



Improving rural women's coping strategies in the face of floods and droughts in Lesotho

By Mamello A. Nchake, Ramaele Moshoeshe, Maaola Khesa and Pauline Makopela-Bello

Key messages

- Women are more vulnerable to weather shocks than men in rural Lesotho, restricting agricultural productivity and threatening living standards.
- Programmes to support and promote agricultural activities that are less vulnerable to extreme weather events, such as livestock farming, may help rural women and their households maintain their living standards during these periods.
- Encouraging the use of climate-smart agricultural technologies and inputs, such as irrigation systems and improved seeds, may help mitigate women's vulnerabilities to weather shocks.
- Short-term, shock-responsive public assistance programmes may also be necessary as rural household (and especially women's) income drops during extreme weather events.

Droughts and floods in Lesotho cause agricultural production to plummet, threatening food security

Agriculture is vital to the livelihoods of many people in rural areas of Lesotho, where about 66% of the population resides, 85% of whom engage in smallholder farming¹. However, extreme weather events, including floods and droughts, have caused agricultural production and productivity to plummet over the last three decades. The 2015-16 El Niño drought caused a huge drop in grain harvest, leading to food shortages, high food prices, and many households facing food insecurity.

As this uncertainty led more of the rural population to migrate to urban areas in search of employment, the overall structure of the economy shifted. Manufacturing, retail and services sectors now dominate over the agricultural sector, exacerbating the decline in agricultural productivity.

Although the growth of non-farm sectors may provide opportunities for rural households to protect themselves against the effects of extreme weather events, many people in rural areas do not have the training and skills to benefit².

Women may be especially vulnerable to weather shocks. Economic and cultural factors—such as customary laws that often restrict women's access to productive assets, including land—prevent them from adjusting their labor supply, e.g., by increasing the number of hours worked or shifting to off-farm work.

Understanding how rural farmers and households cope following extreme weather events, including men's and women's labor supply strategies in these situations, is essential for developing effective adaptation and social-protection policies.

¹ Lesotho Bureau of Statistics, 2016

² Branco, D. and Féres, J. (2020)

Photo: Reverie Zurba/USAID



The analysis

Between 2019 and 2020, a team of local PEP researchers and government officers in Lesotho set out to understand how rural households in Lesotho are affected by extreme weather events—particularly as regards the potentially different employment options for men and women—and to identify policy options to mitigate these effects.

They analyzed household-level data from Agricultural Production Surveys (APS, Lesotho Bureau of Statistics) for 2015-2016, 2016-2017, 2017-2018, and 2018-2019. This data was merged with the Standardized Precipitation Evapotranspiration Index (SPEI, a multiscalar drought index that measures spatial and temporal weather patterns) showing extremely wet periods (floods) and extremely dry periods (droughts) during these years.

Households were categorized as either “farming only” (at least one household member participated in farming and no member worked in the off-farm sector) or “farming and non-farming”. The five labour-supply options were: farm labor, non-farm labor, seeking employment (i.e., unemployed), housewife/homemaker, outside the labor market. Household income was the sum of incomes from individual household members.

Key findings

Droughts and floods have gendered effects on people and households in rural Lesotho.

- While **drought episodes increase men’s participation in farming activities**, they **reduce women’s labour-force participation in off-farm activities and increase their unemployment**, making them less resilient to climate shocks.
- **Drought periods reduce the income of female-headed households engaged in “farming and non-farming” activities** (Figure 2).
- **Flood periods reduce the income of female-headed “farming only” and “farming and non-farming” households**, but do not affect the income of male-headed households in any of these activities (Figure 2).
- Adolescent girls (12-16 years) in female-headed households are more likely to become homemakers during drought episodes, probably substituting their mothers and other female adults who have increased their search for employment.

Men and women try to insure themselves against climate shocks through farming and non-farming activities, **but women are more vulnerable and have limited coping strategies** compared to men.

- Droughts and floods are linked to men increasing their participation in farming activities that are relatively less vulnerable to climate shocks, such as selling livestock and livestock products.
- Women cannot protect themselves as they engage in activities that are more vulnerable to climate shocks, such as selling grains and food.

Figure 1: Spatial and Temporal Changes in Weather

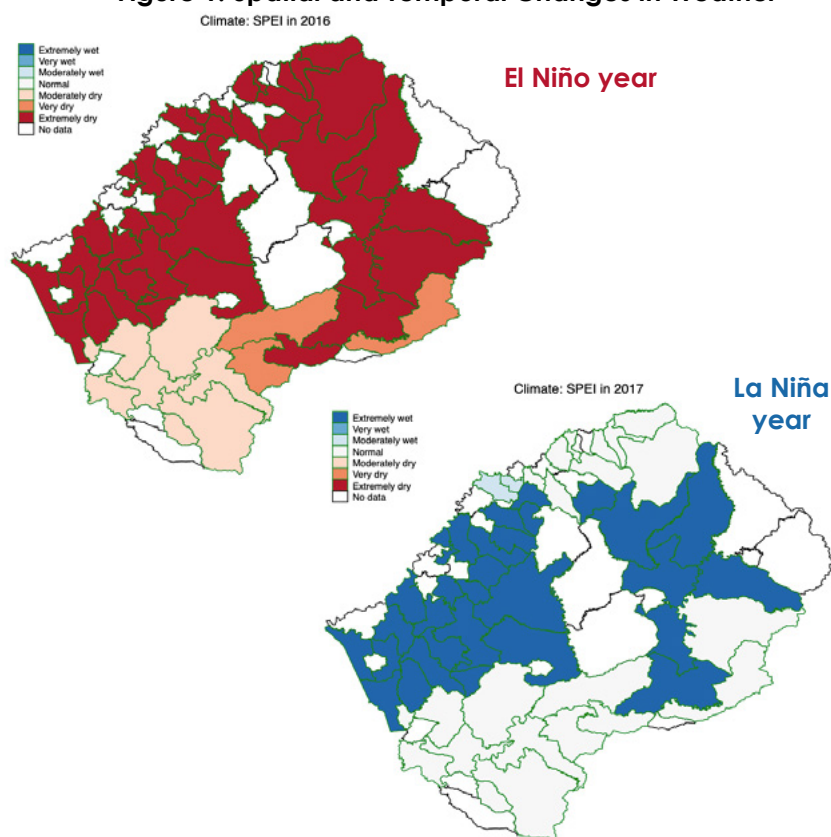
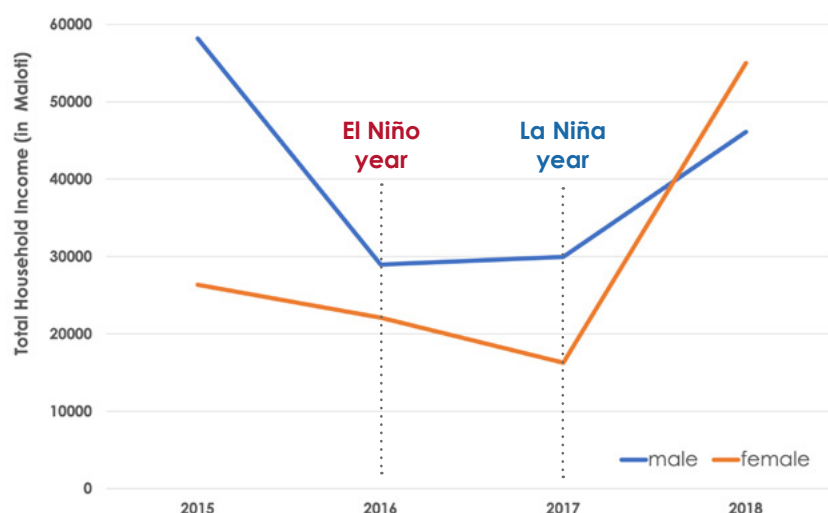


Figure 2: Change in Household Income Over Time by Gender of the Household Head



Conclusions and policy implications

Extreme weather events, such as **drought and floods**, greatly reduce the welfare of rural farming households in **Lesotho** and affect which occupations are available to them. Women are particularly vulnerable during these periods and suffer income losses, whether they are working in farm or off-farm activities.

- Following the example of rural men, **programmes to support and promote agricultural activities that are less vulnerable to extreme weather events**, such as livestock farming, may help rural households retain their living standards during these periods.
 - Targeting this support to women may be effective as they are underrepresented in these kinds of activity.
- As rural women's activities (selling grains and food) are particularly vulnerable to extreme weather events, **encouraging the use of climate-smart agricultural technologies and inputs** such as irrigation systems and improved seeds may help mitigate these vulnerabilities.
- As well as longer-term improvements for climate change adaptation, the government should be aware that **short-term, shock-responsive public assistance programmes may remain necessary** as household (and especially women's) income drops dramatically during extreme weather events.



This brief summarises outcomes from the project **PMMA-20449**, conducted 2019-20.

To find out more about the research methods and findings, read the full paper, published as part of the [PEP working paper series](#).



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