

## CHAPTER 7

# Infrastructure

As will be discussed in **Chapter 11: Successes and Challenges**, a lack of adequate infrastructure sometimes presents a challenge to the functioning of school meal programs. Two-thirds of the countries that responded to this section reported that all or most schools have clean water, while 8% reported that few or no schools had clean water. The likelihood of finding clean water in schools rises incrementally with higher wealth levels (Figure 21). All or most schools had cafeterias or other dedicated eating spaces in 31.5% of the countries, while 42% reported that very few or no schools had cafeterias. Just over one quarter of the countries reported that very few or no schools had electricity. Again, the likelihood of finding cafeterias or electricity in schools increases with rising wealth levels. Specifically, among low income countries, 65% reported that very few schools had electricity; this has implications for the ability of schools to refrigerate or preserve food items.

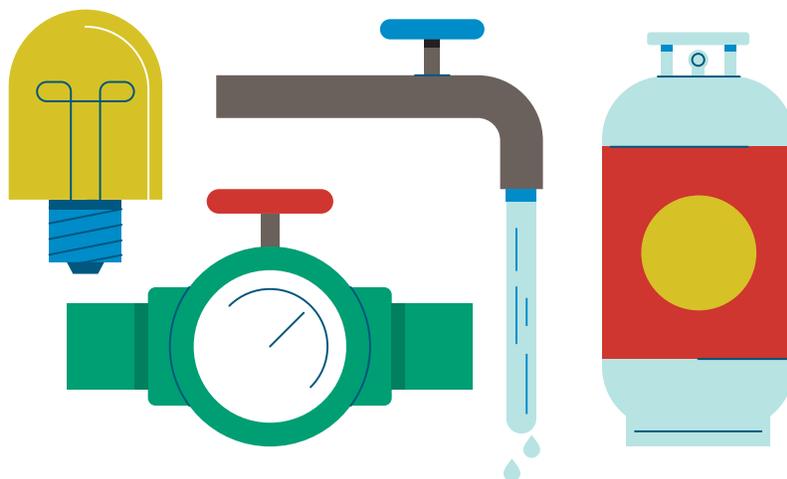


**65% of low income countries that responded said very few schools have electricity, with implications for the preservation of food.**

Gender-private latrines or toilets in schools (i.e., separate facilities for girls and boys) are especially important for the retention of female students, and this becomes even more important when girls reach the age of puberty. Across the 76 countries that responded to the survey question on this topic, 67% reported that all or most schools had gender-private facilities, 26% reported that this was the case in some schools, and 7% reported that very few or no schools had such arrangements. As with other amenities, gender-private toileting facilities are less common in lower income settings.

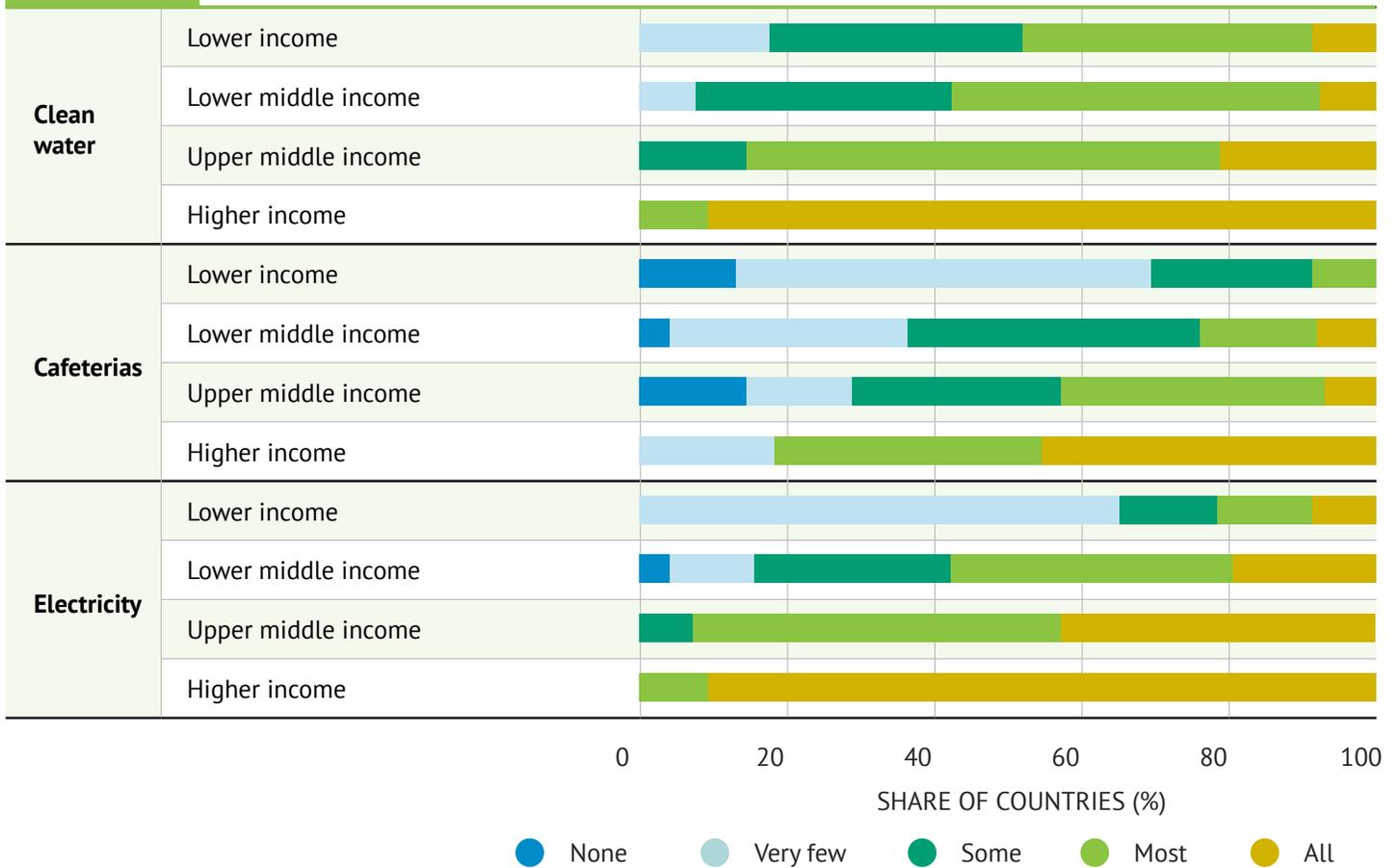
Across programs, most school meals or snacks were prepared on school grounds, with an average of 85% of the schools in these programs having on-site kitchens. In addition, 20% of programs brought in food from off-site private kitchens, and 12% prepared food in centralized (not private) kitchens (Figure 22). The Breakfast Program in Guyana is an example of the latter. In some settings, the absence of on-site infrastructure stems from an explicit policy choice in favor of off-site preparation. Meanwhile, 11% of programs reported that they only served food items that were purchased in processed form and require no preparation. An example is the School Feeding Program in Poverty Prone Areas in Bangladesh, which serves high-energy biscuits purchased in processed form. These are centrally procured by the Directorate of Primary Education from enlisted biscuit manufacturers and delivered to primary schools by various NGOs. Overall, however, the provision of processed food items is more common in higher income settings. Few programs seem to distribute food items in unprocessed form.

Across programs with kitchens, the typical kitchen in almost all (89%) programs had utensils for serving and eating, as well as storage facilities (89%) (Figure 23). Many programs noted that they include both open and closed kitchen setups, though open cooking areas were much more common in lower income countries. Among the 72% of programs that use charcoal/wood stoves, students were expected to provide fuel in 46% of the cases. In Burundi, it was cited as a challenge to find clean energy for cooking, while in Chad, improved stoves are promoted for use in school canteens in order to combat environmental degradation. In low income settings, it is uncommon for typical kitchens to have electricity, refrigeration, or gas or electric stoves. In some cases, the presence or absence of amenities is a key determinant of how students received food. Thus, in Kyrgyzstan, while 215,000 school children received hot meals, another 380,000 students received basic buns and tea as a snack because their schools do not have adequate kitchen infrastructure to independently prepare hot meals.



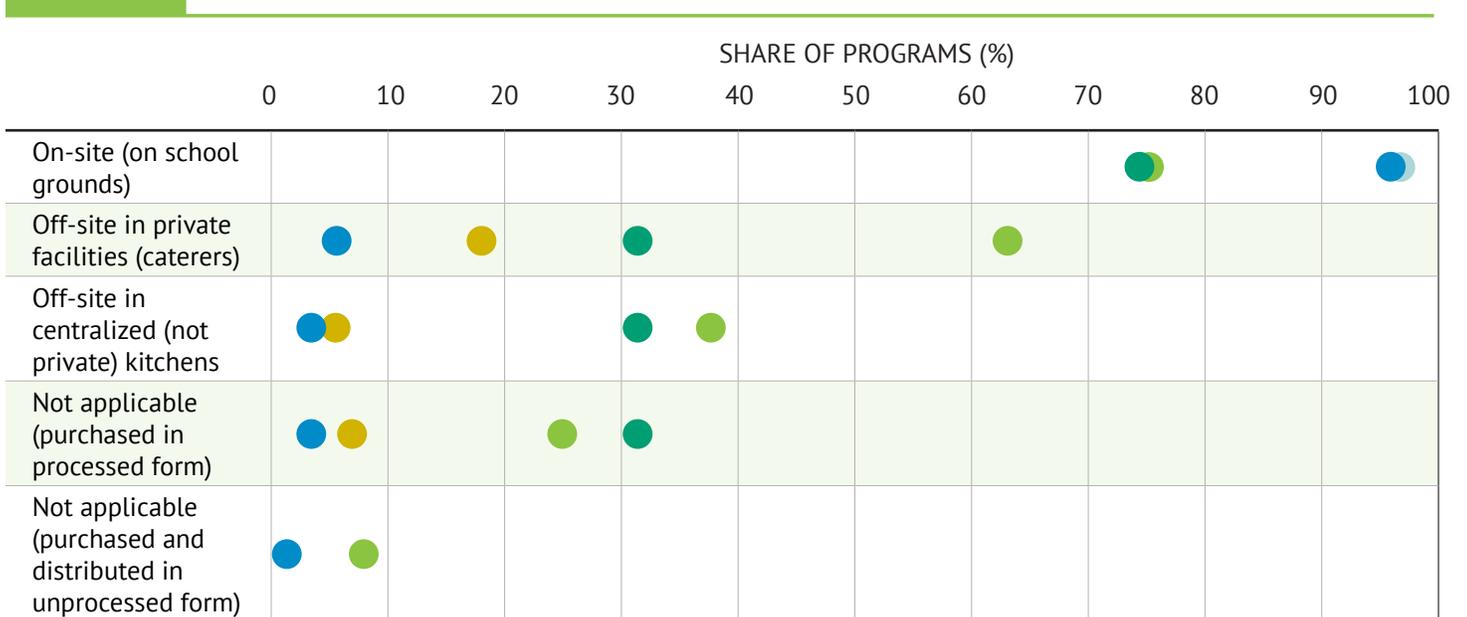
**FIGURE 21**

**PRESENCE OF SCHOOL INFRASTRUCTURE**



**FIGURE 22**

**LOCATION OF SCHOOL MEALS/SNACKS PREPARATION**

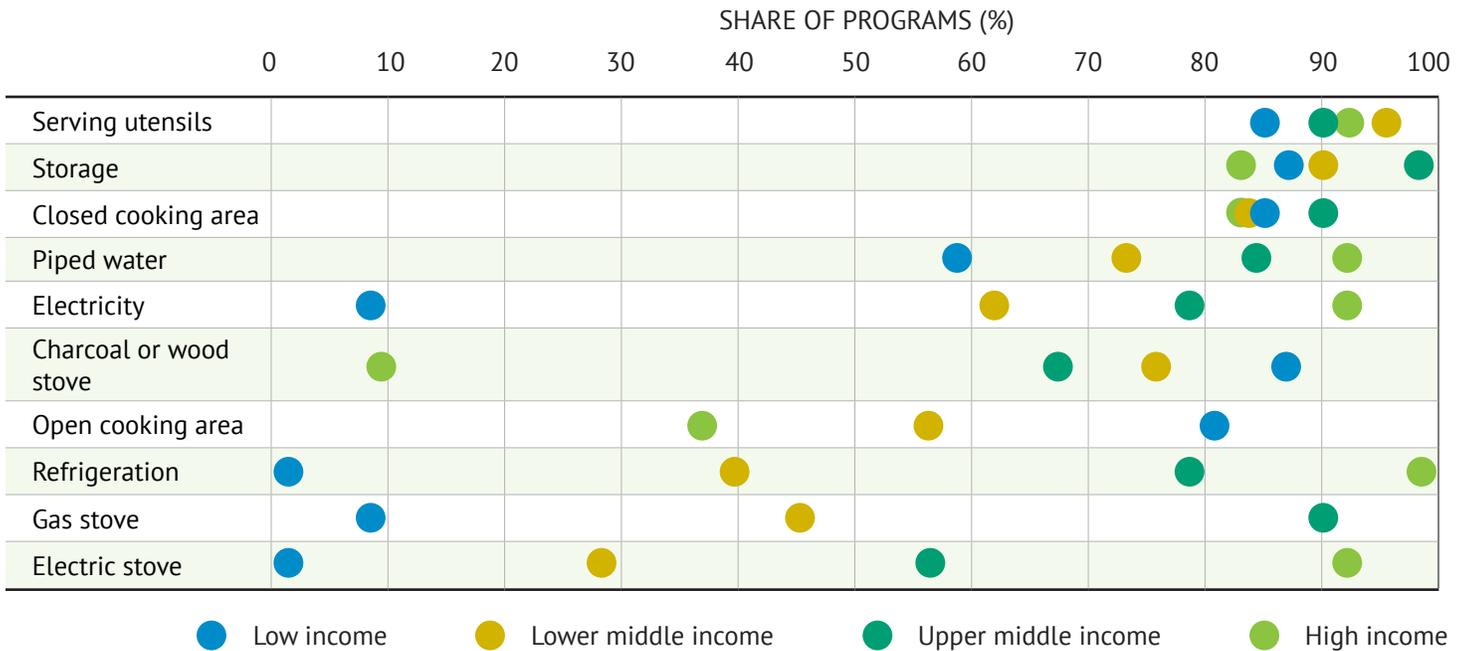


Note: These values do not sum to 100% as each program could list multiple locations.

● Low income ● Lower middle income ● Upper middle income ● High income

FIGURE 23

KITCHEN AMENITIES



Over four-fifths (82%) of programs reported that they have a mechanism to limit food waste. Among these, the most common steps taken include the use of sealed storage and pest control (at 73% and 61%), while it was less common to use nearly expired food items (at 41%). Very few of these programs reported that they make use of usable but “imperfect” commodities or produce (at 11%). This latter fact may, in some settings, represent a missed opportunity for reducing food losses. Finland pairs its Kouluruokailu school meal program with a marketing campaign to reduce how much food is discarded. Some two-thirds of programs (66%) have a mechanism for limiting packaging waste. Among these, it is most common to reuse bags or containers (81%), but less common to recycle or use compostable materials. As an example, in Bangladesh, biscuit cartons used in the biscuit-based school feeding program are commonly sold and re-used at the local level.



**FIGURE 24**

**EFFORTS TO LIMIT FOOD WASTE OR PACKAGING WASTE**

