



SDI Review Form 1.5

PART A:

Journal Name:	American Journal of Experimental Agriculture
Manuscript Number:	2012/AJEA/1448
Title of the Manuscript:	<i>TECHNICAL EFFICIENCY OF RICE PRODUCTION AT THE TONO IRRIGATION SCHEME IN NORTHERN GHANA</i>
Manuscript received on (Date)	
Review comment submitted (Date)	



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PART B: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part and write here 'Corrected'/ if not agreed, give suitable justifications)
General comment:	The paper is well written and it is easy to read. It focuses on efficiency factors. I found that it misses some balance as long sections are focused on historical review but there still can be added a lot on estimation side. I think that the estimation part can be pushed forward to make more interesting conclusions.	
Specific comments:	Here I list my comments: p1: If people are suffering chronic hunger then how it is possible that food production falls short of demand? p2: Comparing Vietnam and Ghana in terms of total production is not fair. Number of people differ also the area of the country differs too. How much did the per hectare production grew in Vietnam over the same period? p3: Why are technical details of dam important? p4: The estimation technique is build on assumption that inputs are real numbers. But this assumption is violated by integers as fertilizer is counted in bags. How does this affect the statistical properties of estimation procedure? p6-7: Why there is land in the model for output and also there is farm size (land area) in inefficiency part? What is difference between these two? This draws some relation between inefficiency and output, is this correct? Is this fine with the assumptions under which the Coelli's procedure can be applied? This may be reason why there is not much variation in output itself. p8: Is there only monotonic relation between the land, seed,	P1.Food production is not enough to feed the growing population, hence the chronic hunger P2. Corrected P3. Corrected P4. Corrected P6-7Farm size in the inefficiency part has been omitted in the re-estimation of the model, though what we did initially was conventional (see Coelli et al (1998;p214) . Corrected



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	fertilizer use? Can you try to add higher order terms in the production function to see the nonlinearity effects. It is problematic to think that continuous adding of the extra seed will deliver higher output on the same farm size. p9: The average technical efficiency is not enough to judge the farming practices. Discussing the distribution of the efficiency will be more important. Also, it is not mentioned that the results are describing the inefficiency of the average farm. Can you split the samples according to some criteria (eg. education) and to explore the stability of the inefficiency model parameters? Corrected. p11: Costs are discussed here. The technical efficiency does not handle prices. How does it relate to technical efficiency? What is the relation of efficiency and price developments? I do not see any time dimension of the efficiency models. So the links to price developments are very weak. P11. Yes, we only brought in the price dimension, because the recommendation is that the farmers should be encouraged to buy modern inputs if their efficiency should be improved. Their demand must be backed by their ability to buy, hence the significance of the prices of the inputs. p12: Comparing the efficiency scores distribution between groups of the farmers with various characteristic (e.g. education) may provide some extra information on the effects of education. As the results of comparing parameters describe average effects. The average farm is theoretical may not exist so it farming practise is hypothetical. Corrected!	
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Title and abstract	Appropriate.	
Introduction	I found it fine but there are some comments.	
Review of literature (Heading may differ in the case of review paper)	It is included, as the paper uses basic techniques in the field of technical efficiency no further extension is needed.	
Materials & methods (Heading may differ in the case of review paper)	Methodology is section fits the level of expertise presented in results. Some of the discussion of factors should be shifted towards the section on empirical model.	
Results & discussion (Heading may differ in the case of review paper)	I think that there is a lot left to explore. There is a single estimation equation that does not provide information on the appropriateness of model. It is not compared with the alternative model to see the stability of results. And to judge how much you will miss by omitting of variables from model. In the discussion of the results I found it suspicious that 99% is explained by efficiency practices.	Corrected
Conclusion	I found this section weak. The conclusion makes general suggestion on the technical efficiency. The technical efficiency is confronted with continuous support (subsidies) of inputs provisions to farmers. The introduction of paper suggested some international comparison but this is only about the efficiency in the Tono area. So it just identifies the efficient practice in the given area and given the subsidies, it does not help for improvement of the overall efficiency farming. To me the result from the small variance of efficiency scores is that almost everybody follows the same practices. It does not provide the recipe for improvement or maintaining of the acquired level of efficiency.	Corrected
References	Appropriate.	