

BIAC Comments on Building Resilience to Climate Change in the Agriculture Sector

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I. Introduction

BIAC welcomes the opportunity to provide comments on the scoping paper for this joint OECD-FAO project. We appreciate that the OECD intends to make this report not only useful for governments, but “also the private sector in facilitating agriculture’s adaptation to climate change”. BIAC looks forward to providing further input as this project develops.

II. Comments

Resilience and redundancy

It is important to recognise that resilience (how a system deals with shocks) is linked to *redundancy* (the extent to which a system has spare capacity to cope with fluctuations from the norm). Increasing productivity through innovation will play an essential role to increase resilience and redundancy, but other issues also need to be considered in this context, such as quantity and quality of food stocks, availability of fallow land for rapid production, and so on¹. In addition, the possible negative impacts of increased intensification of agriculture on redundancy need to be considered, such as in cases where fallow land is reduced in size or removed, or where there is over-dependence on only a limited number of products which might be particularly vulnerable to climate change effects.

Involving developing countries

Paragraph 9 of the scoping paper notes that: “For developing countries, which were not represented in the Rome workshop, the existing body of work at FAO will be used as input. In this respect it would seem appropriate to include Brazil, China, India and Indonesia given the size of their populations and economic importance”. African countries appear to be absent, yet Africa is an area most likely to be affected by climate change and where

¹ For further BIAC views on these sorts of issues, please see BIAC’s paper on price volatility in food and agricultural commodity markets, June 2011:

http://www.biac.org/statements/agr/11_06_PriceVolatilityinFoodandAgriculturalCommodityMarkets.pdf

populations are most easily food insecure. For example, agriculture in Kenya would cover smallholder subsistence farmers, large plantations and contract farms, and agriculture contributes significantly to livelihoods and foreign income. In our view, including data and information from African countries would make sense in this project.

Development and smallholders

It is important to recognise that most countries have a mix of farming systems and different farm sizes can and do co-exist. The OECD-FAO project should therefore avoid the overly-simplified approach where “developed countries = large farms” and where “developing countries = smallholders”. To take such an approach would be unlikely to yield an accurate picture of the challenges or potential for mitigation/adaptation. This is particularly important for developing countries, as the challenges and potentials of different production systems will need to be examined carefully and may impact the direction in which a sustainable and resilient agricultural sector needs to evolve. Each system has different needs and some are potentially more resilient.

Suggestions for thematic studies

In light of our comments above, BIAC welcomes the proposed case study “Crop and livestock production in the Sahel”. However, the Sahel is not the breadbasket region of Africa, so it would be interesting to complement the case study on the Sahel with a look at the impact on crop production in some of the breadbasket areas in Sub-Saharan Africa since the bulk of food production at a regional level will need to come from these areas.

We would like to refer the OECD-FAO to work that has been carried out which examines **maize production in Sub-Saharan Africa**. This maize production is particularly vulnerable to climate change due to a number of factors: predicted increased frequency of drought and other forms of moisture stress; higher temperatures; and lack of resources. Several collaborative partnerships have been launched, in an effort to deliver improved, locally-adapted maize varieties to growers in these areas.

We suggest to look to the following article: Lobell D.B., Bänziger M., Magorokosho C. and Vivek B., (2011), “Nonlinear Heat Effects on African Maize as Evidenced by Historical Yield Trials,” *Nature Climate Change*, 1: pp. 42-45.

In addition to the focus on Africa, we note that there is no case study for Latin America. Given the emerging role of agricultural powerhouses like Brazil and the specificities of their farming styles, including a **thematic study from Latin America** would avoid a significant gap in the final report. In particular, the rapid adoption of conservation tillage and its potential as a win-win strategy for adaptation/mitigation would be a valuable case study.

The report would also benefit from an explicit contribution on the role of **energy crops for fuels and power**. In some ways this area is driving the debate, and is also seen as a necessary activity, if it can be done well. Regulations addressing ecosystem needs and carbon storage are explicitly applied to biofuels. A consideration of how this could be applied to other agricultural sectors to improve their credentials and resilience would be useful. It would be worth considering how a burgeoning biofuel industry might support resilience rather than threaten it.

Regarding the proposed thematic study on intensive livestock production in the United States or Canada, the recent UK Foresight report² spoke of the need to reduce some resource- and land-intensive agricultural activities to improve redundancy. This would be an area worth considering from a number of perspectives – a buffer against grain fluctuations, control of greenhouse gases (a possible benefit from intensive husbandry), and a route to free up feed and land.

² Foresight. The Future of Food and Farming (2011), Final Project Report, the Government Office for Science, London. Available online at: <http://www.bis.gov.uk/assets/bispartners/foresight/docs/food-and-farming/11-546-future-of-food-and-farming-report.pdf>