

Drought and its impact on assets, livelihoods and gender roles

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Background

- Drought can affect a community in many ways - economic, environmental and social effects.
- Vulnerability to drought is driven by socioeconomic as well as biophysical factors that determine individual's susceptibility and ability to cope with such events
- *Social dimension* is central in determining ones vulnerability to external shocks
 - Women, particularly, are more vulnerable due to factors related to their reproductive roles and social norms that regulate decision-making power and access to resources

Rationale

- Research suggests that droughts have a strong negative effect on agricultural income and wellbeing of smallholder households (Barrios and Strobl 2008; Exenberger and Wolters 2014).
- Climate change induced events also have an impact on people's ability to work and their labor allocation decisions
- Previous studies by (Zivin and Neidell 2014; Connolly 2018) analyze the impact of global warming on individuals' distribution of work and leisure time
- None of these studies consider the impact of extreme events on agricultural time-use

Objective

- Explore the impact of drought events on labor allocation, primarily time-use of small-scale livestock producers
 - Case study of small-scale livestock herders in Patía, a livestock intensive region in the department of Cauca in Colombia
 - This study focuses on documenting gender-differentiated impacts of climate change induced shocks using the case of an extreme drought in 2015-16 in Patía.

Data

- 97 small-scale livestock-rearing households with couples randomly selected across 24 villages in the municipality of Patía in Colombia
- Household-level production and consumption data
- Intra-household decision-making and time-use data
- Semi-structured interview on the impact of drought on individuals' roles and responsibilities

Description of the sample population

- Majority of the population in Patía depends on agriculture, particularly livestock as their livelihood.
- After livestock, horticultural production is the second most important source of income and food security.
- Most of the households are composed of older adults whose children have migrated to nearby big cities
- Stark differences in the principal activities of men and women in this region
 - Livestock rearing is the principal activity of men while women reported care work as their principal occupation
 - 43 per cent of the women reported livestock rearing as their secondary activity

Men's and women's time-use in Patia

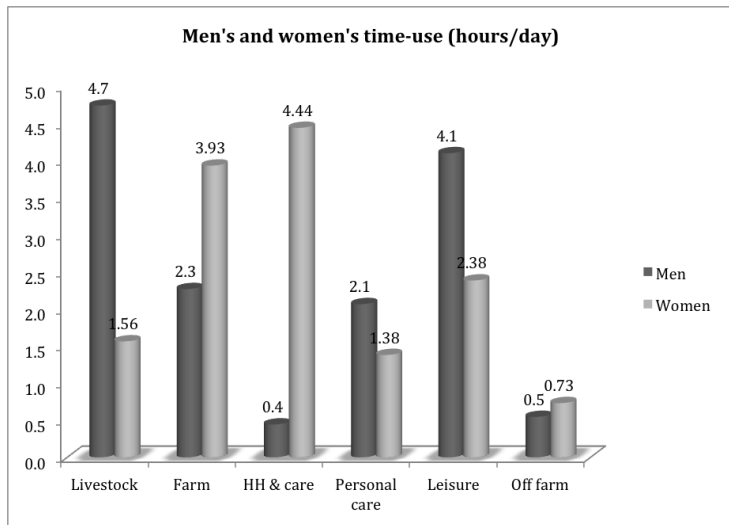


Figure: Men's and women's time-use (hours/day)

Impact of climate change induced events

- Households in Patía experienced a severe drought for almost 2 years during 2015-16

Table: Drought related damages faced by smallholder livestock rearing households in Patía

<i>Damages</i>	<i>% of HHs</i>
Only livestock died	5.15%
Only loss of crops/horticultural crops and pasture cover	24.74%
Both loss of livestock animals and crops/pasture cover	58.76%

Impact of climate change induced events

Table: Coping mechanisms of small-scale livestock rearing households in Patía during the drought of 2015-16

<i>Coping strategy</i>	<i>% of HHs</i>
Sell cattle or smaller livestock	4.65
Take a loan	26.74
Use savings	48.84
None	19.77

Actions taken by smallholder livestock rearing households in Patía during the drought of 2015-16

<i>Actions</i>	<i>% of HHs</i>
Buy water pumps	37.20
Buy concentrates and other foods for the cattle	20.93
Dig a water reservoir	55.81
Herd the cattle in other farms/ rent land with better pasture resistant to drought	10.46
Use tree leaves as feed for the cattle	22.09
Hire labor	10.5

Anecdotal evidence

I worked double as hard as normally in order to collect water for the cattle and inspect their health since they were more vulnerable due to lack of sufficient food and water.

I took my cattle to the creek where the water was still flowing during the drought. I walked 1 hour each side with the cattle in extreme heat under the sun.

Women's tasks in livestock rearing during the drought of 2015-16 in Patía

Although men faced difficult choices between additional work and leisure time, they didn't have competing claims on their time from other household responsibilities

<i>Tasks</i>	<i>% Women</i>
Help with transferring water	34.48
Help with digging the reservoir	1.72
Prepare and transport food for hired laborers	12.07
Herd the cattle in other farms	6.90
Collect tree leaves for cattle feed	24.14
Help with feeding the animals	10.34
Purchase and transfer cattle feed & supplements	3.45
Others	6.90

Gender dynamics of impact of drought

The activities undertaken by women on the livestock sector during the drought certainly burdened them with additional work

- *I had to give up household chores in the morning in order to transport water in buckets for the cattle. The household work used to get accumulated that I had to take care of during the evenings. I worked at least 3 hours more per day to complete all the tasks.*
- *In order to help my husband with transporting water from the creek to the water tanks on the farm, we often left early in the morning and worked till late without food. Later, I would come back to the house to manage household chores like cleaning, looking after the lime trees in the garden and to cook food and take it to the farm for my husband.*
- *Often, I would gather mango, and leaves from calabash trees to feed the cattle. Collecting these would take me over 2 hours every day. The drought was a very difficult period for us. We worked more than normal only to survive.*

Conclusions

- Greater uncertainty surrounding rainfall and more frequent drought are already affecting smallholders' ability to earn a livelihood
- Consider the impact of droughts not only on livelihoods and assets, also on labor allocation/time-use
- The results of this study show that the actions undertaken to cope with the impact of the drought were labor intensive and increased the demand for labor in livestock related activities
- Women faced competing claims on their time, which meant that they make trade-offs between household and livestock related activities

Thank you



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