Livestock farming in Honduras: Adoption levels, challenges, and gender gaps in the transition toward sustainable systems

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Reconciling land system changes with planetary health

Introduction and objetive

- Climate change has become a major threat to agricultural systems across Latin America, particularly in environmentally vulnerable regions like Olancho, Honduras. Cattle farming is a key economic activity in this department, supporting the livelihoods of thousands of rural families.
- Although women play a crucial role in livestock production activities, their contributions are often overlooked and unpaid, with their work typically regarded as "complementary" domestic tasks
- In Latin America, men are typically the primary landowners and decision-makers in livestock farming, controlling key aspects such as the use and sale of animals, technology adoption, and financial management
- This work presents key findings from a study of 425 cattle producers in four municipalities of Olancho (Catacamas, San Esteban, Juticalpa, and Dulce), conducted within the framework of a Heifer International intervention. The research examined the adoption of sustainable cattle practices, with a particular focus on disaggregated data on gender disparities in participation in Farmer Field Schools and in the uptake of promoted sustainable practices

Methodology

Adoption profiles were defined following Castro-Núñez et al. (2024), classifying producers by the number and combination of sustainable practices applied on their plots/pastures as follows:

Adoption profiles

- **Non-adopter**: Does not implement any sustainable cattle practices or applies only one practice or a combination that does not reflect an intensive or integrated cattle management approach.
- **Dispersed practices**: implementing scattered sustainable practices in pastures dedicated to livestock farming
- **Level 1 adopter (basic)**: Allows assisted or natural tree regeneration in pastures, combined with either natural or improved pasture grasses.
- **Level 2 adopter (intermediate)**: Maintains a forage bank or combines tree regeneration (assisted or natural) with a forage bank on their land.
- **Level 3 adopter (advanced)**: Implements any other combination of sustainable practices not included in the definitions of non-adopter, basic, or intermediate levels, demonstrating a more integrated and intensive approach to sustainable cattle management.

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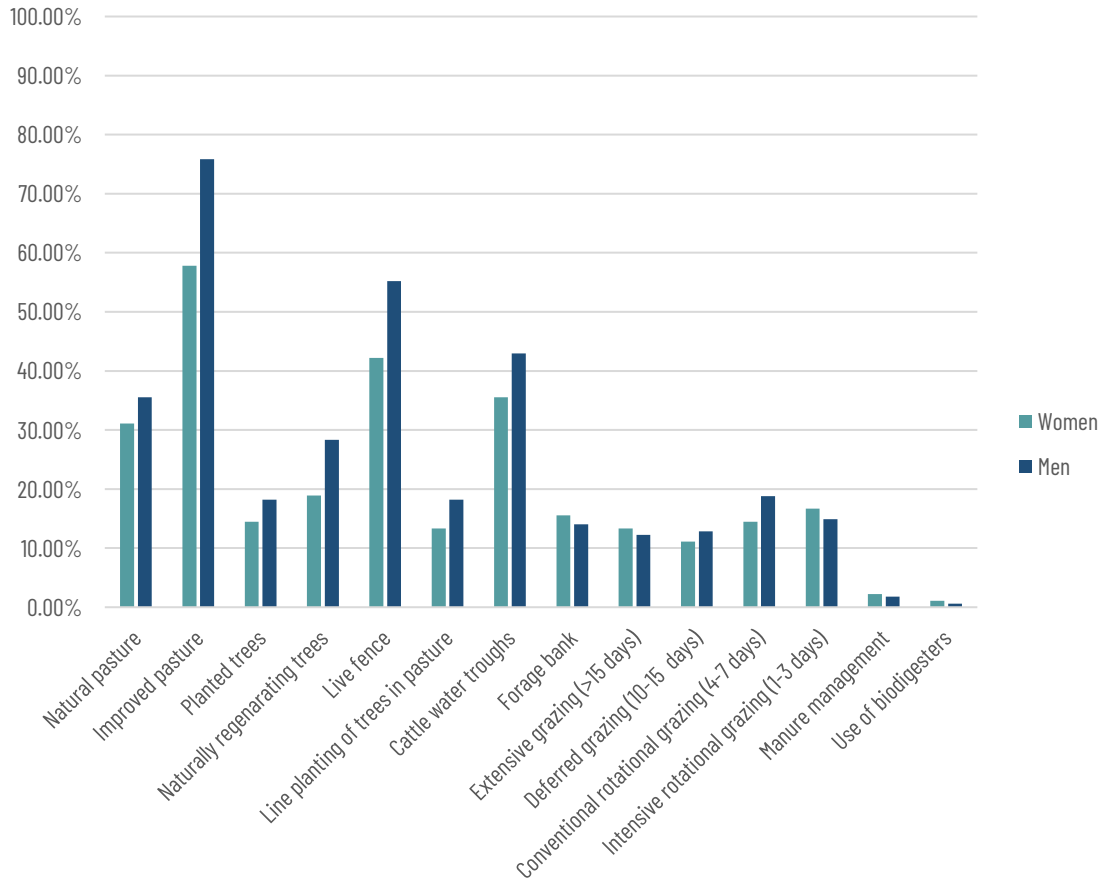
Results

- Improved pasture and planted trees are the most common practices, with men reporting higher adoption rates (around 75% and 55%, respectively) compared to women (about 58% and 42%).
- Natural pasture, live fences, cattle water troughs, and extensive grazing also show higher use among men, though women participate to a significant degree.
- Less common practices such as biodigesters, manure management, and intensive rotational grazing are adopted at very low levels by both groups.
- In general, men tend to report higher adoption rates across most practices, while women participate more modestly, with some exceptions like manure management where adoption is nearly equal.



Results

- Non-adopters are the largest group, with 61 men (18.2%) and 27 women (30%), highlighting that women are more frequently represented in this group.
- At the basic adoption level (Level 1), 65 men (19.4%) participate compared to 11 women (12.2%), showing that men are more likely to start adopting practices.
- At the advanced adoption level (Level 3), the gap narrows, with 39 men (11.6%) and 13 women (14.4%), suggesting that while fewer women adopt overall, those who do are proportionally more represented at advanced stages.

Adoption profile	Women			Men		
	#	%	% of total	#	%	% of total
Non-adopter	27	30.0	6.3	61	18.2	14.3
Dispersed practices	22	24.4	5.1	71	21.1	16.7
Level 1 adopter (basic)	11	12.2	2.6	65	19.4	15.3
Level 2 adopter (intermediate)	17	18.9	4.0	99	29.6	23.3
Level 3 adopter (advanced)	13	14.4	3.1	39	11.6	9.2

- Farmer Field School participation reveals notable patterns in engagement levels between men and women.
- Both genders show similar trends in mid-level participation, with 47.8% of women and 48.1% of men attending 3-5 sessions, indicating this is the most common level of engagement across groups.
- However, some disparities emerge at the participation extremes. Women are slightly overrepresented in the lowest participation tier, with 14.4% attending fewer than 2 sessions compared to 11.3% of men.
- Conversely, men show marginally higher representation in the most engaged category, with 40.1% attending more than 5 sessions versus 37.8% of women.

Frequency of participation in Farmer Field Schools	Women			Men		
	#	%	% of total	#	%	% of total
<2	13	14.4	3.1	38	11.3	8.9
3-5	43	47.8	10.1	161	48.1	37.9
>5	34	37.8	8.0	136	40.1	32.0

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Conclusions

- The study shows significant gender disparities in sustainable cattle farming in Olancho, Honduras. Women face barriers to participation in cattle management and Farmer Field Schools due to limited access to resources, domestic responsibilities, and restrictive norms.
- They are overrepresented among non-adopters and underrepresented in early adoption stages. However, women who adopt are more likely than men to reach advanced adoption (14% vs. 12%), highlighting their potential as leaders in sustainable practices. Closing the gender gap is therefore essential not only for equity but also for strengthening rural livelihoods, food security, and climate resilience.
- Closing the gender gap in agriculture, and especially in cattle farming, is not just a matter of fairness – it is a strategic imperative for sustainable development. Empowering women in cattle farming will strengthen household incomes, improve food security, and amplify the impact of climate adaptation efforts across Olancho and beyond