Gendered Pathways to Resilience and Food Security: Insights from Gender-Transformative Socio-Technical Innovation Bundles in Nakuru County



YOUTH



GENDER EQUALITY



SOCIAL INCLUSION

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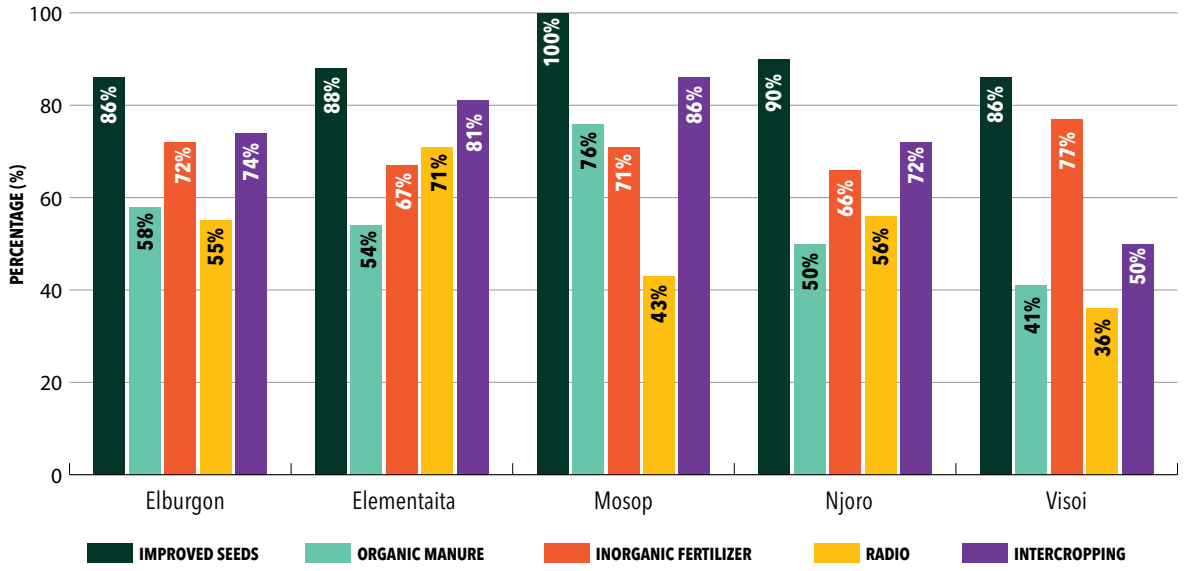
INTRODUCTION

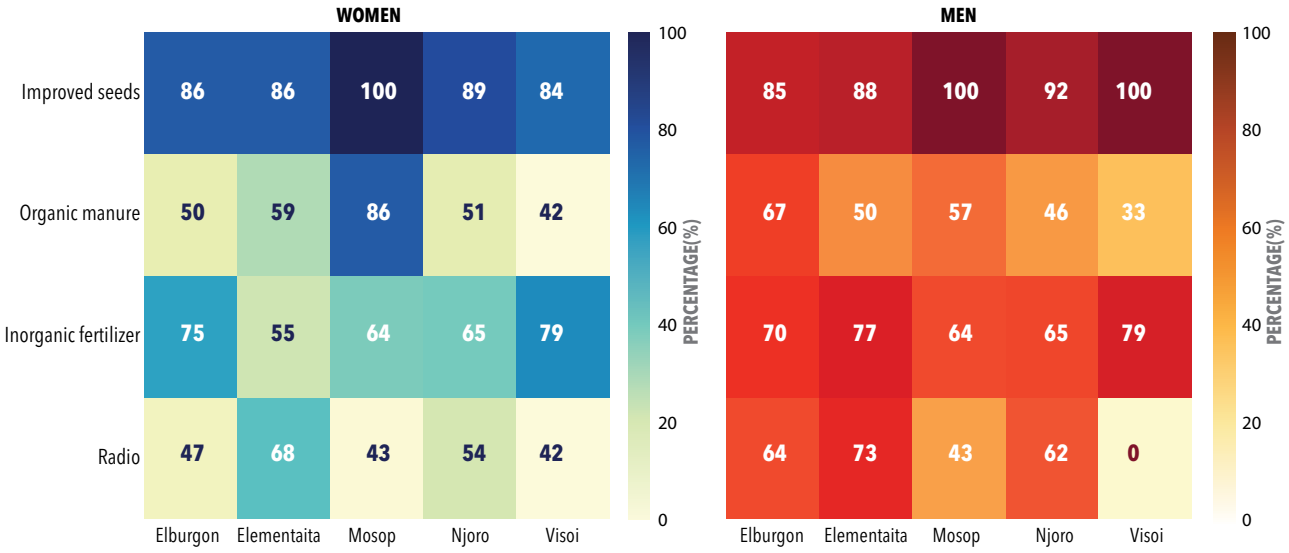
This infographic presents evidence from Nakuru County on the adoption of gender-transformative socio-technical innovation bundles (GTSTIBs) and their effects on productivity, resilience, empowerment, and food security. Findings highlight strong uptake of innovations, higher yields on demonstration farms, and notable resilience gains among adopters. Gendered patterns further reveal persistent gaps, with women often disadvantaged in food security despite high participation in trainings

Innovation Adoption Rates

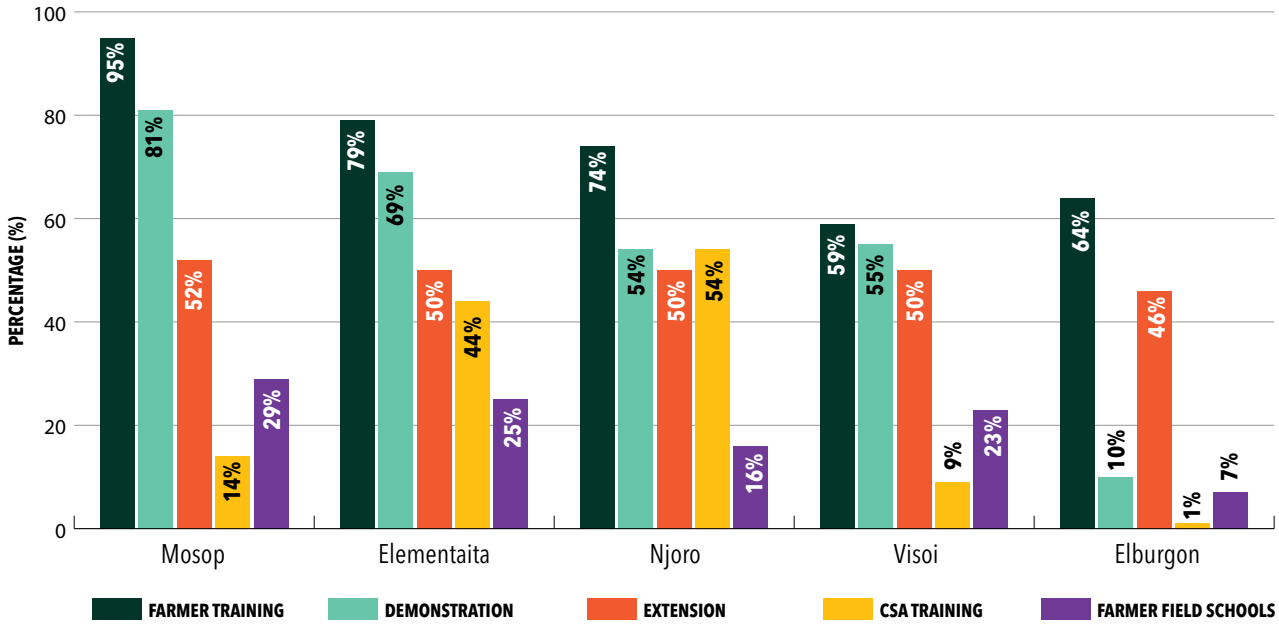
High adoption of seeds and fertilizers with ward variations in practices: Improved seed uptake is nearly universal (>85%, 100% in Mosop), and fertilizer use is high (66–77%). Intercropping peaks in Mosop (86%) and Elementaita (81%) but falls to 50% in Visoi, while organic manure is highest in Mosop (76%) and lowest in Visoi (41%); access to radio information is moderate in Elburgon (55%) but lowest in Visoi (36%).



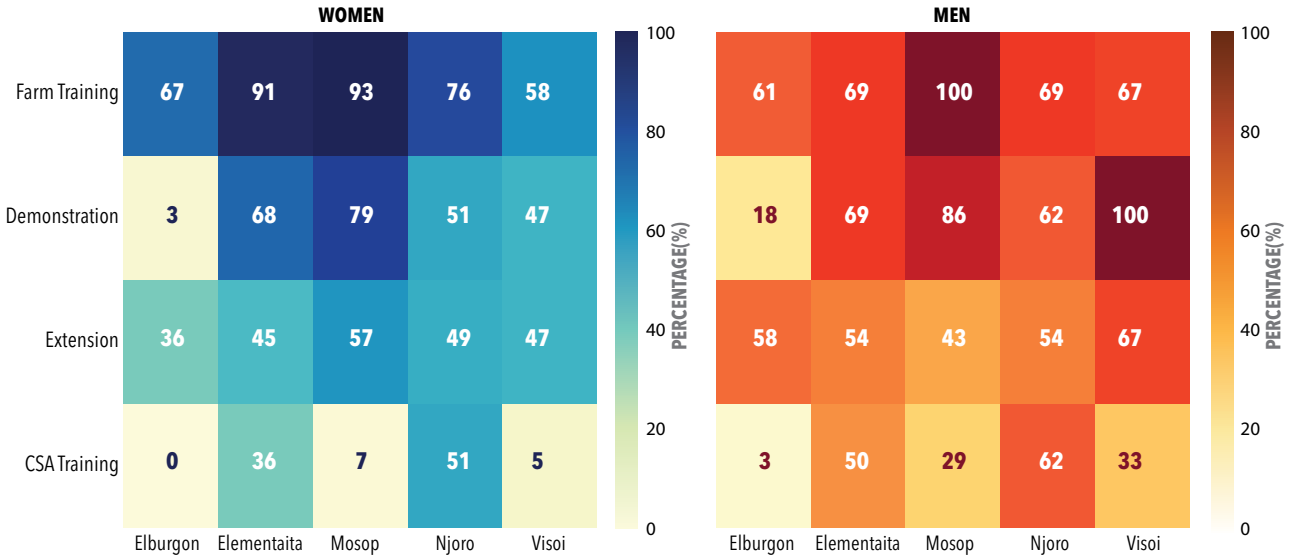
Improved seeds are widely adopted across genders, but manure and radio use vary: Seed adoption is near-universal (100% in Mosop and among men in Visoi; >84% elsewhere). Organic manure peaks among women in Mosop (86%) but falls to 33% for men in Visoi, while radio access is highest for men in Elementaita (73%) but drops to 0% in Visoi.



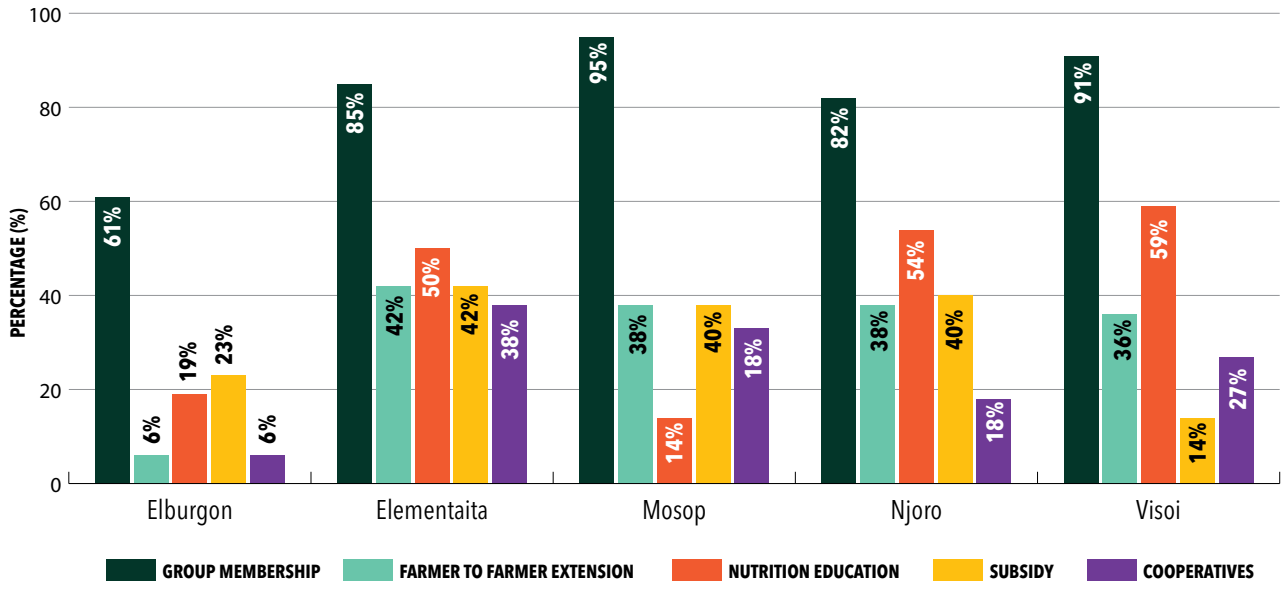
High participation in farmer training and demonstrations: Mosop leads with 95% in farmer training and 81% in demonstrations, while Elementaita also shows strong uptake (79% and 69%). The control ward Elburgon records the lowest participation, with only 64% in farmer training and minimal engagement in other platforms.



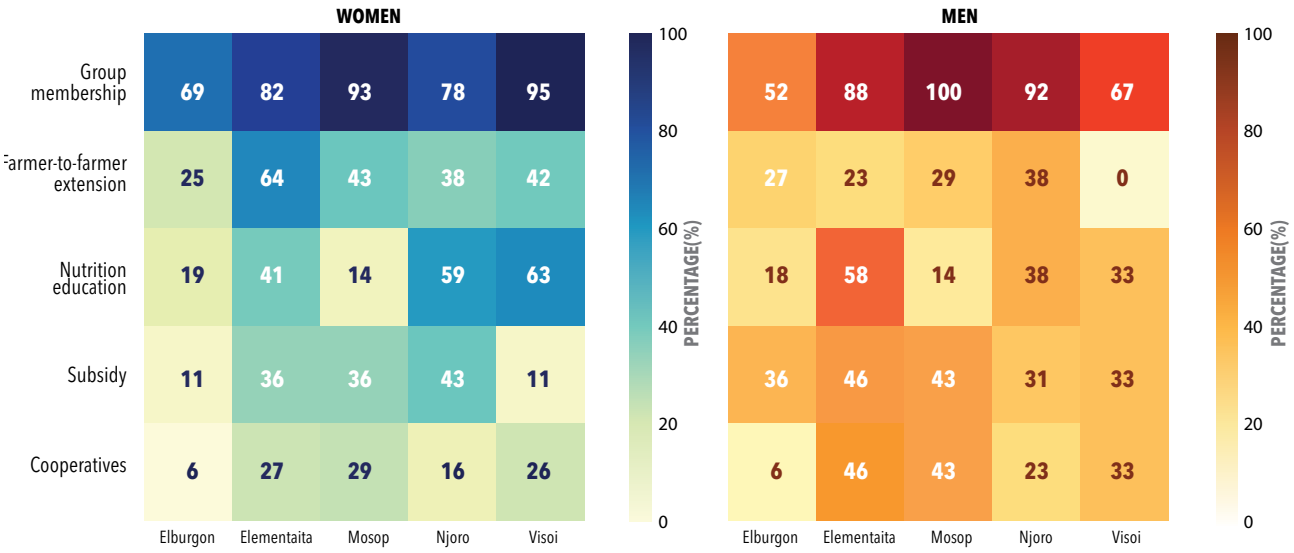
Strong gendered participation in trainings and demonstrations: Women in Mosop (93%) and men in Mosop (100%) lead in farmer training, while Visoi men dominate in demonstrations (100%). CSA training is highest in Njoro (51% women, 62% men) but remains minimal in the control ward Elburgon (0–3%).



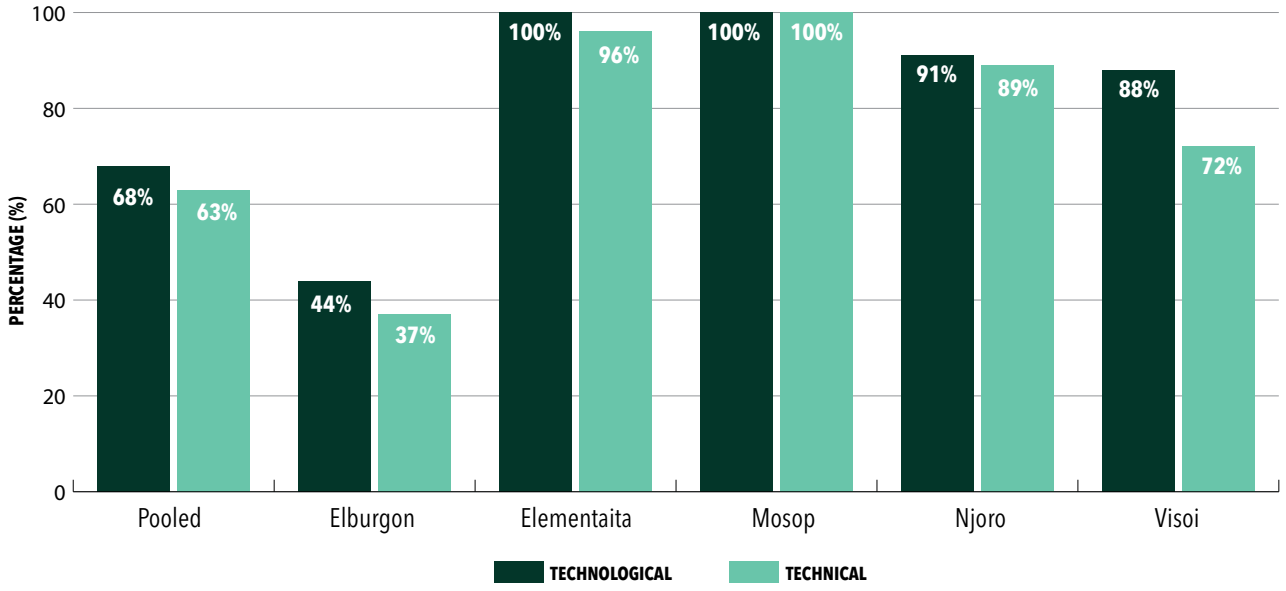
Strong group membership across wards: Farmers report high group membership, peaking in Mosop (95%) and Visoi (91%), compared to lower levels in the control ward Elburgon (61%). Nutrition education is strongest in Visoi (59%) and Njoro (54%), while cooperatives and subsidies remain modest across all wards.



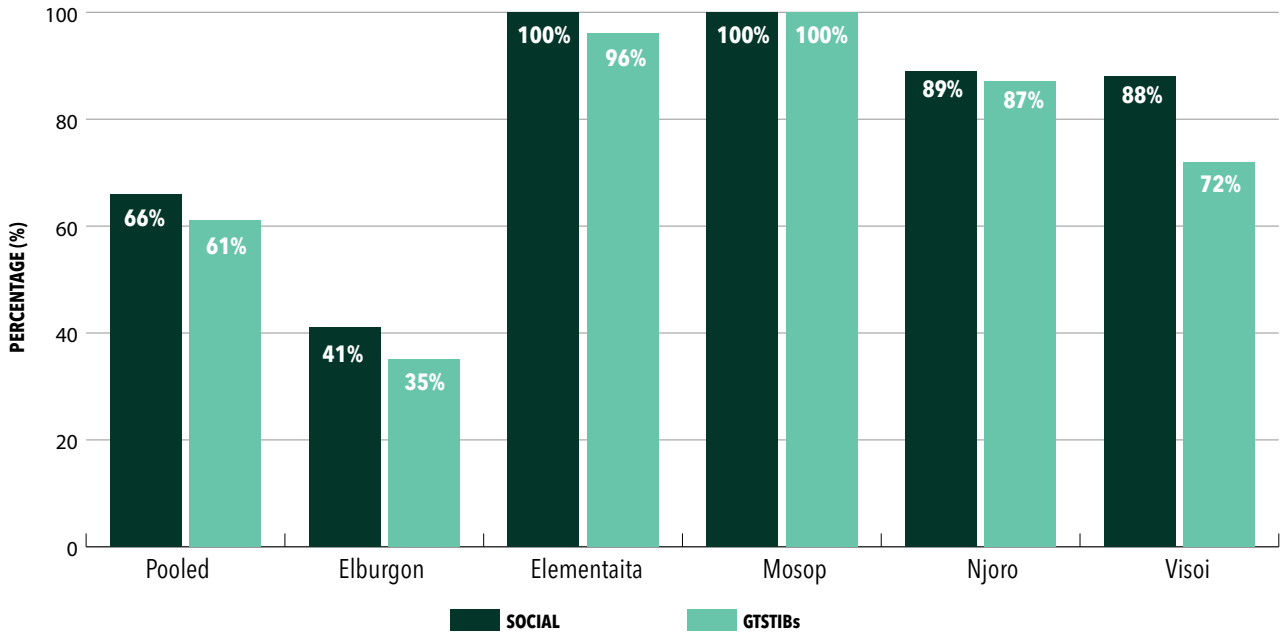
Strong group membership across genders: Men in Mosop (100%) and women in Visoi (95%) show the highest group membership, while the control ward Elburgon reports lower participation (52% men, 69% women). Attending nutrition education is highest among women in Visoi (63%) and men in Elementaita (58%) but remains minimal for both genders in Elburgon.



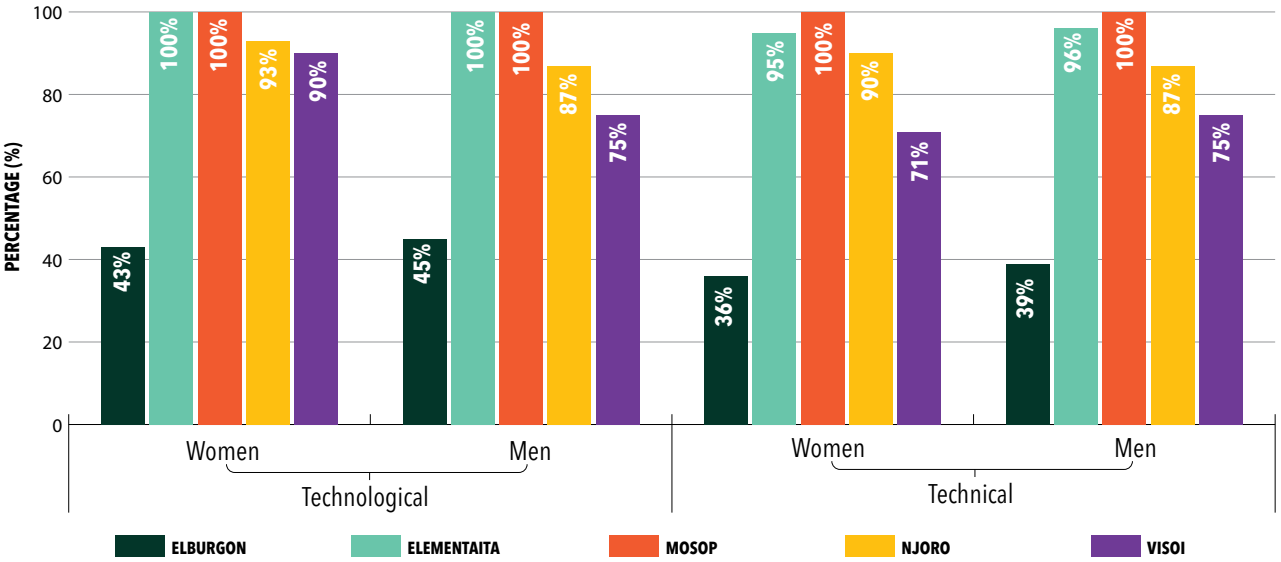
Strong adoption of innovations: Elementaita and Mosop show universal adoption (100%) of both technological and technical practices, with Njoro also recording high uptake (91–89%). In contrast, the control ward Elburgon lags behind, with the lowest adoption levels (44% technological, 37% technical).



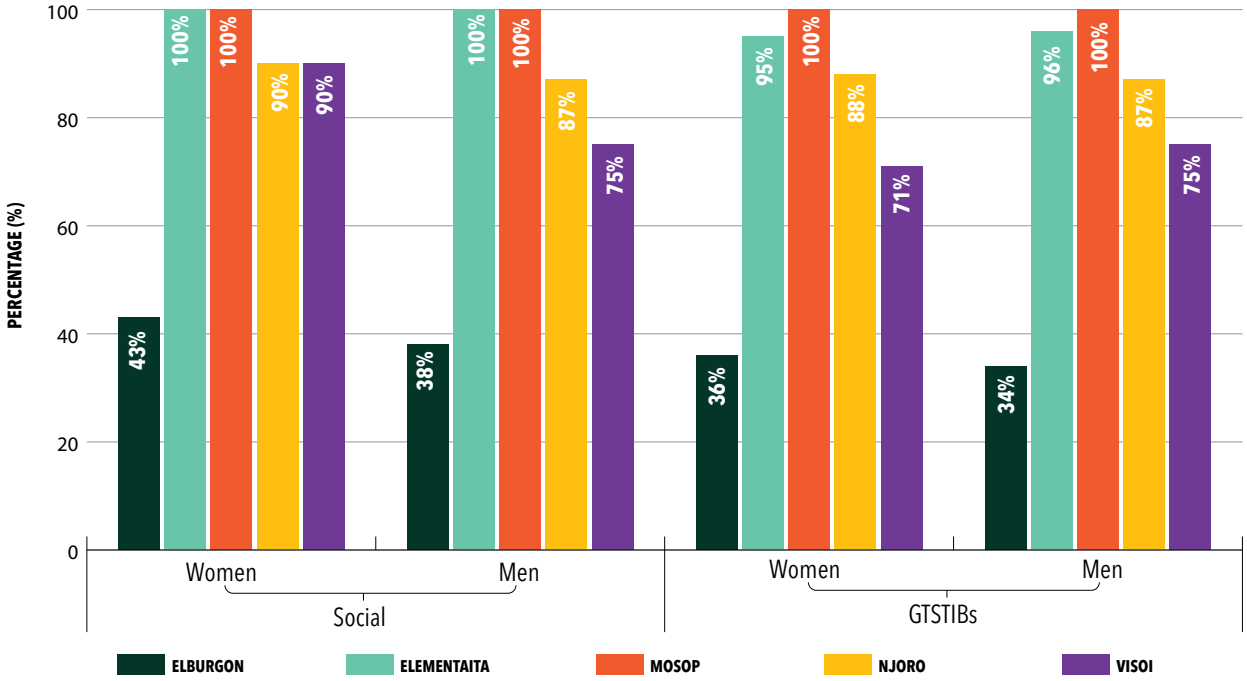
Broad uptake of social innovations and GTSTIBs: Elementaita and Mosop report universal adoption (100%), with Njoro and Visoi also showing strong participation (72%–89%). In contrast, the control ward Elburgon lags far behind, with only 41% adoption of social innovations and 35% of GTSTIBs.



Gendered adoption of innovations: Women in Elementaita and Mosop record universal uptake of both technological and technical practices (100%), with Njoro and Visoi also showing strong participation (90%+). In contrast, the control ward Elburgon consistently lags, with women and men reporting the lowest adoption (36–45%).

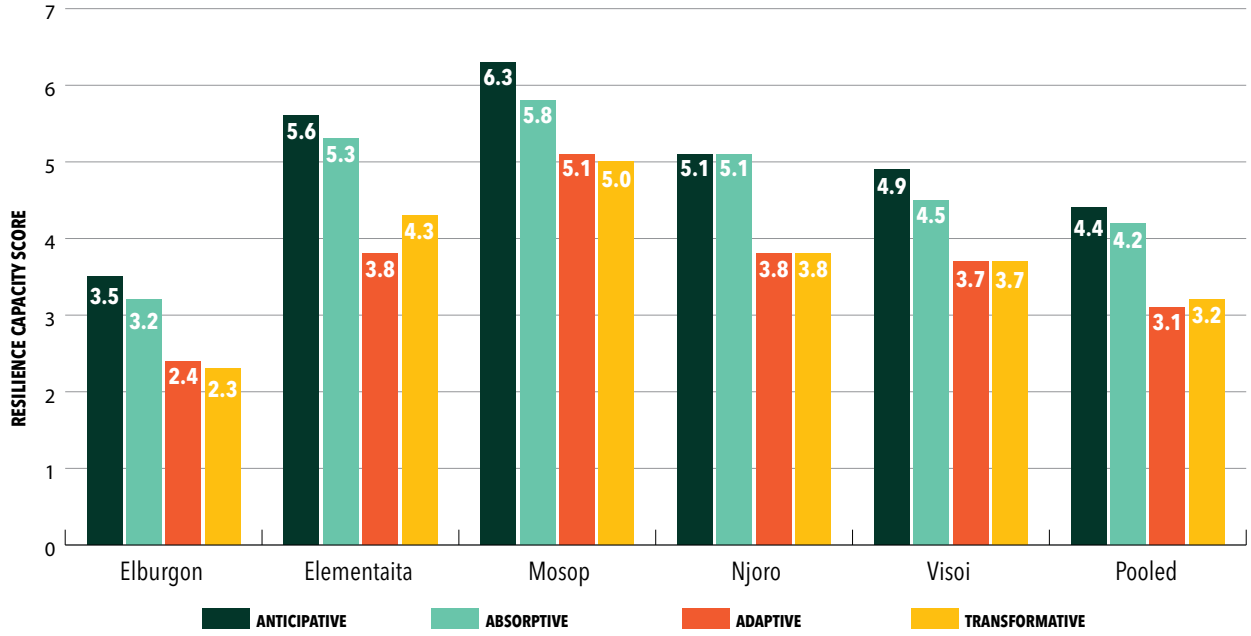


Gendered uptake of social innovations and GTSTIBs: Women in Elementaita and Mosop record universal adoption of both social innovations (100%) and GTSTIBs (95% and 100% respectively), while men also show full uptake in these wards. In contrast, the control ward Elburgon lags considerably, with women at just 43% for social and 36% for GTSTIBs, and men at 38% and 34%, respectively.

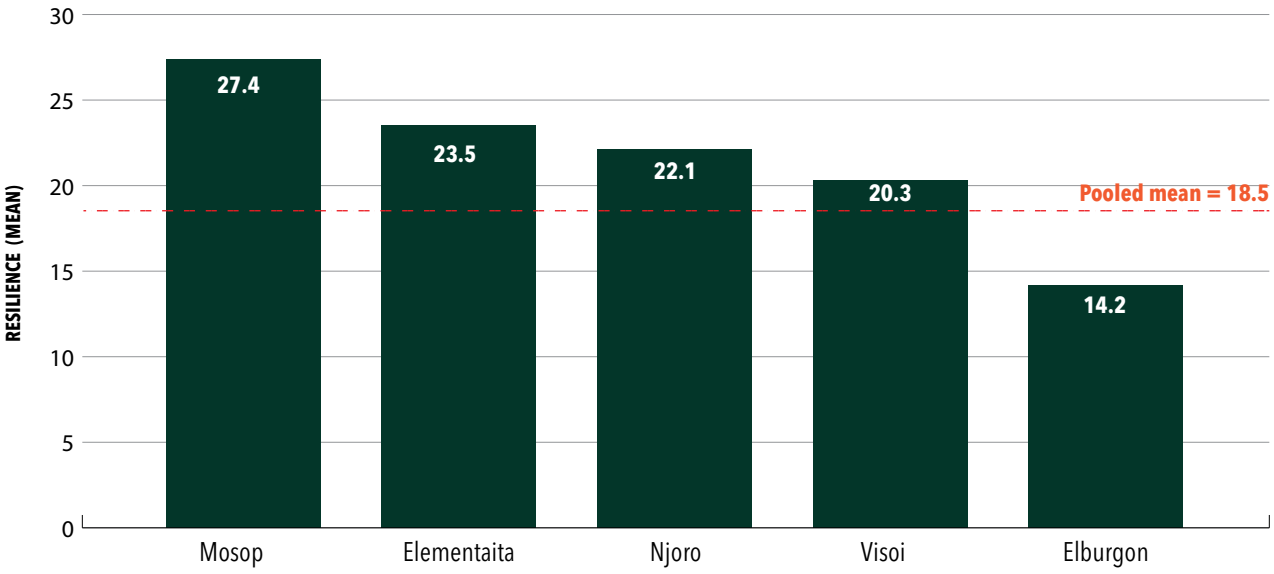


Climate Resilience

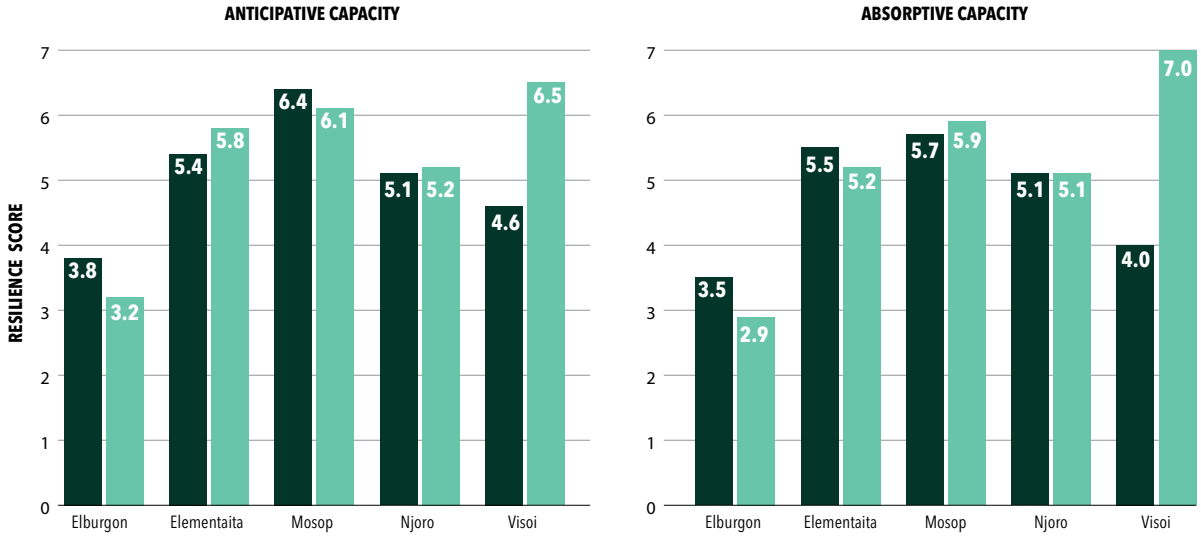
Climate resilience capacities: Mosop leads across all dimensions, with the highest anticipative (6.3), absorptive (5.8), adaptive (5.1), and transformative (5.0) scores. In contrast, the control ward Elburgon lags behind, particularly on adaptive (2.4) and transformative (2.3) capacities, underscoring its vulnerability relative to other wards.



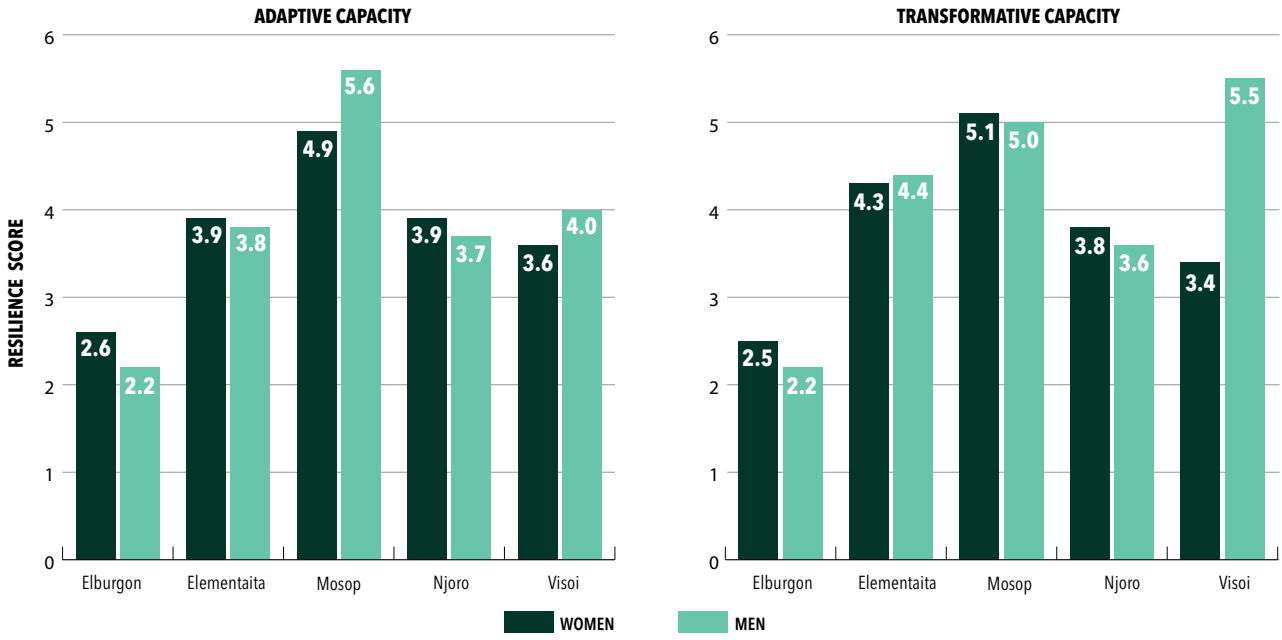
Overall resilience: Farmers in Mosop score the highest (27.4), followed by Elementaita (23.5) and Njoro (22.1), all above the pooled mean (18.5). Farmers in the control ward Elburgon records the lowest resilience (14.2), highlighting its relative vulnerability compared to other wards.



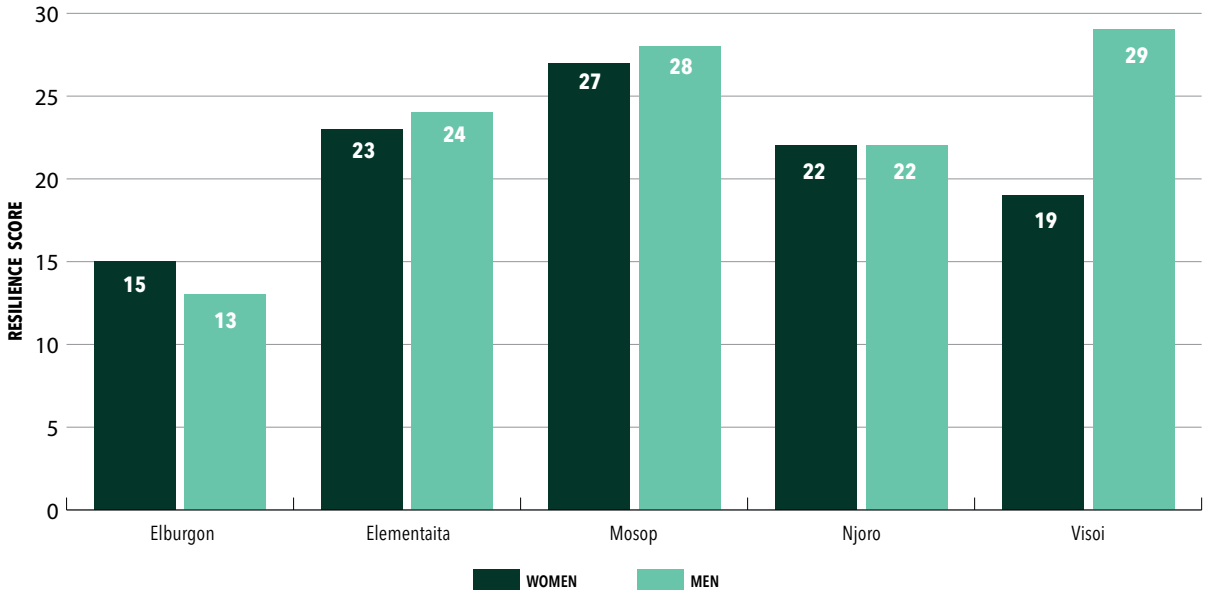
Gendered differences in anticipative and absorptive capacities: Women generally lead in anticipative scores, peaking in Mosop (6.4 vs. 6.1 for men), while men surpass in Visoi (6.5 vs. 4.6). Absorptive capacity is consistently higher for men, especially in Visoi (7.0 vs. 4.0), with Elburgon weakest across both genders (<4.0).



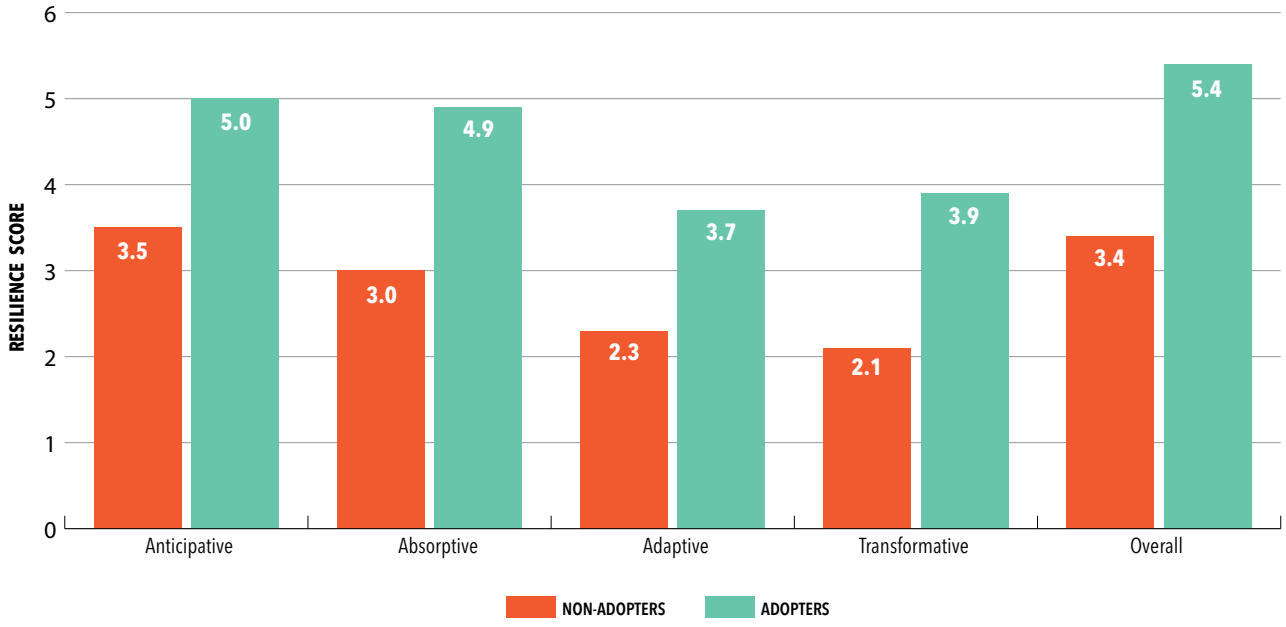
Adaptive and transformative capacities show men's advantage: Men consistently score higher, peaking in Mosop for adaptive (5.6 vs. 4.9) and in Visoi for transformative (5.5 vs. 3.4). Elburgon records the lowest levels across both dimensions, with scores below 2.6.



Overall resilience is highest in Mosop and lowest in Elburgon: Mosop leads with resilience scores of 27–28, followed by Visoi where men peak at 29. The control ward Elburgon records the weakest outcomes, with both men and women scoring below 15.

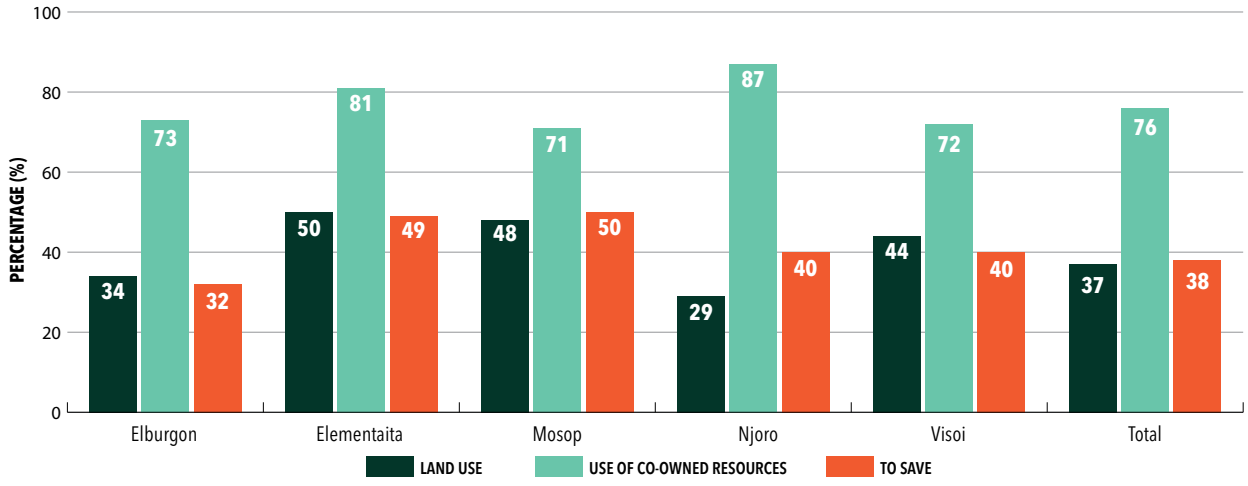


Adopters show stronger resilience capacities than non-adopters: Across all four dimensions, GTSTIBs adopters score higher—anticipative (5.0 vs. 3.5), absorptive (4.9 vs. 3.0), adaptive (3.7 vs. 2.3), and transformative (3.9 vs. 2.1). Overall resilience is markedly greater among GTSTIBs adopters (5.4) compared to non-adopters (3.4).

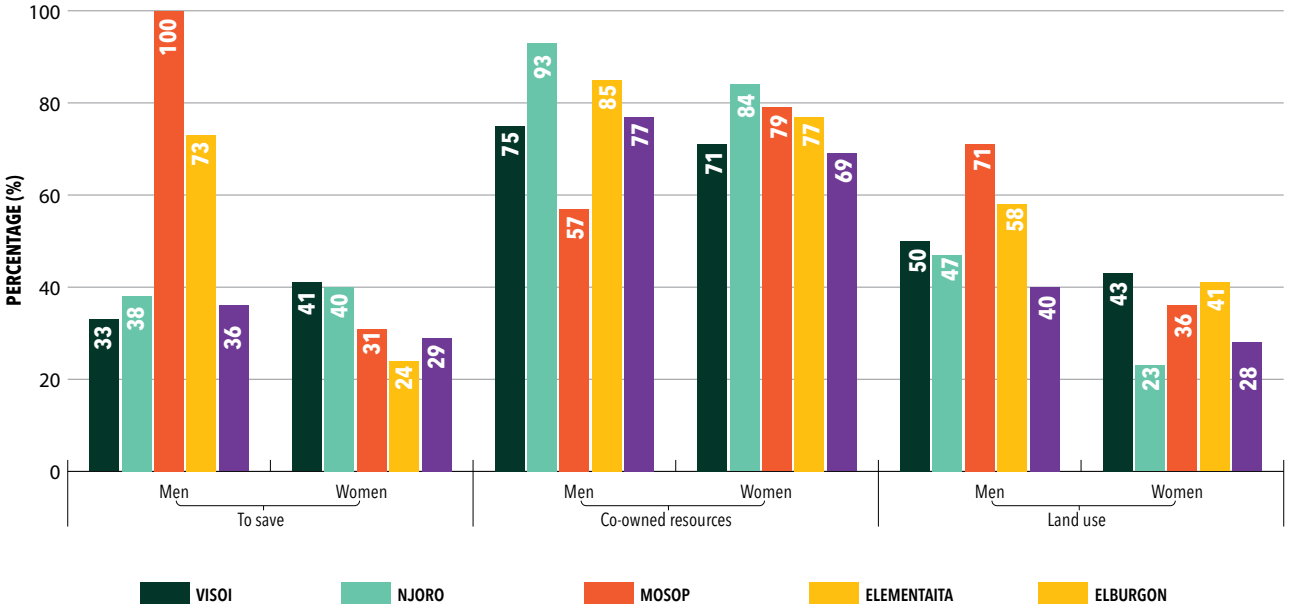


Empowerment

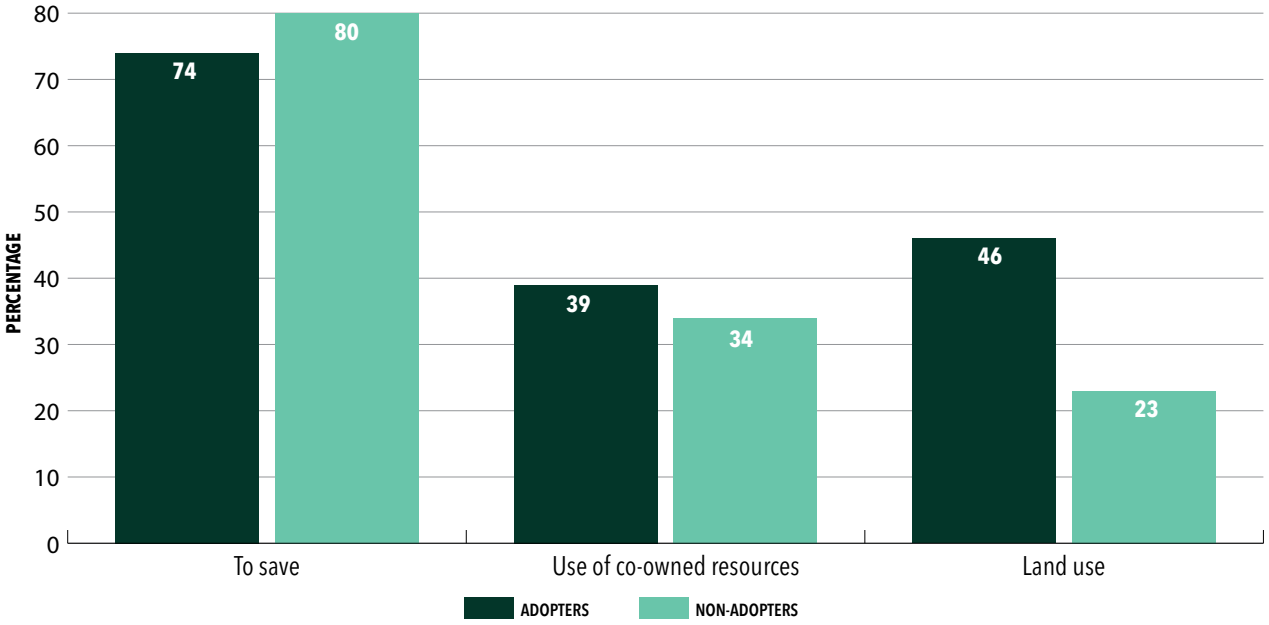
High joint decision-making on co-owned resources: Across wards, over 70% of households report joint decisions on use of co-owned resources, peaking at 87% in Njoro. Land-use and savings decisions are more modest, with Elementaita and Mosop leading (around 50%) compared to lower levels in the control ward Elburgon (34% land, 32% savings).



High joint control over co-owned resources: Men in Njoro (93%) and women in Mosop (79%) report the strongest joint decisions, while the women in Elburgon shows lower participation (69%) and men participation in Mosop were low at 84%. Land-use and savings decisions are less common, with women in Njoro lowest on land (23%) and men in Visoi lowest on savings (33%).



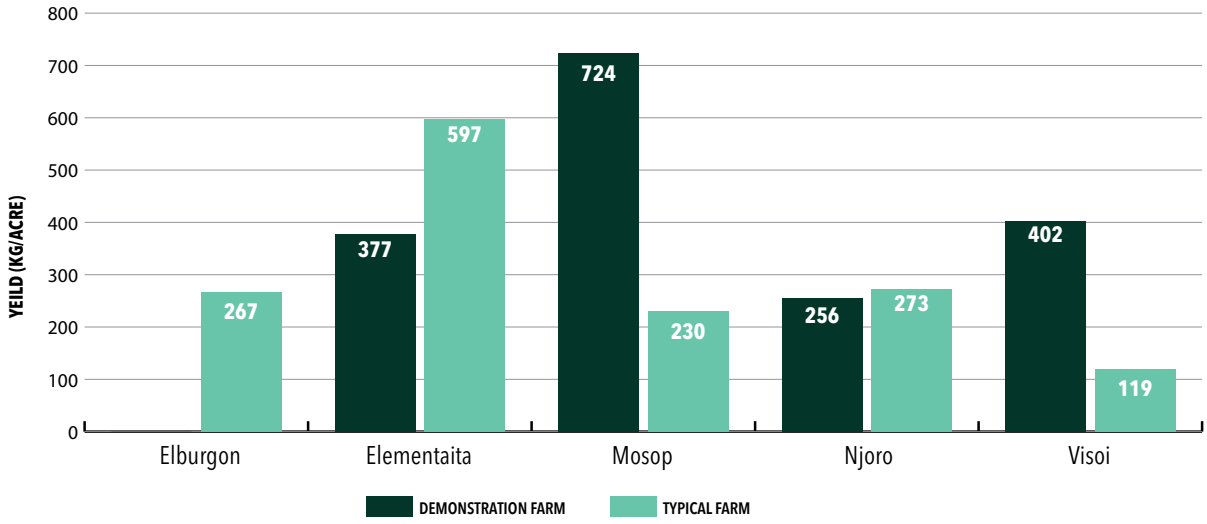
Adopters show stronger voice in savings and land use: Joint decisions to save are twice as high among GTSTIBs adopters (46%) compared to non-adopters (23%), while land-use decisions are also higher (39% vs. 34%). Collaborative decision-making on use of co-owned resources remains high across both groups, though slightly higher among non-adopters (80%) than adopters (74%).



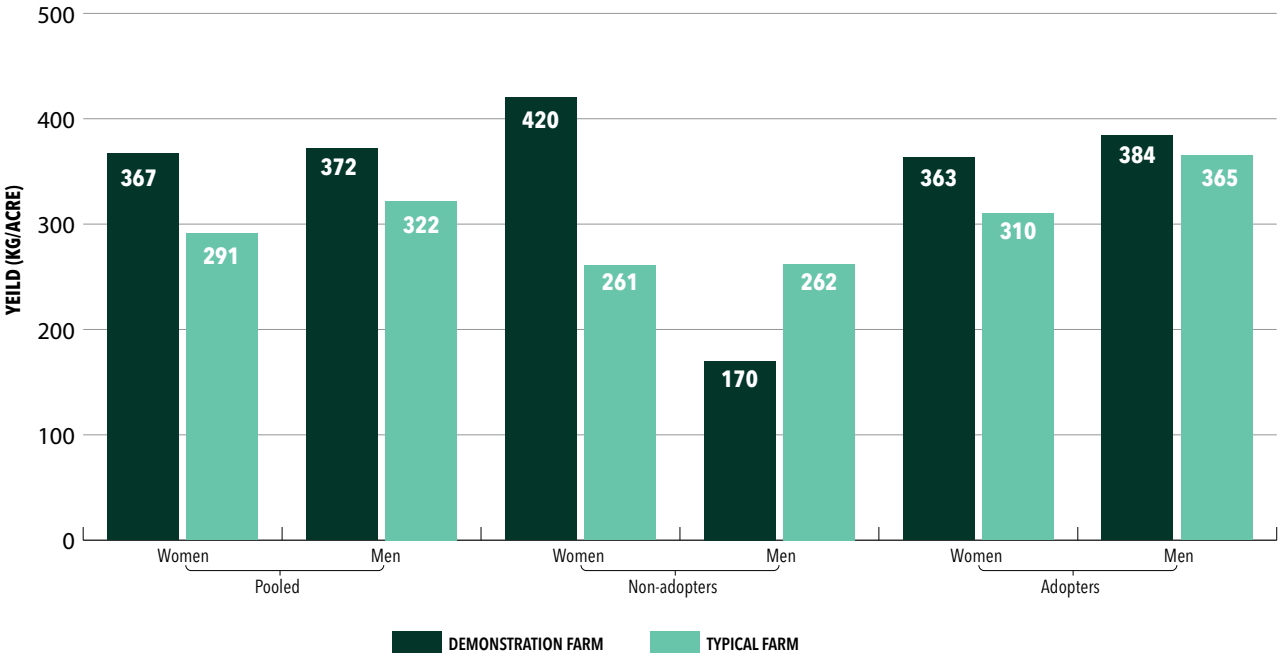


Productivity

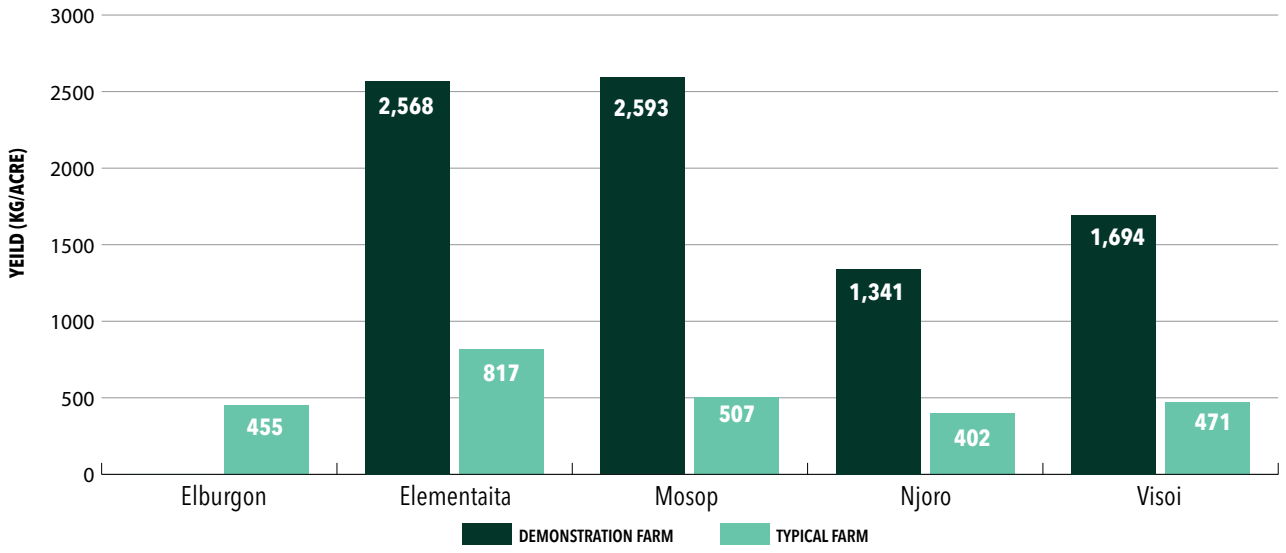
Demonstration farms achieve higher bean yields across wards: Mosop leads with 724 kg/acre compared to 230 kg/acre on typical farms, while Visoi also shows strong gains (402 vs. 119). In contrast, the control ward Elburgon records the lowest yield levels at 267 kg/acre.



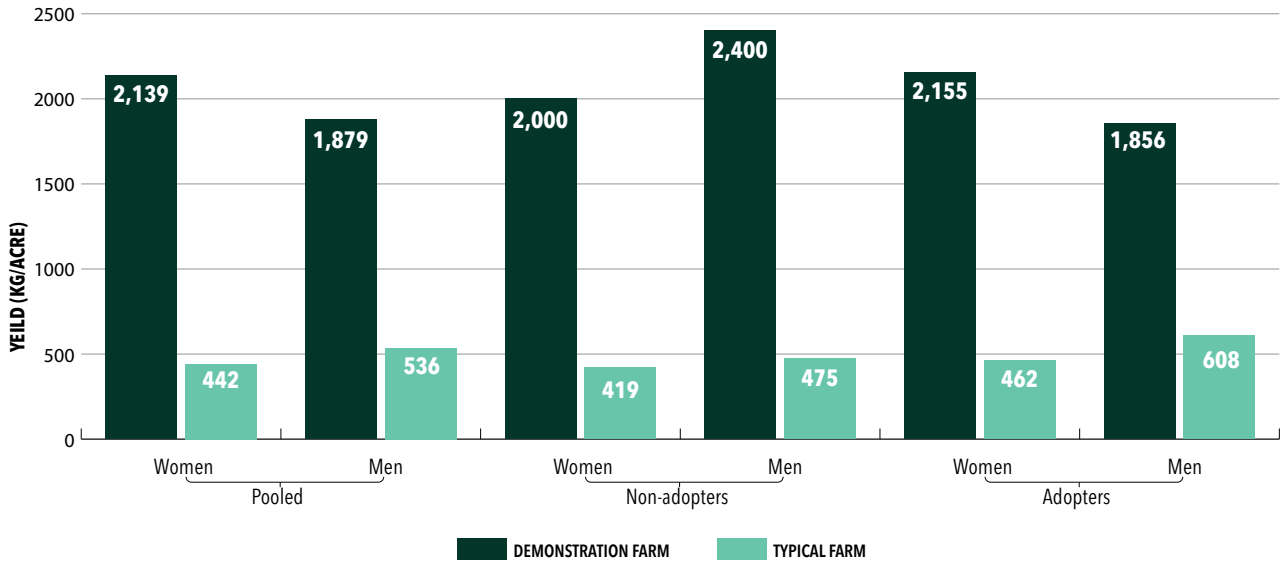
Demonstration farms boost bean yields: Yields are consistently higher on demonstration farms, reaching 420 kg/acre for women non-adopters and 384 kg/acre for men adopters compared to much lower typical farm yields. Gains are strongest among women, with adopters producing 363 kg/acre against 310 kg/acre on typical farms.



Demonstration farms greatly outperform typical farms: Mosop (2,593 kg/acre) and Elementaita (2,568 kg/acre) record the highest maize yields, far above typical farm levels of 507 and 817 kg/acre. The control ward Elburgon lags behind with only 455 kg/acre on typical farms.

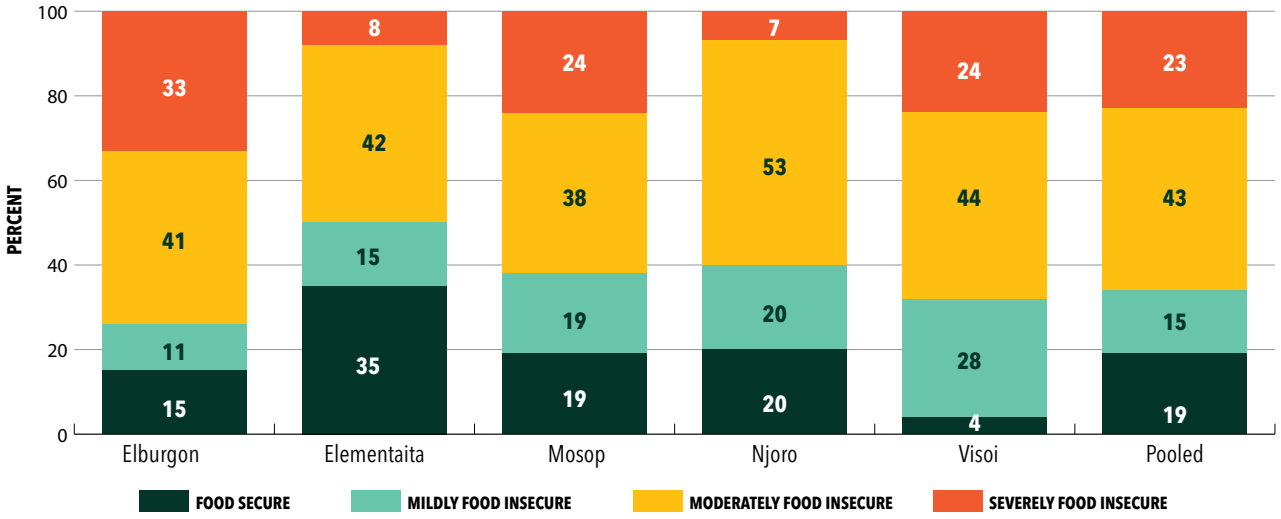


Demonstration farms substantially raise maize yields: Women pooled reach 2,139 kg/acre and men 1,879 kg/acre on demonstration plots, far above typical farm levels of 442–536 kg/acre. Non-adopter men still gain the highest at 2,400 kg/acre, while adopters record consistently strong yields, with men at 1,856 kg/acre and women at 2,155 kg/acre.

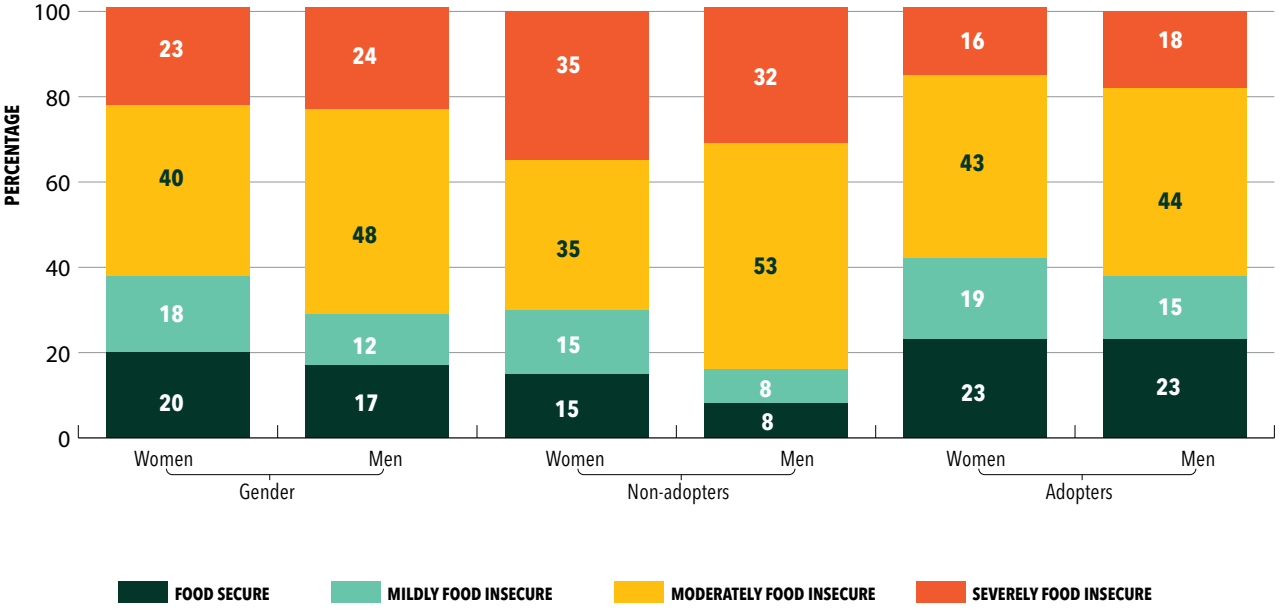


Food Security

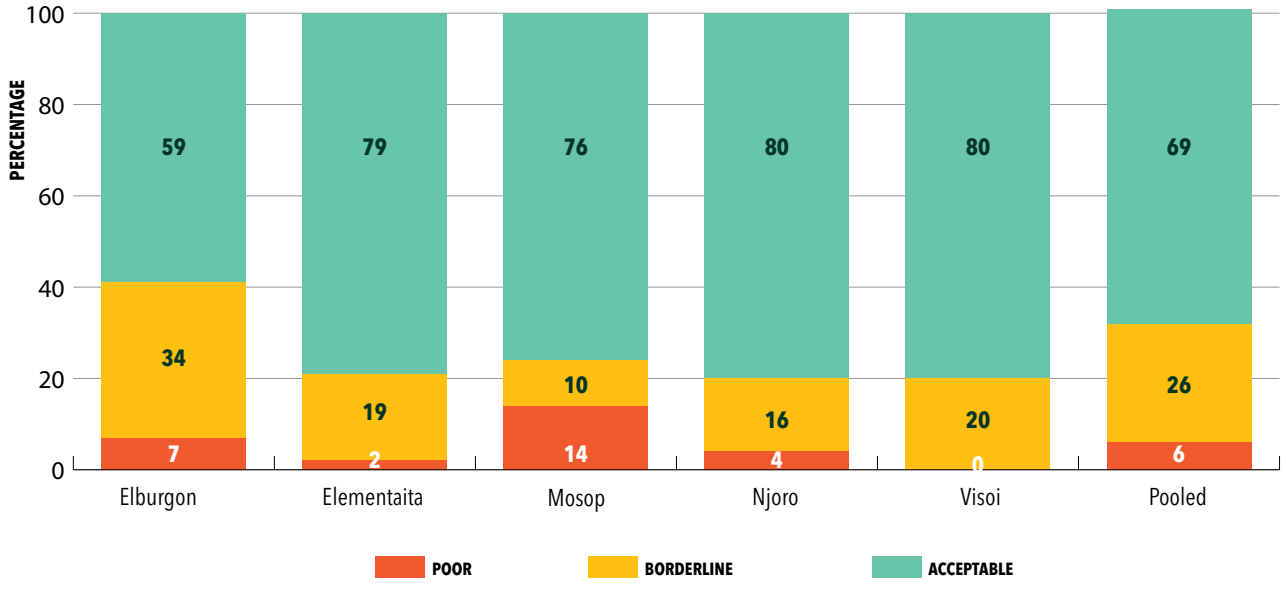
Food insecurity remains widespread across wards: Moderately food insecure households dominate, reaching over half in Njoro (53%) and 44% in Visoi. Food secure households are highest in Elementaita (35%) but very low in the control ward Elburgon (15%) and Visoi (4%).



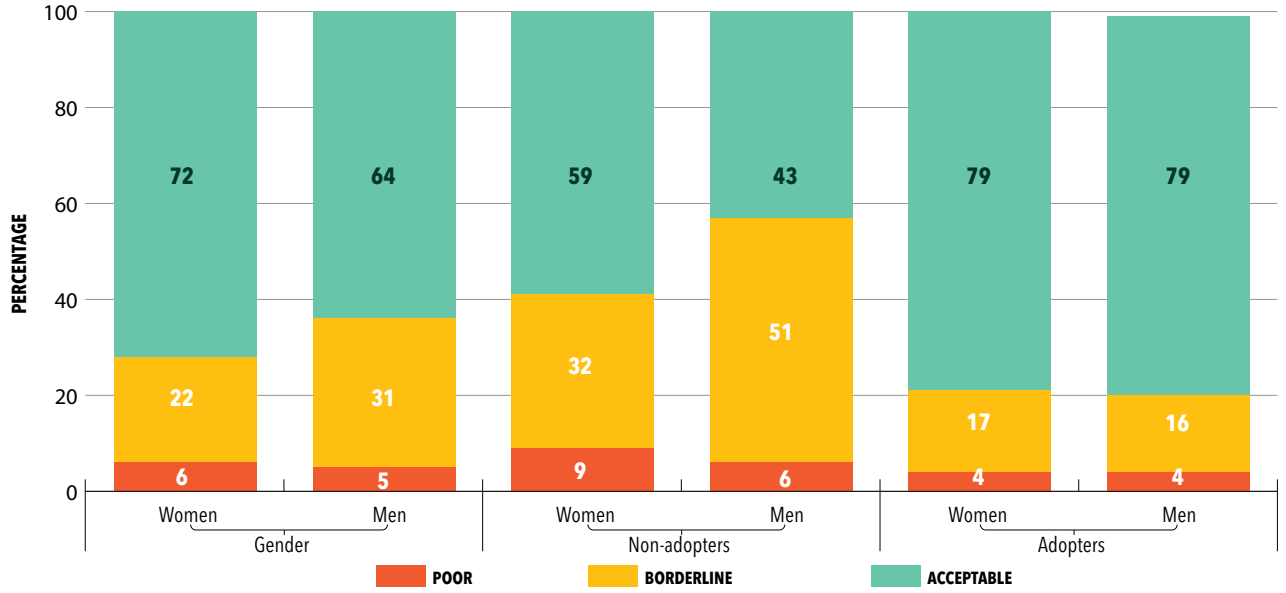
Adopters fare better in food security than non-adopters: Among GTSTIBs adopters, 23% are food secure and severe food insecurity is lower (16–18%) compared to non-adopters (32–35%). Women non-adopters are especially vulnerable, with 35% severely food insecure against 15% food secure.



Most households fall in the acceptable food consumption range: Over three-quarters of households report acceptable consumption in Njoro (80%), Visoi (80%), and Elementaita (79%). The control ward Elburgon lags behind, with only 59% acceptable and the highest share of borderline consumption (34%).



Adopters enjoy stronger food security outcomes: Both women and men GTSTIBs adopters record 79% acceptable food consumption, far above non-adopters (59% women, 43% men). Borderline and poor consumption is notably higher among non-adopter men (51% borderline, 6% poor), highlighting greater vulnerability compared to adopters.





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