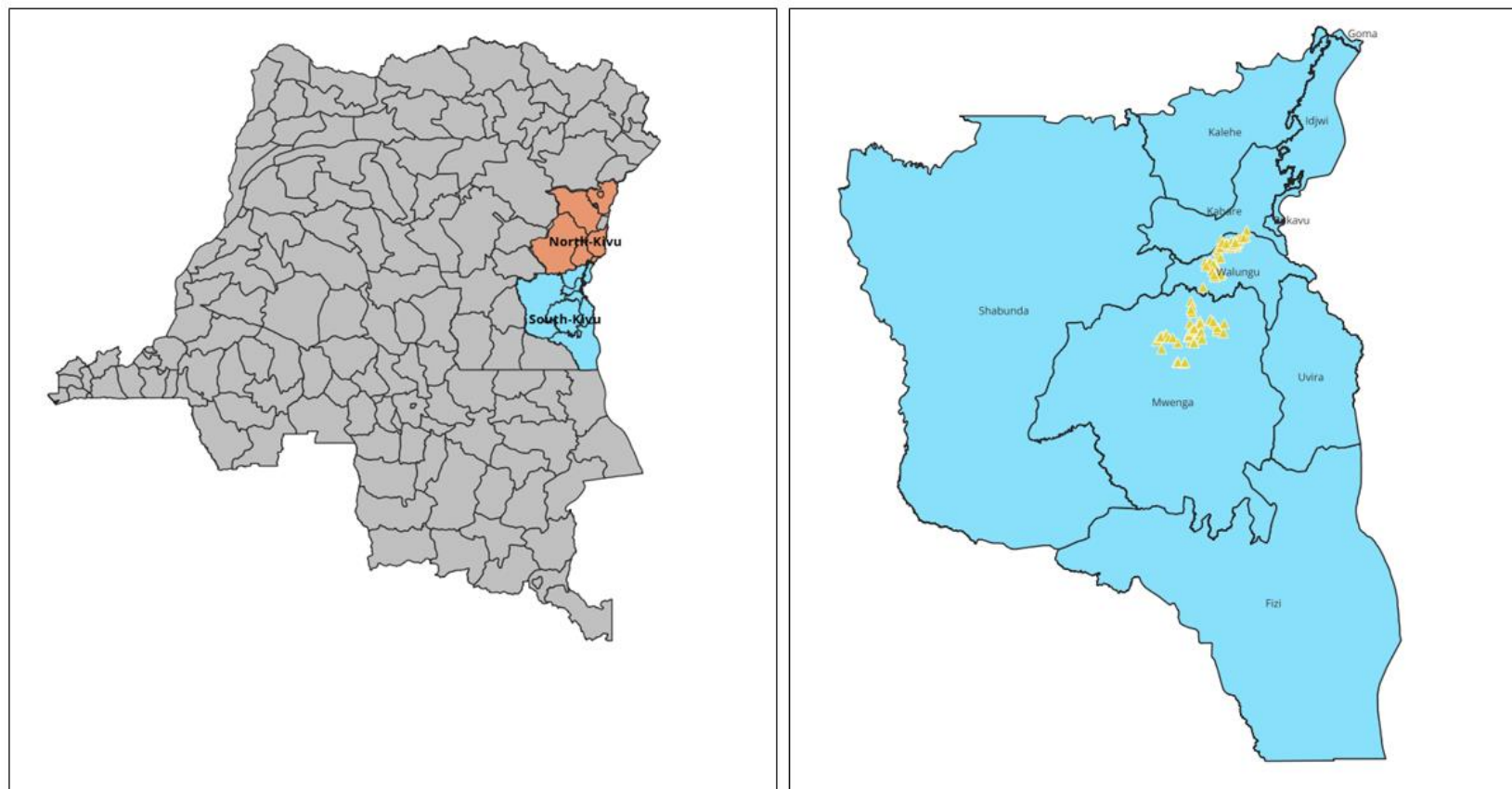


*Note*: The map on the left displays the administrative provinces in DRC and highlights the provinces of North Kivu (orange) and South Kivu (blue). The map on the right displays the administrative territories of South Kivu and highlights (in yellow) the 106 villages located in the territories of Mwenga and Walungu where the data collection was conducted.

## Social Network Analysis

*Measurement approach*

In response to researchers' call for innovations in network studies that could reduce the data burden, this study piloted a network data tool to test its applicability in fragile settings.[24] The tool does not require the respondent to list identifying information of their connections, thus making it more appropriate in (post-)conflict settings where the collection of sensitive data can have security implications. Further, it more appropriately captures the networks of those whose connections may be particularly dispersed, making it well-suited for networks in high-displacement contexts.[25] Finally, recent innovations in the collection of ego-centric data have allowed for the exercise to be more participatory for respondents.[26]

The network data document the social connections of every respondent, as well as the relationships between those connections. The tool used for this research also collects the attributes and quality of the connections and relationships, producing a set of networks which thoroughly describes each respondents' social world. The data can then be distilled into several structural measurements, described further below. The final tool developed for this research is published as an open-source resource.

*Tool description*

The social network tool was implemented with either the male or the female primary respondent, selected randomly. The sampling method allowed for shorter survey times while still maintaining the ability to do a fair comparative analysis between men and women. Once matched with the primary household survey, this resulted in a sample size of approximately 1427, due to errors in the matching ID. The tool is visual and participatory; during the survey, enumerators were instructed to allow respondents to view their responses and interact with the tablet directly if desired. Four key stages of the survey are as follows:

1) Respondents are first prompted to list all of the interactions (whether in-person or via phone, SMS, or online) that they have had in the previous two weeks. Respondents are encouraged to think of all interactions, including both friends and acquaintances. Each name appears as a "node" on the screen.
2) Respondents then describe the attributes of their connections (including their gender, tribe, and displacement status), and describe some qualities of their relationship to them (whether they can be relied on for food support, for example).
3) Respondents are then asked to draw lines between nodes to represent any existing relationships between the connections listed, forming the full network picture.
4) Finally, respondents also describe the qualities of the relationships indicated along key markers of social cohesion: trust and tension.

The result is a more detailed look at the social world of each respondent, which gives his/her perspective of signals of support and social cohesion in the set of relationships. To illustrate, **Appendix Figure 2** below provides an example network graphed to display a sample of available attributes: location and sex of connections. Note again that each dot here represents what is termed as a "connection": either a friend or acquaintance with whom the respondent has had a conversation in the two weeks prior to the survey. This can be conceptualized as an "immediate network" or a social network with whom the respondent is recently in contact and involved. In graph A, one can see that the woman respondent's immediate network includes connections that live outside of her community, and that for the most part, those living outside the community are not part of her village network (except for one mutual connection). One can also observe

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[24] Vivi Alatas et al. 2016. Network Structure and the Aggregation of Information: Theory and Evidence from Indonesia. *American Economic Review* 106, no. 7: 1663–1704; Abhijit Banerjee et al. 2019. Using Gossips to Spread Information: Theory and Evidence from Two Randomized Controlled Trials. *The Review of Economic Studies, Volume 86, Issue 6*.

[25] Raffaele Vacca et al. 2018. A Personal Network Approach to the Study of Immigrant Structural Assimilation and Transnationalism. *Social Networks*, 53: 72–89.

[26] Bernie Hogan et al. 2016. Evaluating the Paper-to-Screen Translation of Participant-Aided Sociograms with High-Risk Participants. *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. pp. 5360-5371.

that the sex of her connections is relatively mixed – 50 percent of her connections are men -- and that men and women within her network interact *with each other* across sex as well.

In addition to location and sex variables used for the illustrative example above, the network data contains information about tribal identity, as well as descriptors of the relationships between connections (called "ties"), including measures of trust and tension. When analysed across the whole sample, the ego-centric network approaches allow us to observe average characteristics of networks in each community and provides a more granular understanding of social dynamics. As an example of the types of data available using the network module, **Appendix Figure 3** below shows an example of a network whose tension measures are close to the mean of the sample.

## Ethical considerations

WPF studies conform to 2020 United Nations Evaluation Group (UNEG) ethical guidelines [27]. Accordingly, OEV and DIME are responsible for safeguarding and ensuring ethics at all stages of the research cycle. This includes, but is not limited to, ensuring informed consent, protecting privacy, confidentiality, and anonymity of participants, ensuring cultural sensitivity, respecting the autonomy of participants, ensuring fair recruitment of participants (including women and socially excluded groups), and ensuring that the study results in no harm to participants or their communities. WFP's gender experts were available to support and train enumerators on learning and implementing the above listed ethical values of data collection.

IRB

The study received ethical approval on 04/07/2023 by Solutions IRB, which is a private commercial AAHRPP fully accredited Institutional Review Board (IRB).

Informed consent

All participants had to give informed consent prior to the start of the survey. Refusal to respond to the survey did not preclude participation in WFP programmes.

Privacy during interviews

The research team worked with the data collection firm to create protocols that ensured participant privacy at all points during the survey. This included training by a WFP gender specialist, as well as ensuring the availability of female enumerators if the female participant preferred. These issues were monitored and managed during the implementation of data collection.

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[27] United Nations Evaluation Group. 2020. *UNEG Ethical Guidelines for Evaluation*. New York, UNEG.

**Appendix Figure 2: Social connectedness example by location and sex of connections (female, age 40)**



Example network: location of connections
female, age 40
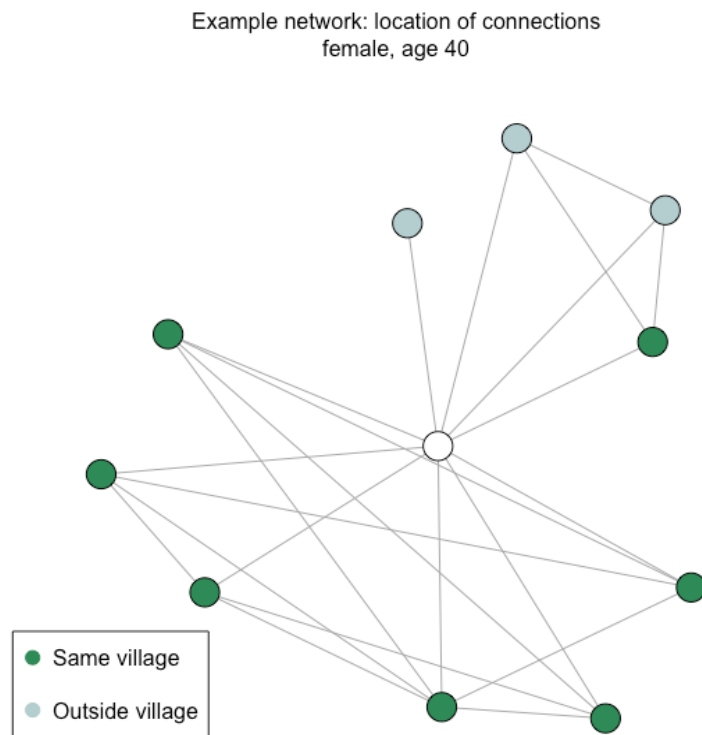
Density, components, and homophily measures are near mean of population.

**(A)**



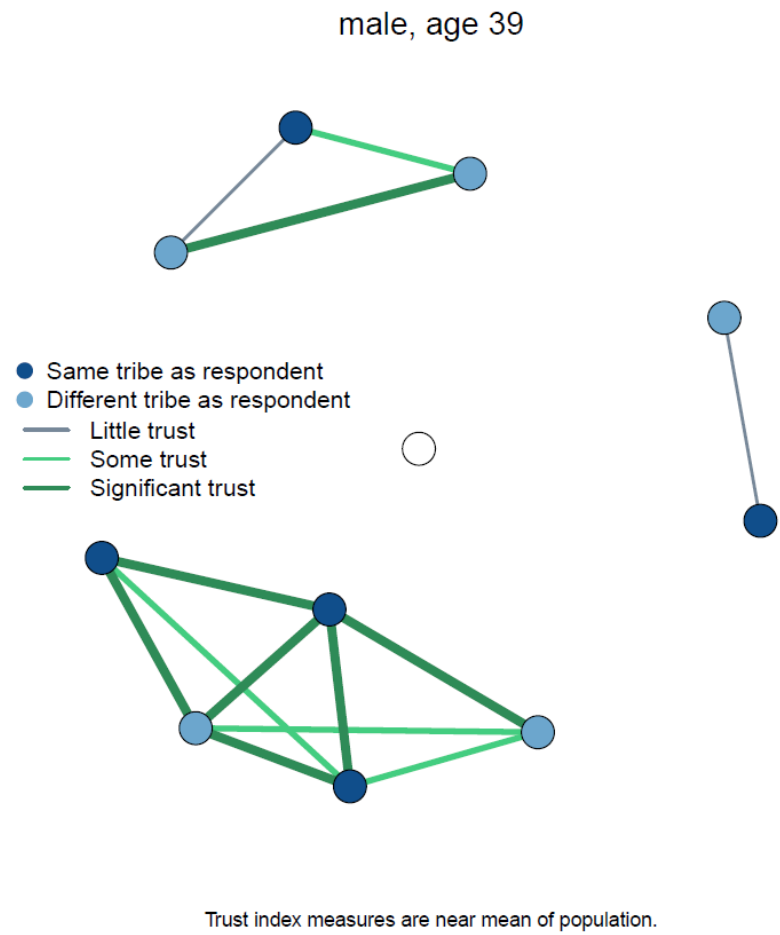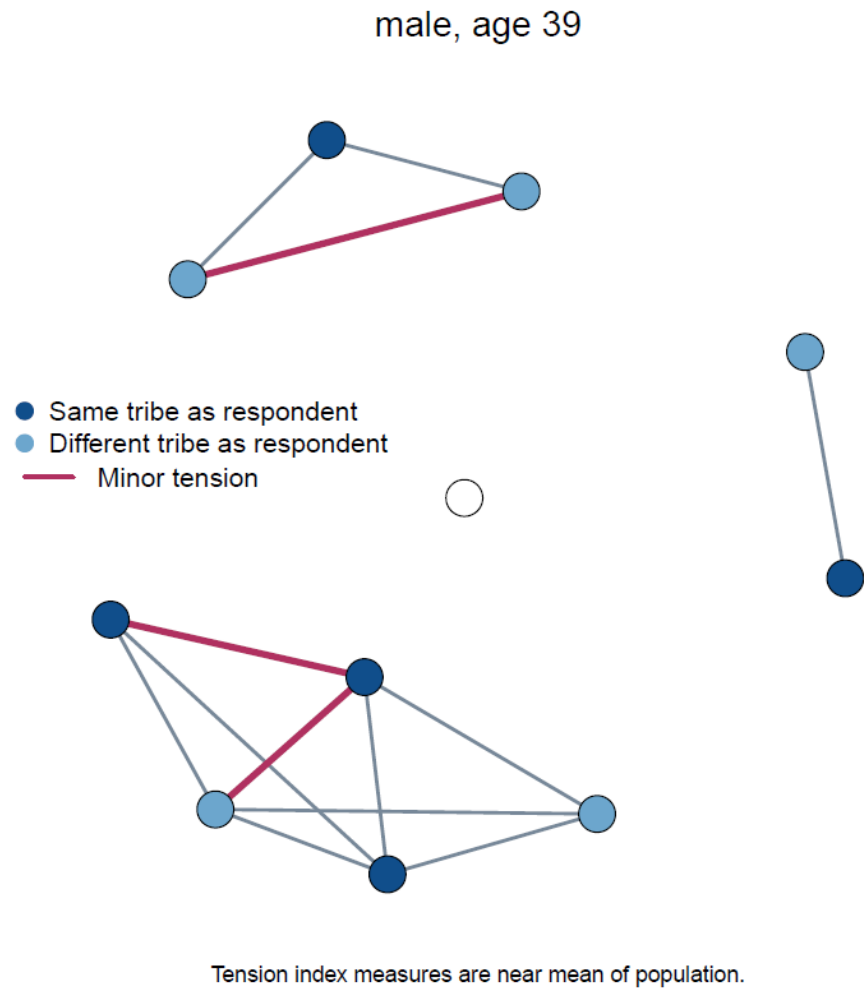Example network: sex of connections
female, age 40
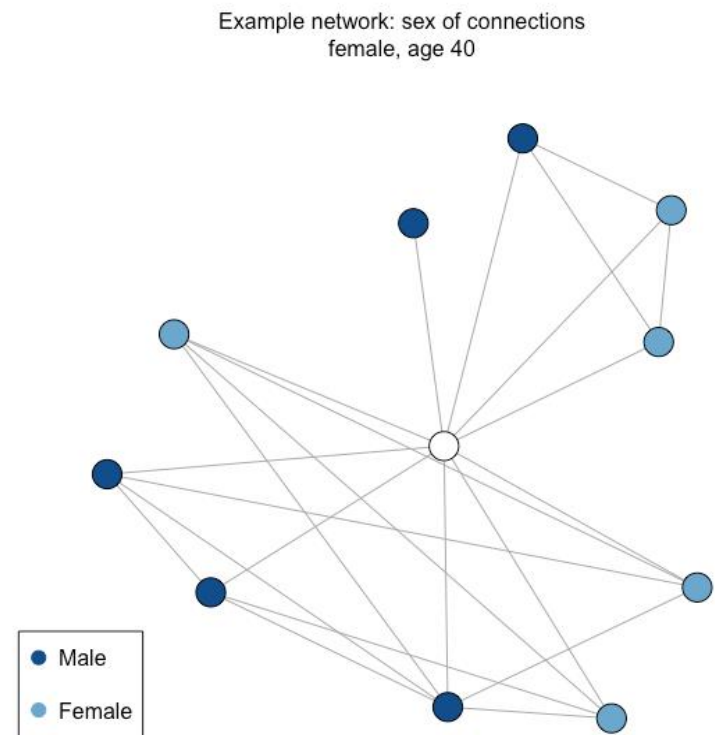
Density, clustering, and assortativity measures are near mean of population.

**(B)**

**Appendix Figure 3: Tension and trust examples of a social network (male, age 39)**



male, age 39

Same tribe as respondent
Different tribe as respondent
Minor tension

Tension index measures are near mean of population.

male, age 39

Same tribe as respondent
Different tribe as respondent
Little trust
Some trust
Significant trust

Trust index measures are near mean of population.

**Appendix References**

Alatas, Vivi, Abhijit Banerjee, Arun G. Chandrasekhar, Rema Hanna, and Benjamin A. Olken. 2016. 'Network Structure and the Aggregation of Information: Theory and Evidence from Indonesia'. *American Economic Review* 106 (7): 1663–1704. https://doi.org/10.1257/aer.20140705.

Banerjee, Abhijit, Arun G Chandrasekhar, Esther Duflo, and Matthew O Jackson. 2019. 'Using Gossips to Spread Information: Theory and Evidence from Two Randomized Controlled Trials | The Review of Economic Studies | Oxford Academic'. *The Review of Economic Studies, Volume 86, Issue 6*, November. https://doi.org/10.1093/restud/rdz008.

Hogan, Bernie, Joshua R. Melville, Gregory Lee Phillips II, Patrick Janulis, Noshir Contractor, Brian S. Mustanski, and Michelle Birkett. 2016. 'Evaluating the Paper-to-Screen Translation of Participant-Aided Sociograms with High-Risk Participants | Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems'. *In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (Pp. 5360-5371).* https://doi.org/10.1145/2858036.2858368.

Vacca, Raffaele, Giacomo Solano, Miranda Jessica Lubbers, José Luis Molina, and Christopher McCarty. 2018. 'A Personal Network Approach to the Study of Immigrant Structural Assimilation and Transnationalism'. *Social Networks*, The missing link: Social network analysis in migration and transnationalism, 53 (May):72–89. https://doi.org/10.1016/j.socnet.2016.08.007.