



Climate Change and Economic Development in Africa

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Enhanced adaptability for a gender-balanced climate-resilient labour market in South Africa

- Climate change increases women unemployment more than that of males in South Africa.
- Women's care burden has been exacerbated due to climate change
- Employment in different economic sectors is affected differently and we can leverage on these differences by promoting the sectors with climate-induced expansionary tendencies and reskilling the workforce to adapt to these changes.

- This can be achieved by:
 - investing in the expansion of the green economy and green jobs;
 - reskilling the workforce to adapt to this climate-induced structural change.

Context and importance of the problem

Gender equality and female empowerment (SDG 5) and embarking on actions to tackle climate change (SDG 13) are amongst the sustainable development goals established by the United Nations. South Africa has been experiencing extreme climatic events like droughts, floods, heat waves, etc because of climate change. These have impacted water and fuel sources, habitats, human health, and economic productivity. For instance, it is estimated that 19,113 households were affected by the recent floods in KwaZulu Natal Province. This resulted in 435 deaths and damage estimated at R17 billion¹. Females are particularly vulnerable due to their inherent social responsibilities (energy collection and use) and dependency on traditional sources of fuel (wood, charcoal, agricultural waste). As a result, they are exposed to danger of physical and sexual harm. This is particularly visible, in rural areas. Consequently, they are time-poor and face a high economic cost of their time usage which could have otherwise been spent on income generating activities². As climate events increase in frequency and intensity the plight of women is expected to worsen.

The disproportionate impact of climate change on women and girls

The labour market is the principal source of inequality especially, along gender and demographic lines. Females represent a larger proportion of the population. They are also associated with higher unemployment rates than males³. Women's participation in the labour force is influenced by enhancements in labour market opportunities. Thus, it is essential to give inequalities that define ownership of assets, demographics, public decision-making, and the access to public goods and services due consideration in policy planning.

1 Zikalala asks KZN flood affected communities to be patient (iol.co.za)

2 World Bank. 2006. Gender, time use, and poverty in Sub-Saharan Africa. Working Paper no. 73. Washington, DC: World Bank.

3 Stats SA (2020). Quarterly Labour Force Survey Q1: 2020. Statistical release P0211. Pretoria: Statistics South Africa.

We employed tested and sound techniques to deal with potential biases associated with this kind of data and matters under analysis. We account for possible shifts in the structure of employment by analysing sectoral transformations in employment. Our data was obtained from country-wide sources consisting of the National Income Dynamics Survey (NIDS), South African Weather Services (SAWS) and the Council for Scientific and Industrial Research (CSIR).



Source: Ellen Heimpel/Ecologi 2021

Results and implications

- A shift in temperature by say 1°C from what it has always been leads to a decline in the likelihood of employment by 12%, 21% and 17% for females, males and overall, respectively.
- Similarly, an increase in temperature by one standard variation from the mean results in an increase in the probability of employment by 0.47 times for females compared to 0.13 times for males.
- On the contrary, extreme weather events have more negative effects on female employment. The unemployment rate in our sample is 30%, with more unemployment in the female subsample (35%) compared to males (25%).
- In the context of under-employment, females tend to work for less (37.4 hours) hours per week than men (40.9 hours). A standard variation in temperature from the average reduces the probability of full employment by 0.28 times for females as opposed to 0.39 for males.
- These gender differences are still evident once the data is corrected for bias. One standard rise in temperature from the mean results in 16.73 less hours worked for females compared to 15.92 less hours worked for males.
- Sectoral analysis shows that the most employment contractions are observed in the agriculture and manufacturing sectors. The sectors are also associated with more female job-shedding than males.

- The only sector with a significant odds of positive employment gains due to climate change is the community, social and personal services (CSPS), where a standard deviation in temperature results in sevenfold rise in employment. The expansion in the CSPS sector is mostly due to female jobs.
- Another sector that shows tendency of expansion (of mostly male jobs) is the personal and household services sector.

Climate change is increasing unemployment overall, but this is affecting women more than men. This is reflected in terms of the less hours of work supplied by women in comparison to men.

Policy recommendations

We recommend that:

- While climate change mitigations and adaptation measures geared towards the labour market should take priority in general, when extreme climate events occur, labour market support measures should weigh more towards females.
- Competing and unpaid care work takes away female labour market time. This argument is supported by the tendency we identified in which climate change tends to shift female labour force from manufacturing and agriculture to more care-related sectors like the social and personal care services. Measures to support women with alleviating of unpaid care burden should be considered.
- Policy-induced changes in technologies are not properly exploited in South Africa as adaptation measures in the labour market. This should be a policy priority. Policy efforts should focus on heavy investments in sectors that show potential for labour absorption due to climate change, in particular, the green economy.
- Reskilling of the workforce should be a labour supply-side priority of policy in order to help the workforce adapt to this structural change.



Mission

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