

Review MS 854:
Chinese Food Security and Climate Change: Agricultural Futures
Economics Discussion Papers, No 2013-2

Based on IFPRI's IMPACT model, this MS reports the projection results on yield, production, trade and prices of rice, wheat and maize and impacts of climate change on China's food security in 2010-2050. While the paper includes a lot of information on China's food security, climate change and its impacts, adaptation and mitigation, it also suffers several major problems. The problems summarized below should be considered as parts of the major problems as I did not finish reading the MS.

- 1) The MS is too complicate and cover many topics. It likes a project report submitted to a funding agency. To be a journal paper, the MS needs substantial revision and to be focused on key issues.
- 2) There are too many maps, their presentations are verbose and distract readers' attention,
- 3) The MS is poorly motivated. In introduction section, the first 2 paragraphs are about the challenges of global food security and further challenges from climate change on global food production and natural resources. Then the third paragraph suddenly moves to: "The focus of this paper is the projected impact of climate change on Chinese Food security through 2050". "The focus of this paper" in China OR China's food security OR impacts of climate change on China's food security comes from nowhere.
- 4) The MS is poorly organized. I do not want to comment each section. Here I also use introduction section as an example. After stated the focus of this MS, in the 4th paragraph, the MS turns to definition of "climate". And then discusses vulnerable of agriculture in the 5th paragraph. Readers now are completely lost what the MS is going to talk. Even more confusing is that introduction section is ended by a new sub-section on "Regional Impacts of Climate Change".
- 5) Within each section, the MS looks like putting several pieces together, not really telling story or stories. For example, section 2 reviews China's population, income growth and vulnerability, and then followed by land use and agriculture with several maps and figures as well as tables. The readers would ask questions: Why the MS discusses these? And so what? These are not clear.
- 6) Section 3 is more confusing. The section is titled "Scenarios for Adaptation". But the first sentence of this section goes: "The current status of the country with respect to vulnerability is reviewed in this section. This includes a brief overview of current population trends, per capita income growth and its distribution, and the state of agriculture". The readers of this MS would be totally confusing what the section is about. Moreover, the rest of this section is about biophysical scenarios, social-economic scenarios, and crop-specific scenarios. These are clearly not adaptation scenarios.
- 7) Section 4: "Agriculture and Greenhouse Gas Mitigation." According to the MS, "The focus of this paper is the projected impact of climate change on Chinese

Food security through 2050". Why the MS has this section? Whole section is not relevant to the objectives of this study.

- 8) Section 5: "Conclusion". Implications seem come from nowhere. The MS concludes that climate change has little effects on China's agriculture. Then the MS states: "the first implication is the importance of crop breeding for food security under climate change." Where is this from? "The second implication is on the role of international trade in climate change adaptation." Again, I did not find any results from this paper on the impacts of international trade.
- 9) If one looks at the issues discussed across sections, each section likes an independent paper. There is no clear linkage among 5 sections. As also mentioned in the previous comment, the authors even did not look at their results when they prepared the conclusions and policy implications.
- 10) After I reviewed the structure of this MS, now I turn to check assumptions on GDP and others in 2010-2020, I read "despite China's much more rapid growth than in the U.S. its per capita income in 2050 is till only on-fifth of that in the U.S." (page 32), which is surprising to me and made me to think whether or not to keep reading the methodology and results of MS. The authors should read some recent publications or working papers on projections of China's economy in the coming decades. As I know, China's per capita GDP was more than 1/9 of that in US in 2010.

I decided to stop here and not to further provide my comments on the methodologies, data and results given so many flaws of the MS mentioned above.