Contextualizing Clean Energy Interventions in the Household Sector within Low- and Middle-Income Countries

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The problem of ubiquity: Household air pollution exposures

Proportion of Population Using Solid Fuels in 2019

Proportion of Population

- 0.0 to <0.069
- 0.069 to <0.22
- 0.22 to <0.47
- 0.47 to <0.76
- 0.76 to <1.0
- No Data

State of Global Air 2020

The problem of inequity: Multi-dimensional poverty in the poorest billion

Geographical distribution of the poorest billion with country sizes drawn proportional to the number of people with >5 deprivations

Source: Oxford Poverty and Human Development Initiative 2019.

Lancet Poverty NCDI Commission, 2020
The problem of time poverty

a. Fuelwood collection (minutes per day)

- Guinea: Women 3, Men 20
- Malawi: Women 3, Men 19
- Benin: Women 4, Men 16
- Tanzania: Women 5, Men 9
- Burkina Faso: Women 2, Men 6
- South Africa: Women 3, Men 6
- Ghana: Women 7, Men 30
- Ethiopia (Tigray): Women 7, Men 100

b. Cooking (hours per day)

- Burkina Faso: Women 0.10, Men 2.35
- Tanzania: Women 0.28, Men 2.41
- Guinea: Women 0.04, Men 1.31
- Lesotho: Women 0.04, Men 3.73
- Malawi: Women 0.20, Men 1.34
- Rwanda: Women 0.08, Men 3.21
- Ethiopia (Tigray): Women 0.29, Men 4.57

Source: World Bank ESMAP 2015
The problem of regional capacity

• Can the expanding battery of randomized controlled trials (RCTs) and Exposure-response studies focused on cleaner cooking technologies provide unequivocal evidence?

• Can accountability studies be mounted within on-going programmatic clean cooking efforts to scale and sustain these programs based on health and climate co-benefits?

• Could we just pitch solutions that will get us up on the energy ladder and down the emissions and exposure ladder with the exposure ladder rungs set at least at the level of the WHO-Interim Target 1?

• Could we just pitch eliminating solid fuels as the lowest hanging fruit for ambient air quality actions for which regulatory standards exist even in LMIC settings?

• Are we doing enough to create local/regional capacities to generate and apply science based evidence from air quality and climate actions?