**Replication package for the household level analysis**

The sections below describe the purpose of each do-file in the replication package and outline the steps required to replicate the figures and tables presented in the paper. Please note the following considerations:

Dofile

The Stata code in Section 12 generates **Table S1**, which reports summary statistics for baseline household and food security variables in 2016. It uses summarize commands restricted to year 2016. This table provides the mean, standard deviation, minimum, and maximum for each variable.

The Stata code provided generates Table S3, which reports the effects of FAW (Fall Armyworm) exposure on maize yields and food security outcomes. It includes three types of regressions: OLS, ITT (using camp-level instruments), and LATE (via IV regressions using a control function approach). Maize yield is analyzed using reghdfe, while food security indicators (FCS, HDDS, and rCSI) are estimated using xttobit models to account for censoring. The results are exported and compiled using outreg2, producing the summary statistics displayed in Table S3.

Table S4 presents the first stage results from the IV regressions reported in Table S3, where FAW exposure (army\_aff) is instrumented using average FAW at the camp level (camIV). For each outcome—log(yield), ihs(FCS), ihs(HDDS), and ihs(rCSI)—a separate regression of army\_aff on camIV and controls (rainfall, temperature, and their squares) is run using fixed effects (ivreghdfe, first). The reported coefficients, standard errors, t statistics, p values, and F statistics summarize the strength and relevance of camIV as an instrument.

**Table S5** presents regression results estimating the effects of FAW exposure on charcoal production and cultivated land in the following year. The binary charcoal production outcome is estimated using OLS and a control function approach, while quantity produced is analyzed using Tobit models to account for left-censoring, also incorporating IV strategies with lagged FAW exposure (l\_FAW) and its instrument (l\_camIV). Cultivated land regressions use reghdfe and ivreghdfe to estimate intent-to-treat (ITT) and local average treatment effects (LATE), controlling for household and year fixed effects, weather variables, and production inputs. The code uses residual inclusion and household-level means to address unobserved heterogeneity and endogeneity through a correlated random effects (CRE) framework.

**Table 6** presents the first stage results from the IV regressions used in Table S5, where lagged FAW exposure (l\_FAW) is instrumented using the lagged camp-level average of FAW incidence (l\_camIV). Separate first-stage regressions are run for each outcome—charcoal production (binary), quantity of charcoal produced, and log of cultivated land—with lagged FAW exposure as the endogenous variable. These regressions include controls for weather variables (rainfall, temperature, and their squares) and household-level means to implement the correlated random effects (CRE) strategy. The reported coefficients, standard errors, t statistics, p values, and F statistics evaluate the strength and relevance of the lagged instrument (l\_camIV) in predicting individual FAW exposure in the following year.

**Table S7** presents placebo regressions testing whether future FAW exposure (lead variables) predicts current outcomes. One-period leads of FAW and its instrument are included to assess anticipatory effects or reverse causality. Fixed effects and IV models are estimated with standard controls. The mostly insignificant lead coefficients support the validity of the identification strategy, suggesting current FAW exposure—not expectations—drives the observed impacts.

**Table S8** tests whether future FAW exposure (lead variables) influences charcoal production and cultivated land use decisions. The insignificant lead coefficients across most models suggest households respond to current or past FAW infestations, not in anticipation of them, supporting the causal interpretation of main results.

**Figure 2** presents estimated effects of Fall Armyworm (FAW) on maize yield, charcoal production, and household food security using OLS, ITT, and LATE models. Significant negative impacts on yield and food security (FCS, HDDS, rCSI) are observed, alongside increased charcoal production, indicating a shift to coping strategies. The estimates are based on fixed effects and Tobit regressions using both self-reported and instrumented FAW exposure.

**Figure S2** illustrates heterogeneity in the effects of FAW on cultivated land and charcoal production across household asset levels, biomass availability, and distance to town. The attached code constructs interaction terms between FAW exposure and quartiles of each heterogeneity variable (e.g., asset index, tree biomass, distance to tarmac), using baseline (2016) values. These interaction terms are used in fixed effects and IV regressions to estimate subgroup-specific treatment effects. The resulting point estimates and 95% confidence intervals are plotted to visualize how the impact of FAW varies across different household characteristics.