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Ghana's e-learning program during pandemic presents access challenges for many students

Afrobarometer Dispatch No. 374 | Mavis Zupork Dome and Daniel Armah-Attoh

Summary

To try to ensure continuous teaching and learning while schools are shut down as a result of the COVID-19 pandemic, the Ministry of Education (MoE) through the Ghana Education Service (GES) has introduced virtual learning platforms. Televised (Ghana Learning TV) and online (icampus) programs, along with a radio reading program, are to provide students the opportunity to continue studying their core subjects – mathematics, English, science, and social studies – as well as selected electives (Graphic, 2020; Myjoyonline, 2020; News Ghana, 2020).

As in many other African countries (Krönke, 2020), these virtual platforms are intended to help ensure inclusive and equitable access to and participation in education at all levels. The question is how many students will be able to access them.

Data from the Afrobarometer Round 8 (2019) survey in Ghana suggest that many students – especially those living in rural or poor households – will find it difficult or impossible to participate in these e-learning initiatives because they don't have access to the necessary devices, to the Internet, or to reliable electricity. These findings point to a need to prioritize radio and television programs in the short run and invest in expanded access to online resources for the longer haul.

Afrobarometer surveys

Afrobarometer is a pan-African, nonpartisan survey research network that provides reliable data on African experiences and evaluations of democracy, governance, and quality of life. Seven rounds of surveys were completed in up to 38 countries between 1999 and 2018. Round 8 surveys in 2019/2020 are planned in at least 35 countries. Afrobarometer conducts face-to-face interviews in the language of the respondent's choice with nationally representative samples.

The Afrobarometer team in Ghana, led by the Ghana Center for Democratic Development (CDD-Ghana), interviewed 2,400 adult Ghanaians between 16 September and 3 October 2019. A sample of this size yields country-level results with a margin of error of +/-2 percentage points at a 95% confidence level. Previous surveys were conducted in Ghana in 1999, 2002, 2004, 2008, 2012, 2014, and 2017.

Key findings

- Large majorities of Ghanaian households have radios (83%) and televisions (76%). Despite large rural disadvantages, radios and TVs are common even in rural households (76% and 62%, respectively).
- Most Ghanaians (93%) either own or live in a household where someone else owns a mobile phone. However, only 45% of these phones have access to the Internet, and thus to online learning programs. In rural areas, fewer than one-third (31%) of mobile phones have access to the Internet.

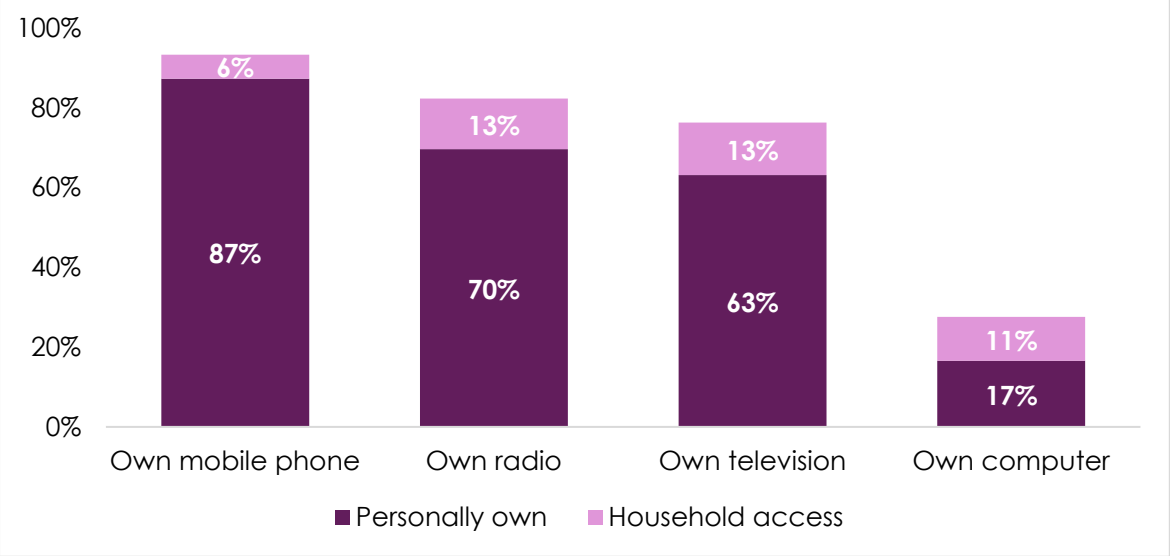
- Fewer than three in 10 Ghanaian households (28%) have a computer. Among rural and poor households, only about one in seven (14%) have a computer.
- Six out of 10 Ghanaians (61%) never or rarely ("less than once a month") use the Internet. Among rural and poor respondents, fewer than one in four go online at least "a few times a month."
- Seven in 10 Ghanaian households (71%) enjoy reliable electricity from the national grid, though this proportion is smaller among rural (59%) and poor (55%) households. An additional 5% of all households use other sources of electricity, such as solar panels, batteries, or generators.
- Lack of access to devices, the Internet, and reliable electricity, especially in rural and poor households, points to difficulties that many students would have in participating in MoE/GES e-learning programs.

Access to communications devices

Afrobarometer asked survey respondents whether they personally own or, if not, whether someone else in their household owns certain communications devices that would be needed to access e-learning programs. While the survey interviews only adults (aged 18 or older), findings provide an overview of the resources to which school-age children might have access at the household level.

Most Ghanaian adults either own a mobile phone (87%) or live in households where someone else owns a mobile phone (6%). Large majorities also say they or someone else in their household owns a radio (83%) and a television (76%). In contrast, fewer than three in 10 (28%) say their household has a computer (Figure 1).

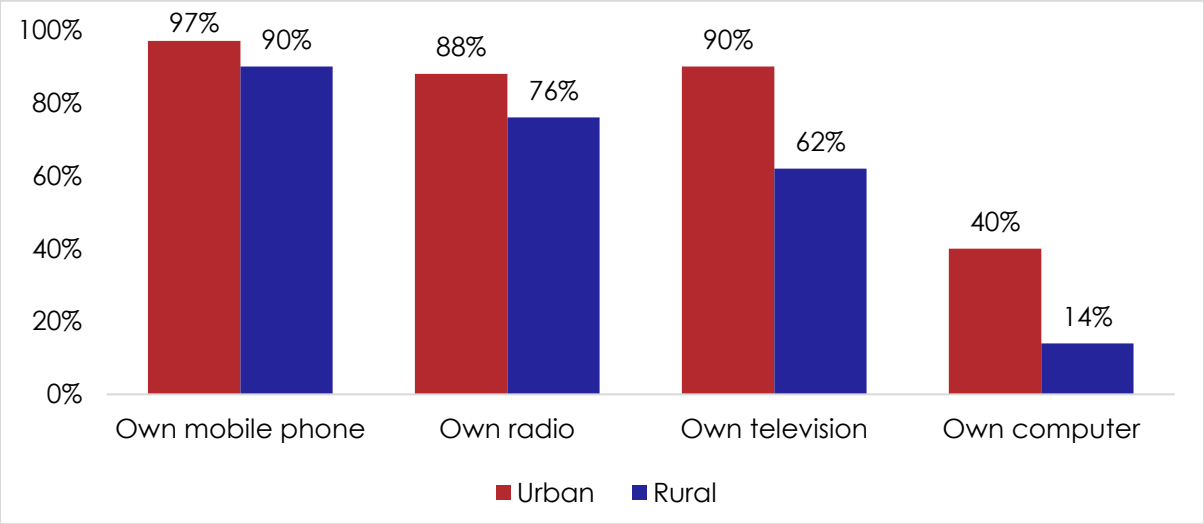
Figure 1: Household access to communications devices | Ghana | 2019



Respondents were asked: *Which of these things do you personally own? [If "no":] Does anyone else in your household own one?*

Urban and rural residents differ sharply in their access to communications devices needed to access e-learning programs. A 28-percentage-point gap in television ownership separates urban (90%) and rural (62%) households (Figure 2). The gap in computer ownership is 26 percentage points (40% vs. 14%). Though smaller, the urban-rural differences in radio (12 percentage points) and mobile-phone ownership (7 percentage points) are still substantial.

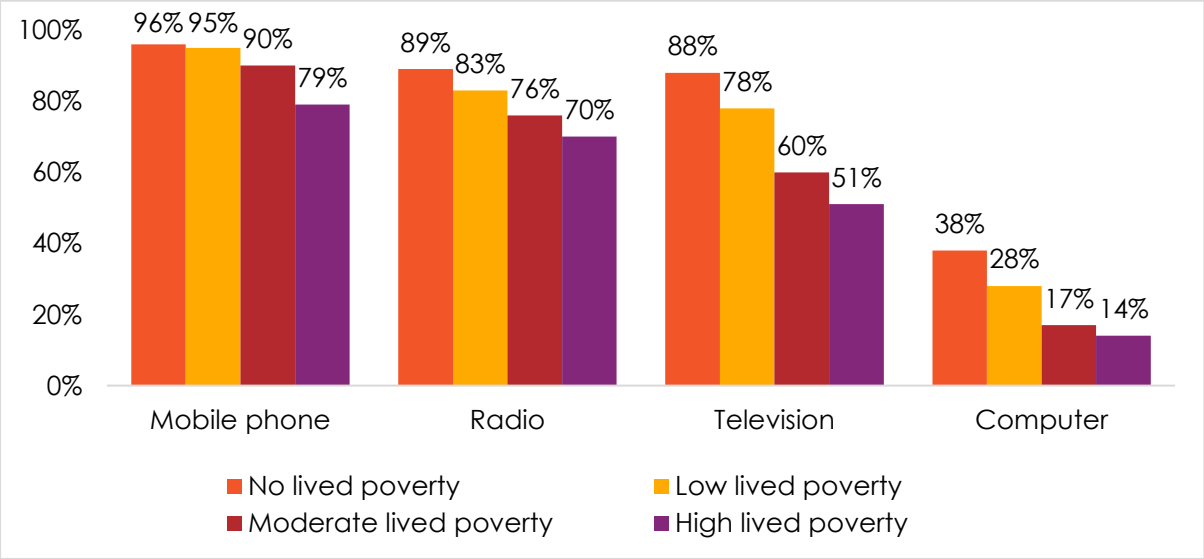
Figure 2: Household access to communications devices | by urban-rural residency | Ghana | 2019



Respondents were asked: *Which of these things do you personally own? [If "no":] Does anyone else in your household own one? (% combines personal and household ownership)*

As might be expected, poor households[1] are significantly less likely to own communications devices than their better-off counterparts. Gaps ranging from 17 percentage points (for mobile phones) to 37 percentage points (for televisions) separate households experiencing "high lived poverty" from affluent households (Figure 3).

Figure 3: Household access to communications devices | by lived poverty | Ghana | 2019



Respondents were asked: *Which of these things do you personally own? [If "no":] Does anyone else in your household own one? (% combines personal and household ownership)*

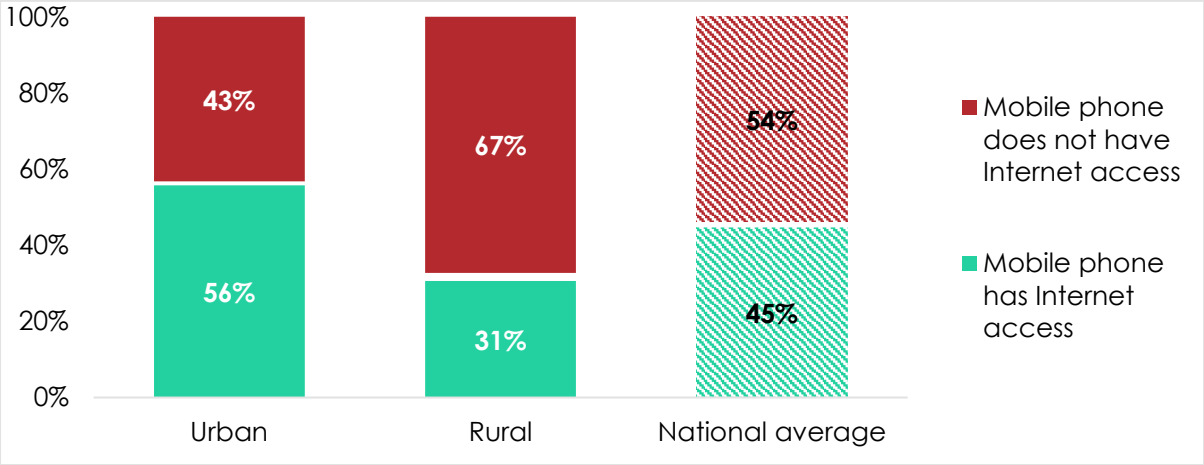
[1] Afrobarometer's Lived Poverty Index (LPI) measures respondents' levels of material deprivation by asking how often they or their families went without basic necessities (enough food, enough water, medical care, enough cooking fuel, and a cash income) during the preceding year. For more on lived poverty, see Mattes (2020).

Mobile-phone ownership and access to the Internet

While most Ghanaian households have mobile phones, mere ownership of a phone does not translate into easy access to online e-learning programs, as the online platforms can only be functional if users have Internet connectivity using hotspots, modems, broadband, wi-fi, or satellite. Among the 87% of Ghanaians who say they personally own mobile phones, fewer than half (45%) say their phones have access to the Internet (i.e. are smartphones). In rural areas, fewer than one-third (31%) of phone owners enjoy Internet access via their phones, compared to 56% in cities (Figure 4).

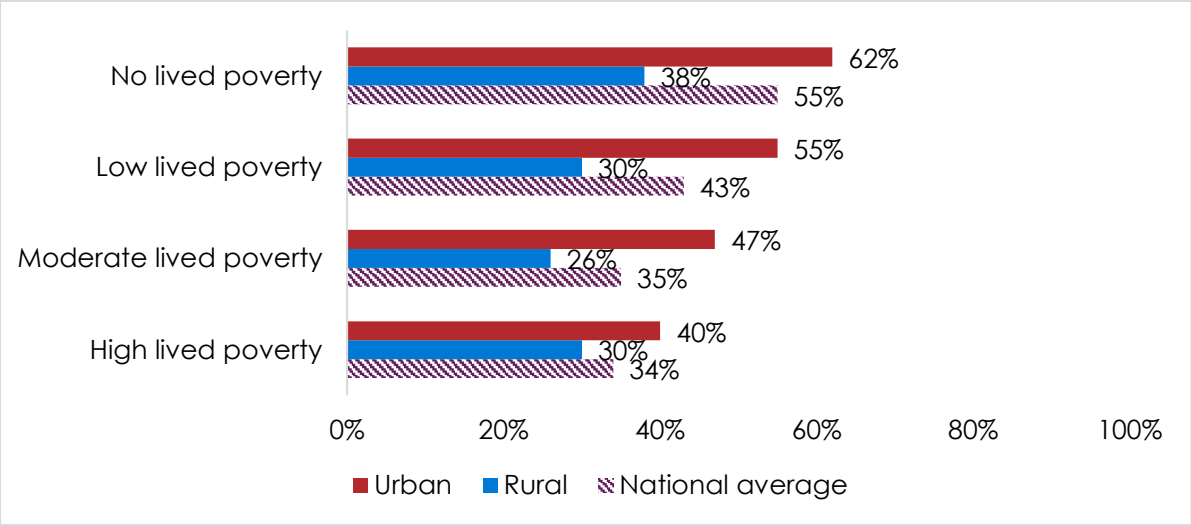
Here again, people's ability to access the Internet with their phones is significantly influenced by their economic status. In both rural and urban areas, households experiencing no lived poverty are significantly more likely to have smartphones than those with low, moderate, or high levels of lived poverty (Figure 5).

Figure 4: Mobile phone has access to the Internet | by urban-rural residency | Ghana | 2019



Respondents who said they personally owned mobile phones were asked: *Does your phone have access to the Internet?*

Figure 5: Mobile phone has access to the Internet | by lived poverty and urban-rural residency | Ghana | 2019



Respondents who said they personally owned mobile phones were asked: *Does your phone have access to the Internet? (% who say "yes")*

Frequency of Internet use

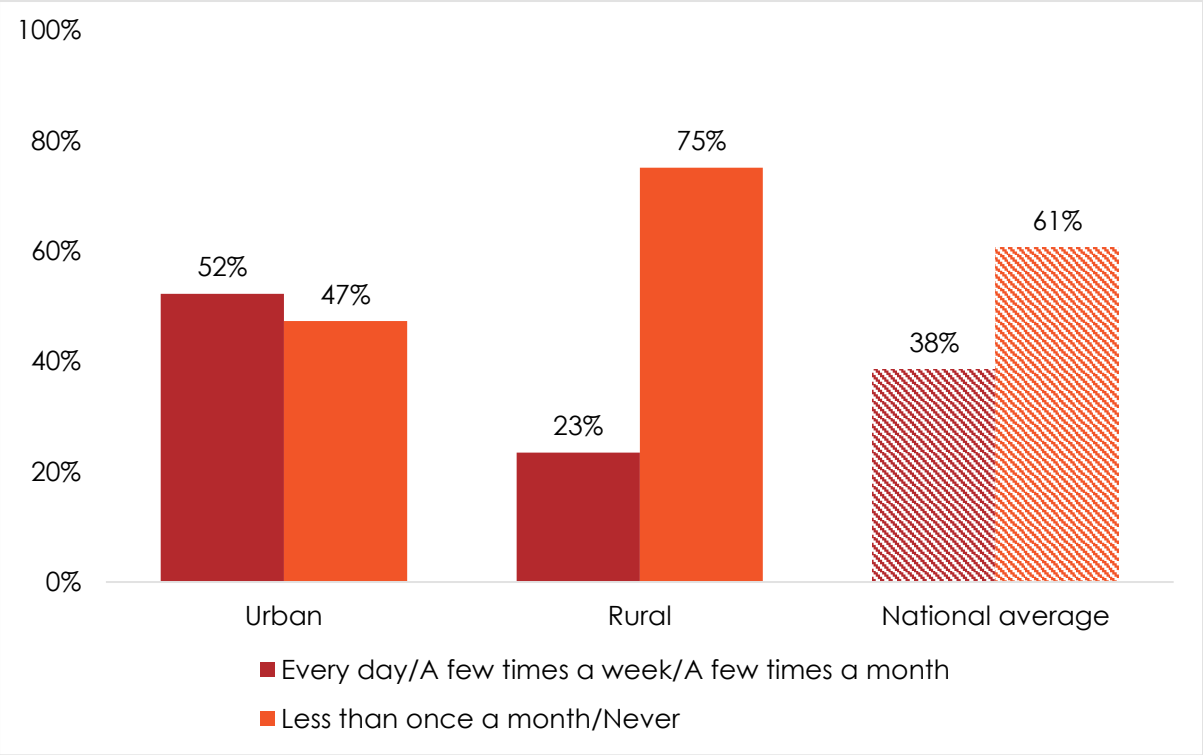
Just as owning a mobile phone does not guarantee access to the Internet, simply owning a smartphone or computer does not ensure the ability to access information, including online learning programs, as Internet connection and use may carry costs (i.e. data bundle and Internet service charges).[2]

In practice, six out of 10 Ghanaians (61%) say they never or rarely ("less than once a month") use the Internet. Only 38% say they go online "a few times a month," "a few times a week," or "every day." Rural residents are less likely to use the Internet (75% say "never" or "less than once a month"), but even in the cities, only a slim majority (52%) go online at least "a few times a month" (Figure 6).

Again, both in rural areas and in cities, poor respondents are less likely than their better-off counterparts to use the Internet (Figure 7).

Even among citizens who own smartphones and/or have a computer in the household, not everyone uses the Internet; about one in seven (13%-14%) say they never or rarely go online (Figure 8).

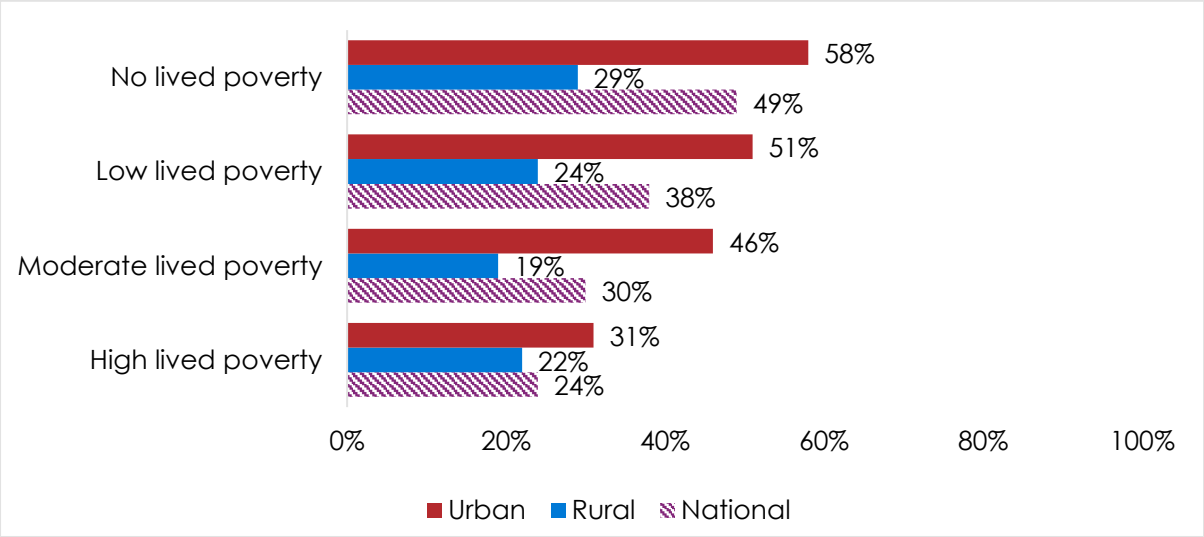
Figure 6: Frequency of Internet use | by urban-rural residency | Ghana | 2019



Respondents were asked: *How often do you use the Internet?*

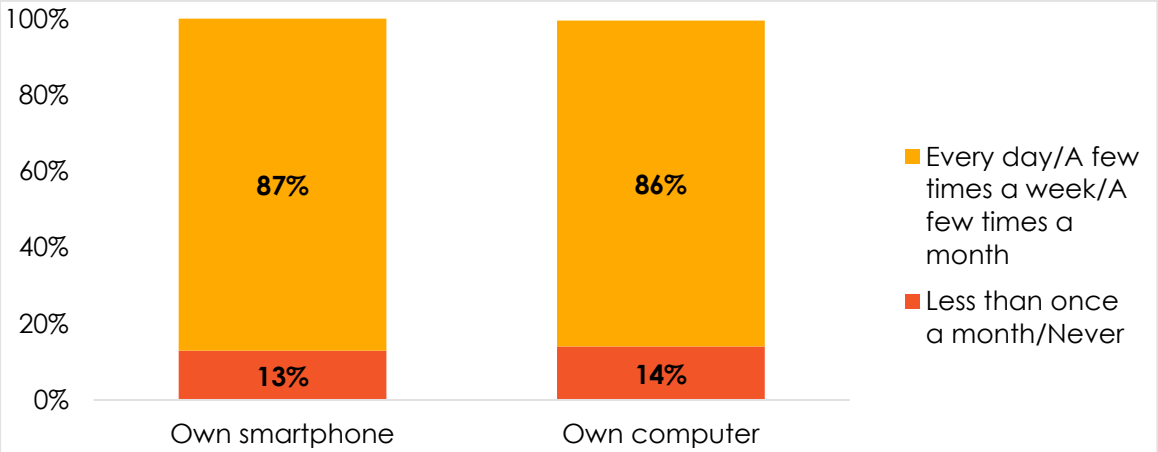
[2] Though telecommunications companies such as MTN Ghana and Vodafone Ghana (2020) do not charge subscribers for the use of the icampus program, users must have some data to be able to connect and use the platform. Also, households using other networks must bear the full data cost of students' accessing educational platforms.

Figure 7: Frequency of Internet use | by lived poverty and urban-rural residency | Ghana | 2019



Respondents were asked: *How often do you use the Internet? (% who say "every day," "a few times a week," or "a few times a month")*

Figure 8: Frequency of Internet use | by smartphone/computer ownership | Ghana | 2019



Respondents were asked: *How often do you use the Internet?*

Access to electricity to power e-learning devices

One critical ingredient in the e-learning equation is the availability of reliable electricity to power devices such as computers, smartphones, and television and radio sets. In Ghana, more than eight in 10 households (85%) are connected to the national grid, and 71% of all households (83% of connected households) report that they enjoy electricity from the national grid "most" or "all" of the time (Figure 9).

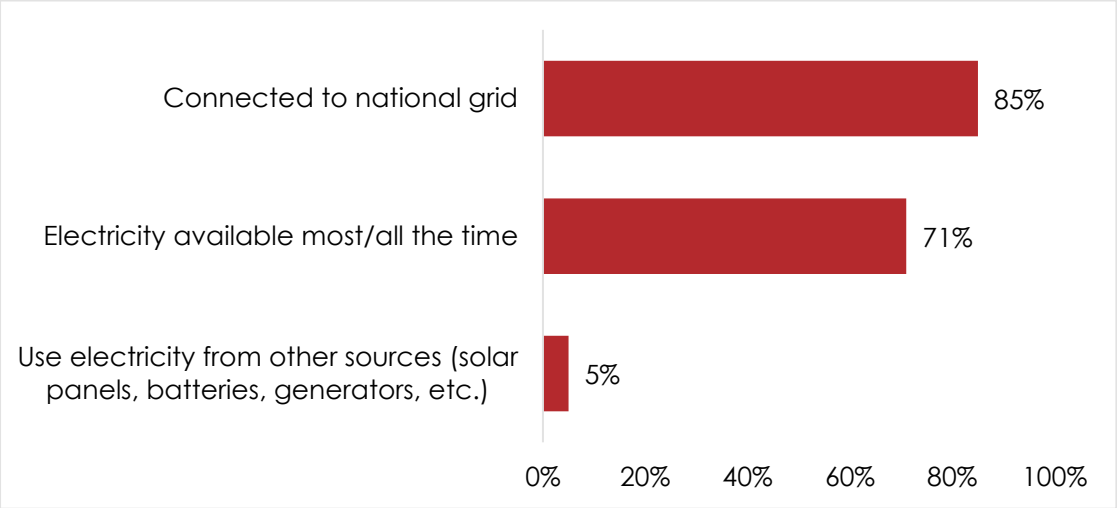
Aside from power from the national grid, 5% of households depend on other sources of electricity, such as solar panels, batteries, generators, wind power, and biogas.[3]

[3] In addition, 6% of households report using hydro-power, but this is typically provided through the national electric grid.

Rural and poor households are at a significant disadvantage when it comes to electric connection and reliable power supply (Figure 10). While nearly all urban households (95%) are connected to the national grid, the same is true of 74% of rural households. And while 82% of urban households report a reliable supply of electricity from the grid, only 59% of rural households make the same claim.

Both the proportion of connected households and the reliability of power supply decline steadily as the level of lived poverty increases. In households experiencing high lived poverty, two-thirds (67%) are connected to the grid, and 55% say they have power most/all the time.

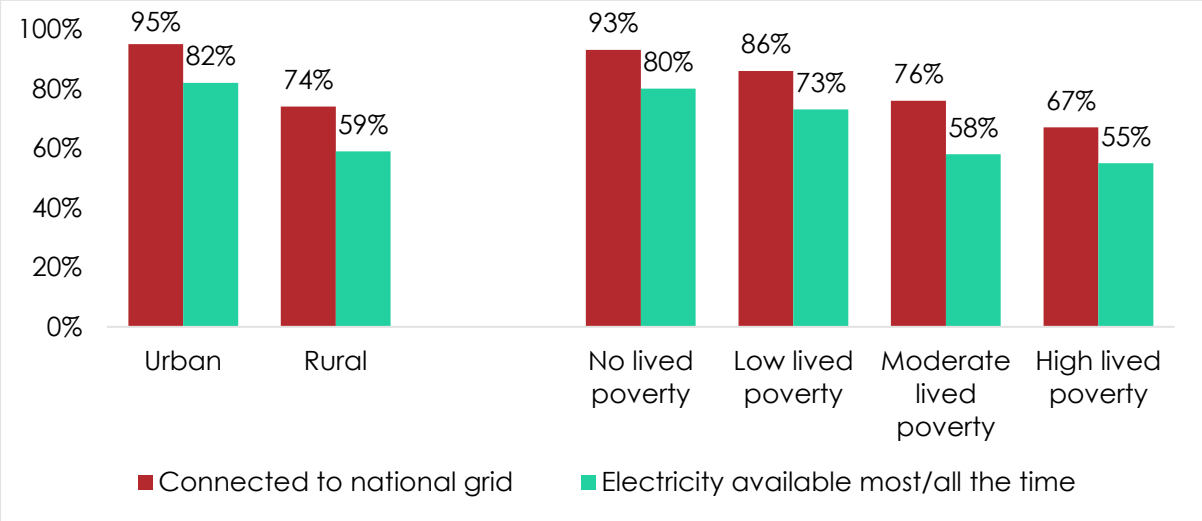
Figure 9: Access to electricity | Ghana | 2019



Respondents were asked:

Do you have an electric connection to your home from the national power grid? (% "yes")
How often is electricity actually available from this connection? (Figure shows % of all respondents who say they are connected to the national grid and electricity works "most" or "all" of the time.)
Does your house use electric power from any source other than the national power grid?

Figure 10: Electric connection and reliable supply | by urban-rural residency and lived poverty | Ghana | 2019



Respondents were asked:

Do you have an electric connection to your home from the national power grid? (% "yes")
How often is electricity actually available from this connection? (Figure shows % of all respondents who say they are connected to the national grid and electricity works "most" or "all" of the time.)

Conclusion

Afrobarometer findings show that radio and television are the most widely accessible platforms for students seeking to participate in MoE/GES e-learning programs, although rural and poor households are at a disadvantage when it comes to owning these devices.

The data show relatively low rates of access to the Internet via mobile phone, ownership of computers, and regular use of the Internet, particularly among respondents in rural and poor households, highlighting the difficulties that many students will face in engaging with online learning programs.

While most households are connected to the electric grid, more than four in 10 rural and poor households do not have a power supply that works most or all of the time.

For both government and civil society, these findings indicate potential learning gaps, as not all students will be able to access e-learning programs from all platforms. This points to the need for strategies to increase students' participation, particularly targeting rural and poor families, by raising awareness of available televised programs and launching radio-based remote-learning programs as soon as possible. To ensure inclusion and participation in online platforms such as icampus, the government and schools should initiate longer-term plans and investments capable of spreading e-learning infrastructure, irrespective of settlement types and poverty levels, to facilitate access for all students.

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Afrobarometer, a nonprofit corporation with headquarters in Ghana, is a pan-African, non-partisan research network. Regional coordination of national partners in about 35 countries is provided by the Ghana Center for Democratic Development (CDD-Ghana), the Institute for Justice and Reconciliation (IJR) in South Africa, and the Institute for Development Studies (IDS) at the University of Nairobi in Kenya. Michigan State University (MSU) and the University of Cape Town (UCT) provide technical support to the network.

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