Photo credit: Michael Major/Crop Trust

SPIA Country Studies

Standing Panel on Impact Assessment

November 2024

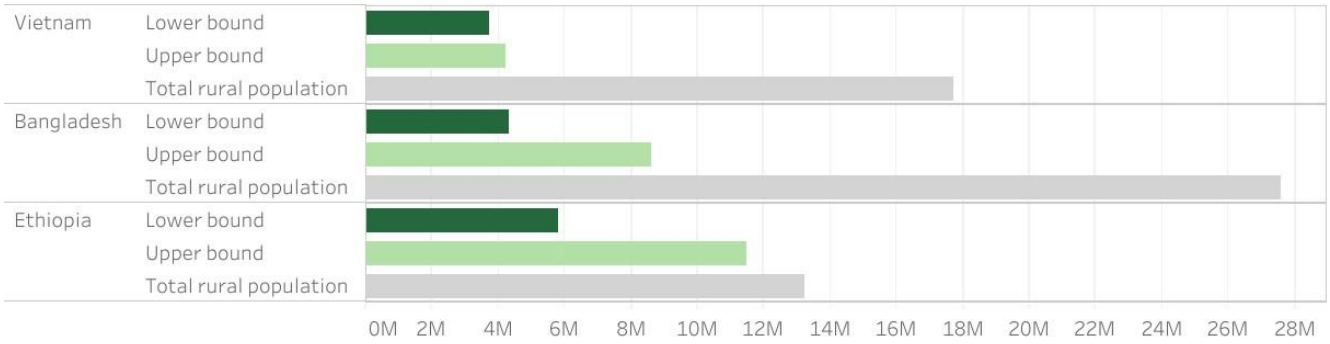
CGIAR research effort is not spread uniformly across the globe but is concentrated in several high-priority countries. In 2020, with our report on Ethiopia (Kosmoski et al, 2020) SPIA launched the first in a series of country-level studies in which we rigorously estimate the reach of CGIAR in these high-priority countries. Here, we report on the first reach estimates for CGIAR in **Vietnam** and **Bangladesh** and provide a second round of data collection in **Ethiopia** that helps us study the dynamics of change during a turbulent period for the country. Full details are provided in the published full study reports, but here we provide an overview.

In aggregate, we estimate that **13.8 million** households[1] were being reached by CGIAR-related innovations in the reference year[2] for these three priority countries (Figure 1).

Vietnam

Data were collected within the Vietnam Household Living Standards Survey (VHLSS), a large nationally representative survey of 47,000 households, run by the General Statistics Office (GSO). We estimate a lower bound of **3.7 million households** and an upper bound of **4.2 million households** being reached by CGIAR (Figure 2). The difference is driven by laser land-levelling (an agronomic technology that CGIAR

Figure 1. Estimated number of households reached by CGIAR, by country



Note: The bar "Total rural population" for Ethiopia applies to the population in 2018/19 (excluding Tigray). We use the World Bank LSMS statistical weights to compensate for conflict-related attrition in regions other than Tigray.

[1] Sum of the lower bound estimates across all three countries
[2] Varying between 2021/22 and 2024

has promoted, among other contributing factors to its adoption) and CS-MAPS (where climate adaptation recommendations cascade down to farmers from localized, season-specific recommendations about planting). We should note that reach is widespread across the country, allaying a possible fear of clustering of adoption among the more intensive delta regions of the country. Fully half of the estimated reach is due to adoption of improved rice varieties.

Other aspects of mechanization not listed above (e.g., adoption of combine harvesters, mini combine harvesters, balers) have been subjected to some degree of CGIAR research, but the positive secular trend in adoption of these machines makes it inappropriate to include these even in the upper bound estimates. Regardless, we did collected data about their adoption, estimating that over 5.5 million households in Vietnam use full-size combine harvesters whereas approximately 0.8 million households use mini combine harvesters suited to smaller or irregular plots.

Bangladesh

Data were collected in 2024 using the Bangladesh Integrated Household Survey (BIHS) sample of 5,554 households. Owing to joint adoption by some households, we can't simply sum up across these innovations to get the total number of households reached by CGIAR as a whole – we would be double-counting certain households. We estimate a lower bound reach of **4.3 million households** and an upper bound of **8.6 million households** (Figure 3). The difference between the lower and upper bound estimates relates to different innovations (including specific rice varieties within each season) having different strengths of attribution to CGIAR's research. In the case of Alternate Wetting and Drying, this difference is particularly striking, with zero households (lower bound estimate) using the "Safe AWD pipe" distributed to households, but almost 3 million practicing some form of drying of the plot during the growing season.[3]

Figure 2. Vietnam: Estimated number of households reached per innovation

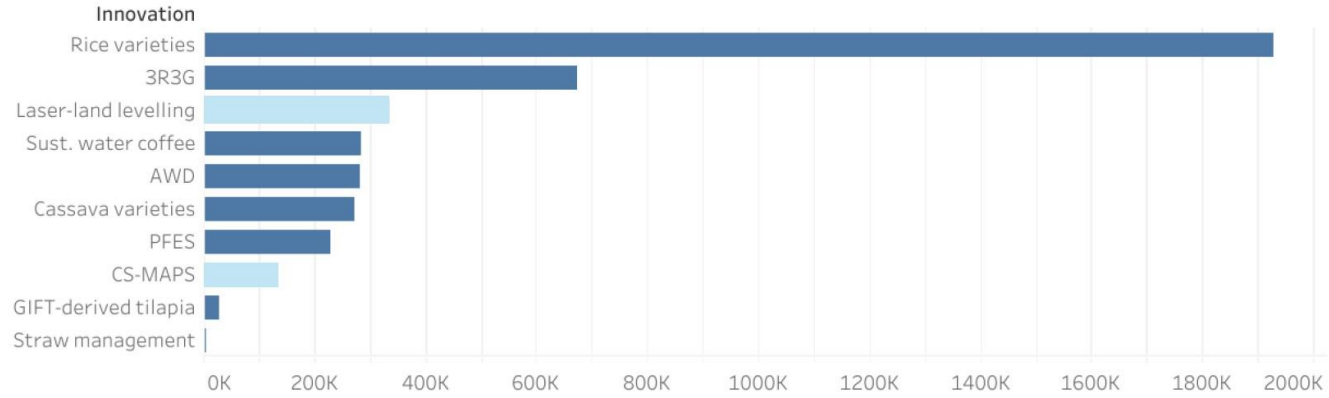
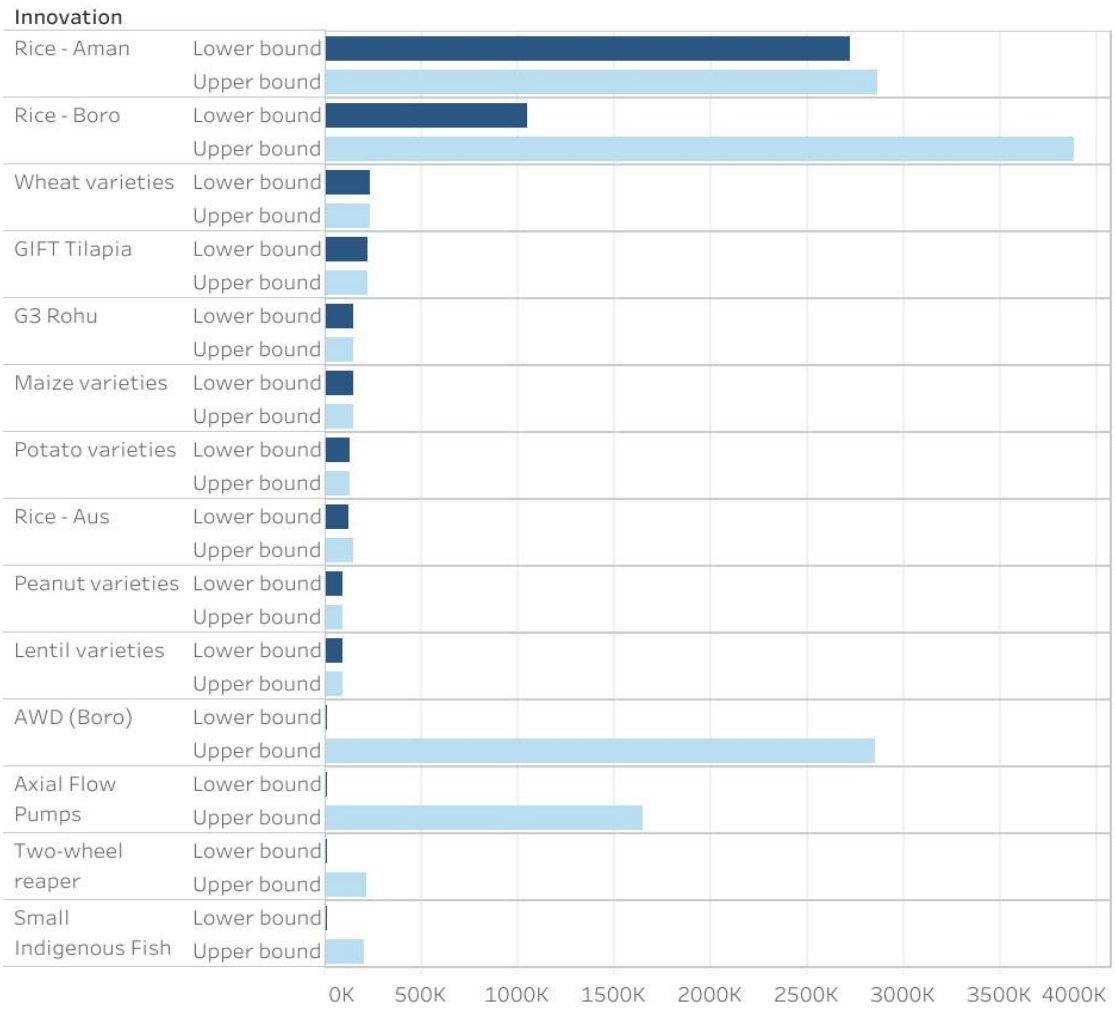


Photo 1. Farmer meeting, Bangladesh. Photo: Michael Major/Crop Trust

[4] The AWD reach figures for Bangladesh are provisional, pending more some final analyses of the data

Figure 3. Bangladesh: Estimated number of households reached per innovation



Ethiopia (2nd edition)

Data were collected in 2021/22, embedded in the fifth wave of the Ethiopia Socioeconomic Panel Survey. We had previously collected comparable data in 2018/19 (ESPS wave 4). Between the two waves of data collection the country was beset by civil conflict across a large part of its territory, suffered severe drought, and confronted the unique challenges posed by the COVID-19 pandemic. Figure 4 shows the estimated reach of CGIAR-related agricultural innovations for **2018/19 (upper, lighter shade bars)** and **2021/22 (lower, darker shaded bars)**. As we can see, despite the numerous challenges outlined above, the estimated reach for several innovations actually increased in the areas of the country where we were able to collect data – notably for forage grasses, crossbred poultry and CGIAR-related maize varieties, particularly drought-tolerant maize.

We estimate from the 2021/22 data a lower bound of **5.8 million households** reached and an upper bound of **11.5 million households**. We should note that the strength of CGIAR's attribution claim for different innovations featured *within this upper bound* does vary across the set, according to how active CGIAR has been in the overall innovation system that promotes adoption of the innovation.

Estimated reach of CGIAR-related agricultural innovations in Ethiopia for 2018/19 (lighter bars) and 2021/22 (darker bars). All data from ESPS 4 (2018/19) and ESPS 5 (2021/22), collected in collaboration with the Ethiopian Statistical Service (ESS, formerly Central Statistical Agency). Green signifies natural resource management, orange signifies crop germplasm improvement, and blue signifies animal agriculture.

Figure 4. Ethiopia: Estimated number of households reached per innovation (millions)