



# ATSAF - CGIAR++ Junior Scientists Program Final Report

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**International Agricultural Research Center: International Food Policy Research Institute (IFPRI)**

**Country: Ethiopia**

**Supervisor at IARC: Dr. Dawit Mekonnen, Dr. Claudia Ringler**

**Start and end date of stay at IARC: -**

**Start and end date of remotely supervised project: 01 Mar 2021 - 31 Aug 2021**

**Title: Productive use of energy in rural Ethiopia. A gendered perspective**

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I am a second-year student of the International Master of Horticultural Sciences at Humboldt-Universität zu Berlin. Supported by ATSAF's CGIAR++ Junior Scientists Program I was do research for my master thesis on "The productive use of energy in rural Ethiopia, applying a gendered perspective" between March and August 2021. The topic of my thesis is at the nexus of energy, poverty and gender and takes a rural perspective. It is of special interest to me since I not only have a background in Agricultural but also in Social Sciences. Ethiopia is of particular importance to me since I have some personal family ties with the country and had the chance to visit it before, though not for research purposes.

Plans were made to travel to Ethiopia and carry out research at and with support by the International Food Policy Research Institute (IFPRI) in Addis Ababa. These plans however had to be cancelled last minute due to the human resource department of IFPRI not giving me clearance to travel. Personally, this was very unfortunate for me as I got this information quite late and was already preparing for my stay in Addis as well as for my absence from home. The decision to not give me clearance to travel was based on both the assessment of the pandemic development in Ethiopia as well as on the political situation on site.

As an alternative, the internship I was to do in Addis was carried out remotely. I had weekly meetings with a supervisor via Microsoft Teams. I very much appreciate that Dawit Mekonnen took the time to discuss many aspects in detail with me. He especially supported me with advice on Stata, as it had been some time since I had done statistical analysis. He also put me in contact with some other colleagues who had worked on certain aspects of productive energy use and could answer content related questions. Upon interest I could participate in regular meetings of IFPRI staff as well as take part in various conferences and talks on topics related to my thesis.

In addition to my IFPRI supervisor Dawit Mekonnen, Claudia Ringler provided and shared some interesting literature. She put me in contact with some other interns at IFPRI and it was a good experience to learn about other students' approaches and working experience during the pandemic.

I was further supported by Katharina Löhner from ZALF who I had previously worked with and who helped me with any question arising.

The support by JSP was very good and I always had a contact person although the people I communicated with changed over the months.

IFPRI technical support was very good, I got help in setting up my Outlook, Teams and Dropbox accounts and in getting acquainted with IFPRI security measures. All IFPRI staff has to take part in online classes on cyber criminality and online safety measures were high on the agenda.

Because I worked from home and did not have access to organizational equipment like a computer, access to programs was limited. As an example, Stata, the main program I worked with, could not be provided and I had to buy a license for my personal computer.

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Personally, I noticed that I was less focused on the research work than I would have been staying in Ethiopia. This was mainly due to ongoing work and study-related obligations in Berlin that I naturally would have paused during my absence.

In addition, a general observation I made is that processes would often times take a lot longer when communicating online which I found challenging sometimes. This also applied to the organization of the internship itself: the process of getting a visa approved, finding accommodation etc. took quite long because in many cases various people were involved. Another difficulty for me was that my supervisor at IFPRI was on leave for several weeks over the summer.

Originally, the plan was to carry out both quantitative as well as qualitative research through focus groups. I was not on site personally and due to the tense situation, it was not possible for researchers in Addis to carry out this work either. Online surveys or interviews over the phone were not a realistic option as I was especially interested in the rural population and those who are limited in their access to electricity, phones and the internet. My work thus had to focus on the quantitative analysis of existing surveys in addition to an extensive literature review.

I concentrated on the Ethiopia Socioeconomic Survey (ESS) that was carried out by the Central Statistical Agency of Ethiopia and the World Bank Living Standards Measurement Study (LSMS) team. So far, four waves of the ESS have been carried out (2011/12; 2013/14, 2015/16 and 2018/19). The survey aims at collecting multi-topic, household-level panel data, improving agriculture statistics and contributing to understanding linkages between the agricultural and other sectors.

For my research, I focused on the ESS4 (2018/19) as it provides the most recent information. ESS4 includes five questionnaires: A household questionnaire, a community questionnaire and three agricultural questionnaires (post-planting, post-harvest and livestock).

Generally household characteristics like household size, region, age or socioeconomic status of household members were looked at. More specifically, variables on the main source of light used in a household, on electricity failures, monthly costs for electricity, on cooking and kitchen facilities and fuel, and on time and labor spent collecting firewood were analyzed. The aim was to answer questions such as what are key uses of electricity in domestic vs. productive use spaces or what factors drive more intensive use of electricity like for instance the reliability of access.

Data was compared for urban and rural areas and for the whole country. In order to shed light on gender related effects, the data was differentiated by the gender of the head of household and household chores like collecting firewood were looked at separately for boys and girls.

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The survey for example shows that around 48% of a total of 6770 households do not use electricity as the main source of light and we can assume that these households do not have access to electricity. Electricity coverage is at almost 90% in urban and at around 12% in rural areas. In rural areas, almost twice the time is spent on collecting firewood or other natural products for use as biofuel and female household members spent more time collecting than their male counterparts. Time that could for instance be spent on income-generating activities or education.

Interestingly, a majority of almost 70% uses clean electricity as the main source of light. Quality of electricity is low, one third of all households reported power outages of 51 or more hours in the last week.

The data available through the survey is limited for example in regard to government involvement and policy recommendations. These gaps are to be filled through a review on government programs and existing research for instance on measures to enhance women's access to clean energy.

Currently, the analysis of the data as well as the discussion of the gained knowledge are still ongoing and a presentation on preliminary results is in the works. The publication of a working paper is planned for the end of 2021.

I would like to thank the CGIAR++ Junior Scientists Program and the team at ATSAF for their support so far and will keep all parties involved updated on the progress on my final paper.

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