Effect of Government of Ghana fertilizer subsidy policy on major cereals yield

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Background/Challenge

- Cereals (maize, rice, millet and sorghum) = major staple foods in Ghana.
-  cereals yield: yield gap.
- Challenge: Low fertilization due to low purchasing ability of farmers
- Addressing the challenge: Introduction of fertilizer subsidy program by Ghanaian government (2008)

Justification/Objective

- Adoption of the fertilizer subsidy did not improve farmers profit and livelihoods, triggering the evaluation of the impacts of fertilizer policy on the cereal productivity in Ghana.

- Objective: Assesses the effects of Ghana government fertilizer subsidy on main cereal yield and yield gaps.

- Hypothesis: Ghanaian government fertilizer subsidy increased cereal yields and closed yield gaps

Methodology

- Annual cereal production (yield) and annual fertilizer subsidy data (2009-2018): Ghana, MOFA
- Annual average yield per hectare of maize, rice, sorghum and millet were calculated and compared with their potential yields.
- Percent yield gaps computed to see if the fertilizer policy has closed the yield gaps.
- Correlation analysis: Establish relationship between fertilizer subsidy and the various cereal yields.

Results and Discussion

- Cereal Yield

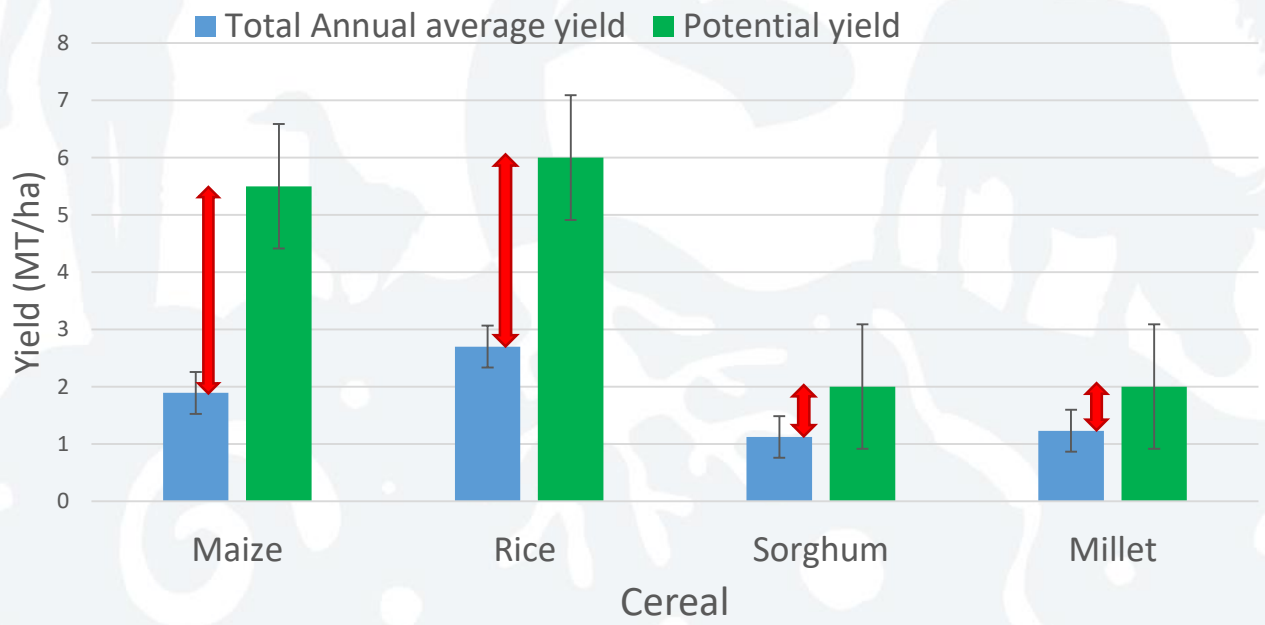
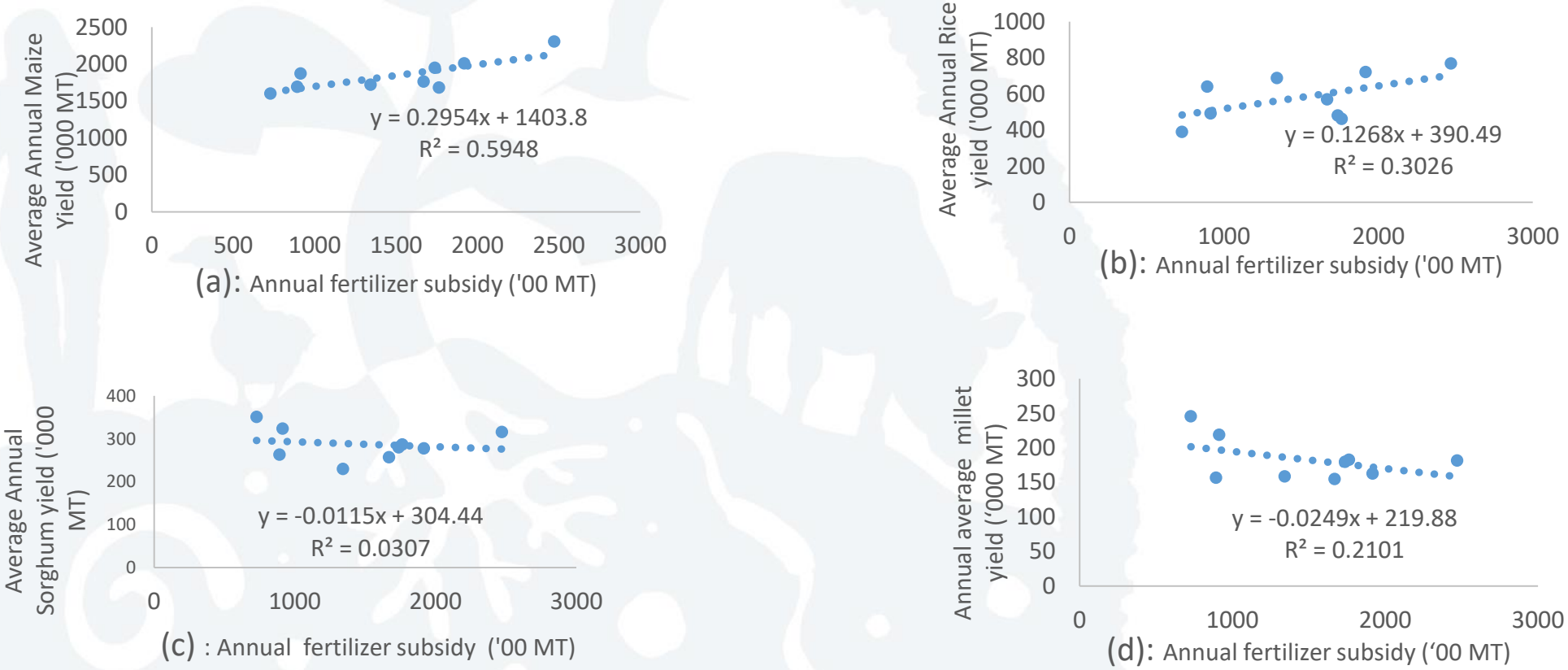


Fig. 1: Total annual average yield of cereals (2009-2018)

- % Cereal Yield Gap
- Maize (65 %)
- Rice (55 %)
- Sorghum (49 %)
- Millet (44 %)

Results and Discussion…

- Poor relation between fertilizer subsidy and cereal yields: Fertilizer subsidy did not enhance cereal productivity



- *Fig. 2: Correlation between fertilizer subsidy and Cereals yield*

Conclusions and Recommendations

- There is still higher yield gap in cereal production in Ghana
- Fertilizer subsidy did not improve cereal yields
- Government should sponsor site specific fertilizer/nutrients recommendations for cereal production
- Soil organic matter improvements in cropping systems through organic residues incorporation and bio-based fertilizers


Thank you !
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