GeoHealth

Supporting Information for

Emission factors of health- and climate-relevant pollutants measured in-home during a carbon-finance-approved cookstove intervention in rural India

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Additional Supporting Information (Files uploaded separately)

A spreadsheet file included as a supplement includes emission factors and other information for all tests.

Introduction

This supplement includes figures helpful for interpreting the results of the main manuscript. All figures are described in manuscript.

Fig. S1: Photos of traditional chulhas (left) and intervention natural draft 'rocket' stoves (right) assessed in the study.

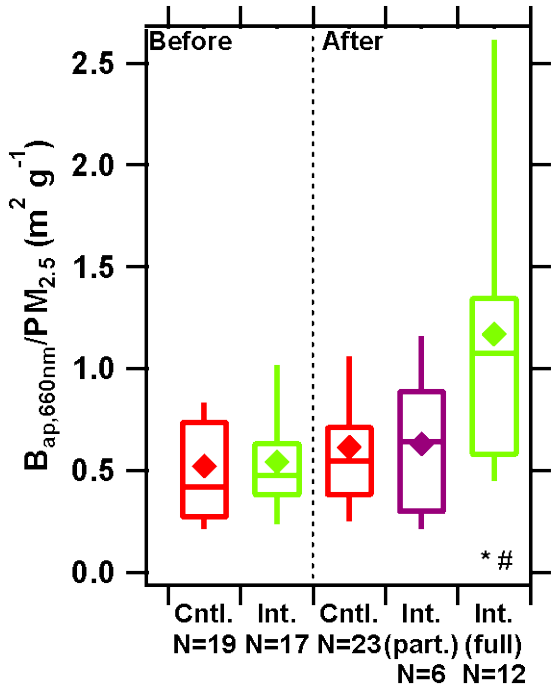

Fig. S2: Ratio of B_{ap} measured at λ=660 nm, as measured by the PSAP to gravimetric $PM_{2.5}$ measured during emission tests. * and # indicate that a group mean is significantly different (one-tailed Wilcoxon rank sum test) than control group mean in same and previous seasons, respectively.

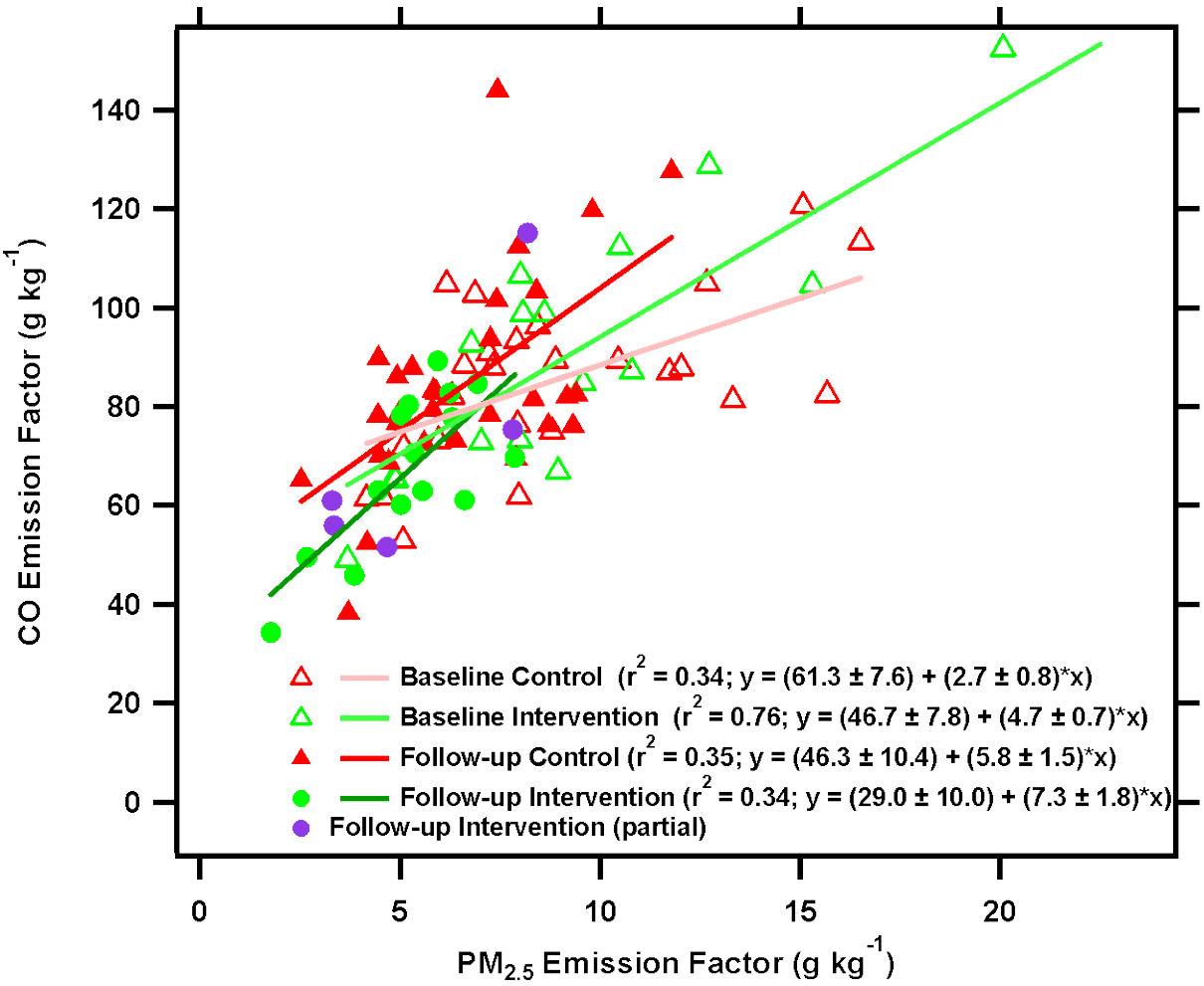

Figure S3: Scatter plot of all CO vs PM emission factors measured during campaign along with linear regressions for each group fit separately.

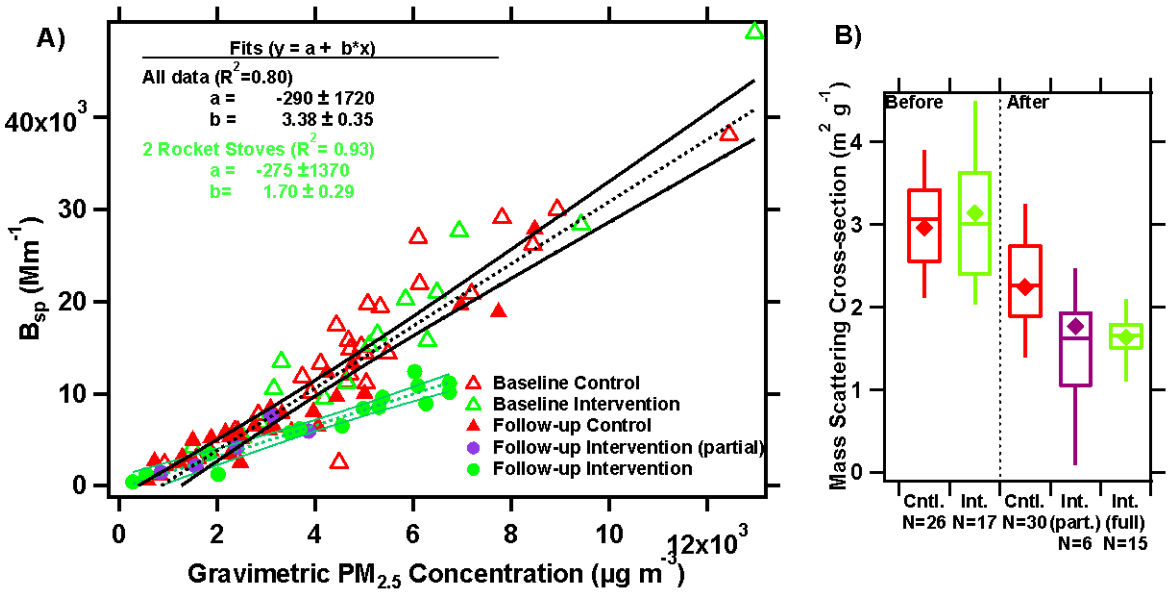

Figure S4: Plots showing relation between average particle scattering (B_{sp}) and gravimetric PM concentration from Teflon filters measured during individual tests. Panel A) shows a scatter plot of test-average quantities and regression fits (with 95% confidence intervals) for all data (black lines) and for Season 2 tests of the 'full intervention' groups (green lines). Panel B) shows box and whisker plots of PM mass scattering cross sections (MSC; ratio of B_{sp} to PM concentration) for individual test groups. Box and whisker plots are described in main text.

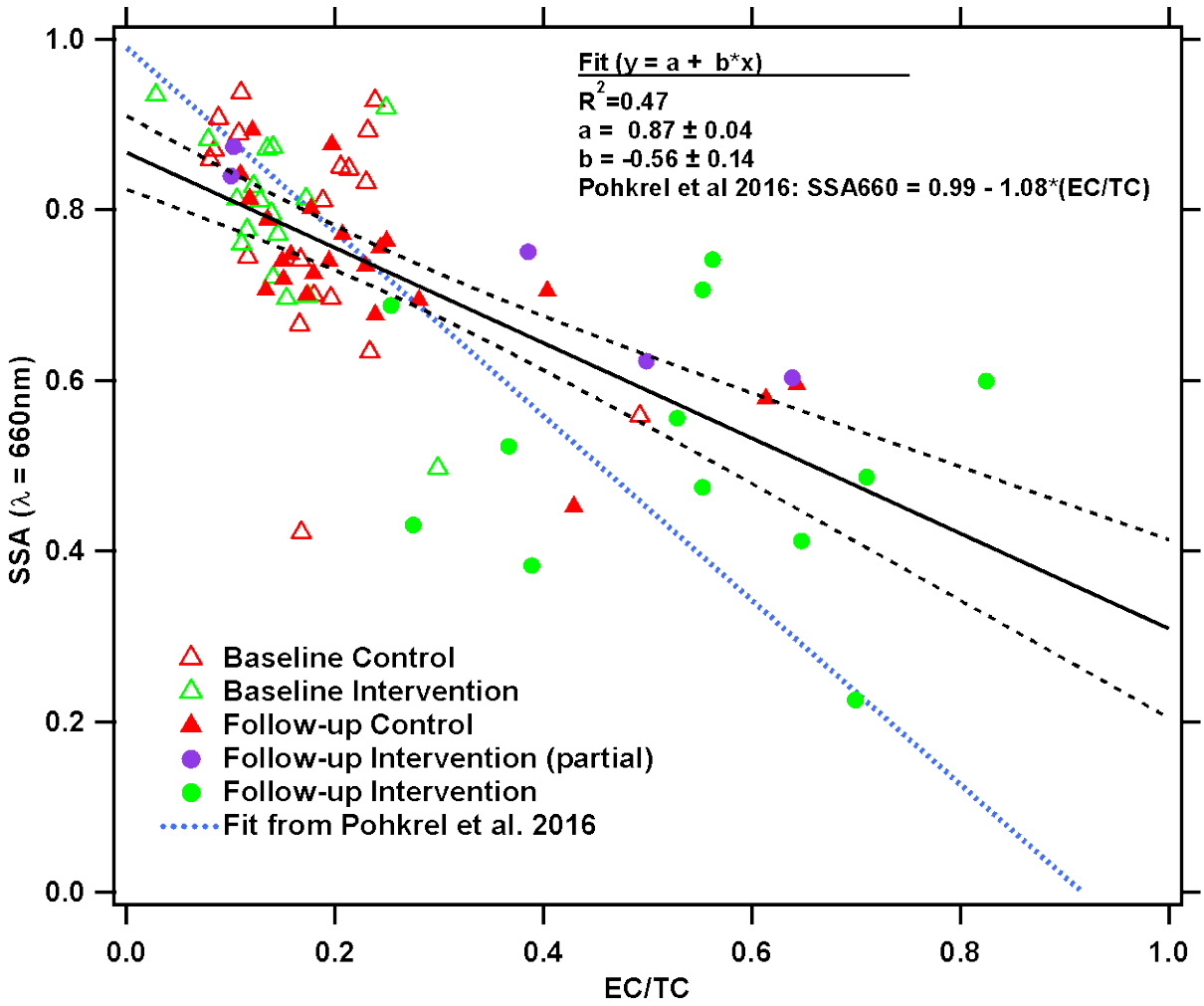

Fig. S5: Scatter plot between single scattering albedo and EC/TC, showing a reasonably strong relationship that is distinct from that found for wildland fuels determined by [*Pokhrel et al.*, 2016]

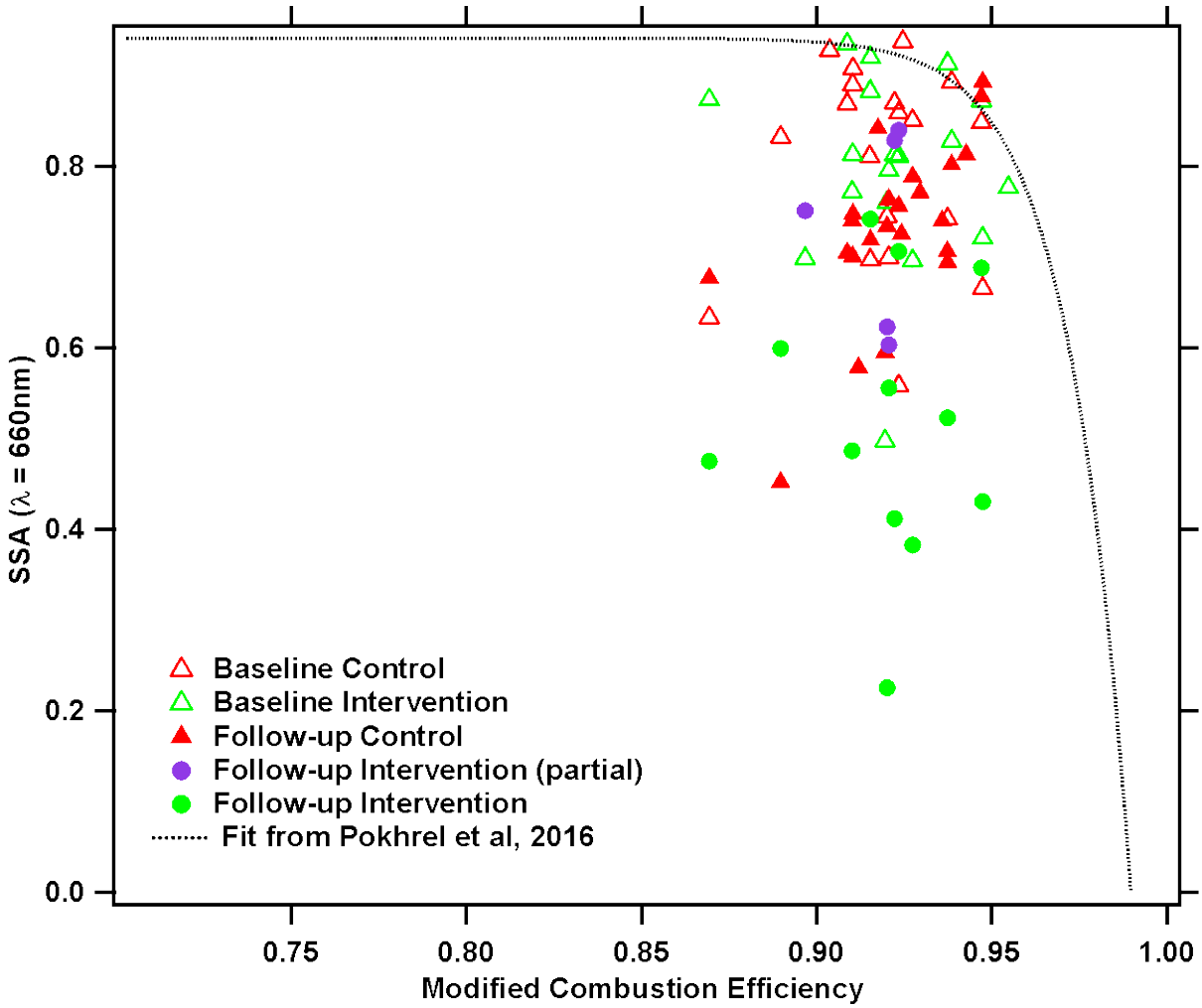

Fig. S6: Scatter plot between single scattering albedo and MCE, showing minimal relationship. Also shown is a relationship for wildland fuel combustion from [*Pokhrel et al.*, 2016]**.**

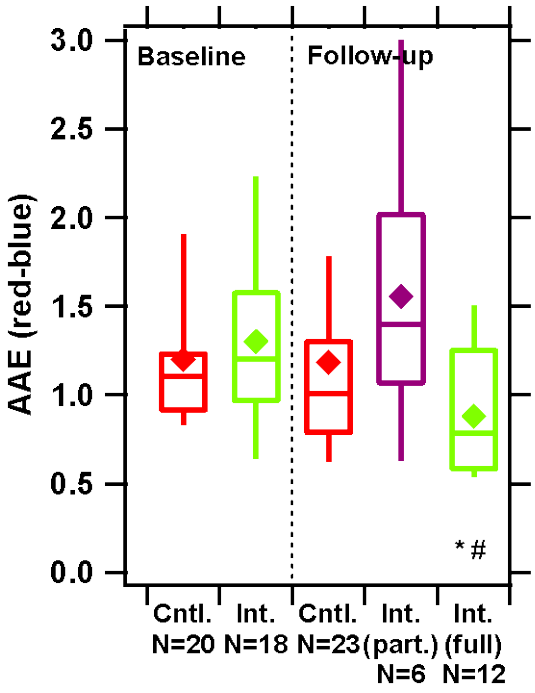

Figure S7: Angstrom absorption exponent (AAE) from test groups. AAE is estimated from absorption at λ = 660 and 467 nm as measured by the PSAP, as discussed in the text. * and # indicate that a group mean is significantly different (one-tailed Wilcoxon rank sum test) than control group mean in same and previous seasons, respectively.

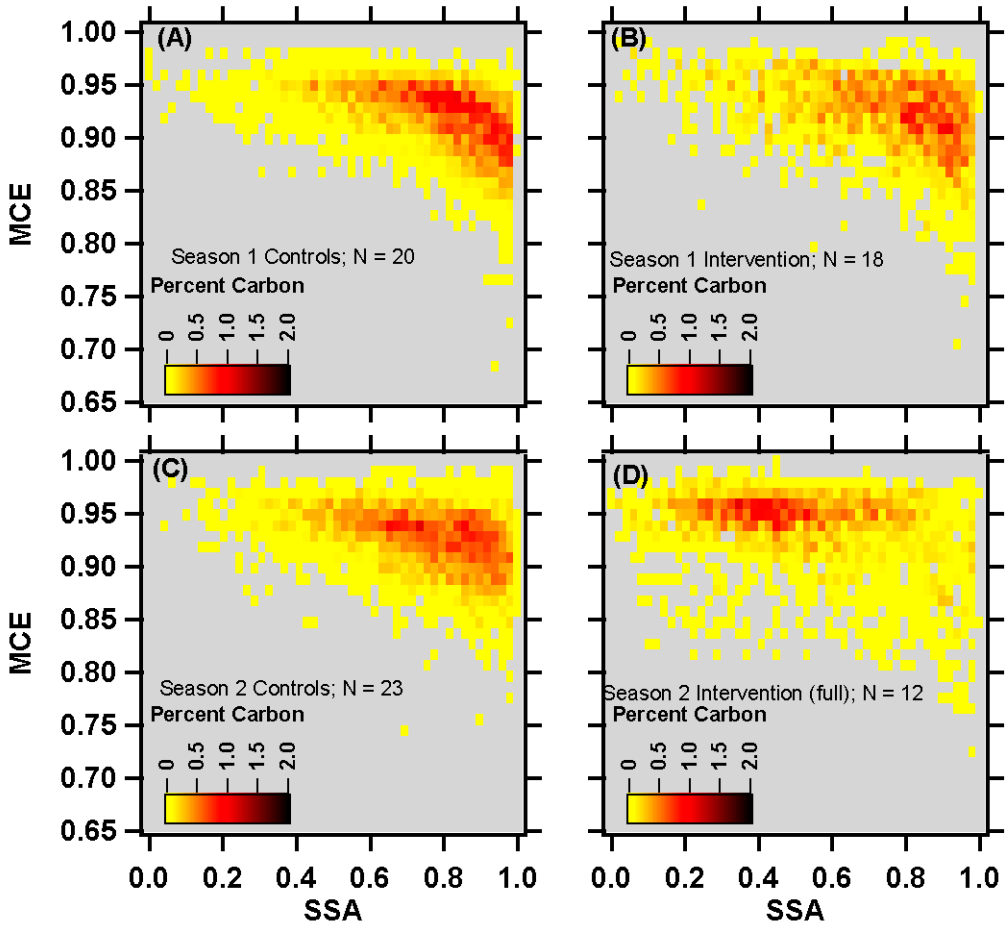

Figure S8: Bivariate histograms showing percentage of carbon consumed during combustion events with given MCE and SSA values. These are similar to PaRTED plots discussed in text, but weighted by background-corrected carbon (ΔCO_2 + ΔCO) concentration during a combustion event, rather than $IEF_{scat.}$

Table S1. Emission factors and other quantities for all tests described in paper.