Response to "Combining sustainable agricultural production with economic and environmental benefits"

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In their recent Commentary piece, Kassam and Brammer (2012) (K&B) suggested that Conservation Agriculture (CA) and the System of Rice Intensification (SRI) represent 'paradigm shifts' that 'are spreading in many countries and which simultaneously reduce farmers' costs of production, increase crop yields and provide important environmental benefits' (p.1). In two main sections K&B describe the history, principles and benefits associated with CA and SRI. They also make passing reference to some constraints, problems and controversy, but indicate that none of the problems are 'insoluble' and that the controversy around the performance of SRI 'has begun to wane' (p.5). K&B conclude that 'both CA and SRI appear to offer the best hope of increasing food production rapidly, at low cost and without adverse environmental consequences in developing countries where human populations are increasing most rapidly' (p.6), and call for geographers and environmentalists to study the 'associations and impacts of CA and SRI in different agroecological and cultural settings' in order to 'speed up the planning and provision of better-targeted measures to facilitate the spread and support of relevant new practices' (p.6).

Anyone who was not already familiar with CA and SRI would be forgiven for concluding from this Commentary that the synthesis put forward by K&B, and the conclusions they draw from it, are both widely accepted and uncontroversial. In fact, nothing could be farther from the truth.

In recent years reputable, mainstream academic journals have published vigorous exchanges around SRI. In particular the claim that smallholders could obtain rice yields of 15 tons/ha (Stoop et al., 2002) provoked strong rebuttals (Dobermann, 2004, Sheehy et al., 2004) and there were questions about the uptake of SRI in Madagascar (Moser and Barret, 2003). A proliferation of research examining the practices and local adaptation of SRI ensued (e.g. Latif et al., 2005, Satyanarayana et al., 2007, Senthilkumar et al., 2008, Sinha and Talati, 2007). Continuing exchanges coalesce around contested 'facts', such as the theoretical yield ceiling for rice, the yields achieved by farmers using SRI, the extent of its spread and the scientific methods employed (McDonald et al., 2008, Uphoff et al., 2008, Stoop et al., 2009, Glover, 2011a, Glover, 2011b). In the case of CA, contestation has centred on the availability of organic residues for mulch (Erenstein, 2002), sequestration of carbon (Chivenge et al., 2007, Govaerts et al., 2009), whether CA increases yields and on its suitability for smallholders in southern Africa and South Asia (Gowing and Palmer, 2008, Erenstein, 2011, Giller et al., 2009, Giller et al., 2011, Andersson and Giller, 2012).

Strikingly, none of this literature is cited by K&B. By failing to refer to it they present a highly misleading picture of both current understandings of and continuing controversies around SRI and CA.

We can begin to understand the debates around CA and SRI as a manifestation of 'contested agronomy' (Sumberg and Thompson, 2012). The contested agronomy argument is that over the past four decades, the context of agronomic research in the developing world has changed significantly due to: the neoliberal turn in economic and social policy and the rise to prominence of the participation and environmental agendas. These changes have opened up new spaces for contestation around the goals, priorities, methods, results and validity of agronomic research. This dynamic of contestation is having important effects on all aspects of agronomic research, and is therefore worthy of study. It is not that debate or contestation is new to agronomy; rather, we argue that the nature of the contestation has changed, reflecting in part epistemological divisions between the 'scientific' approach and more constructivist approaches that privilege the social basis – and thus the politics – of knowledge creation and use. K&B's Commentary itself is part of this on-going contestation and, we suggest, the selective use of literature must be seen in tactical terms.

What about K&B's call for geographers and environmentalists to focus more of their research on SRI and CA? First, there is already a body of social science research relating to SRI and CA. Second, it appears K&B's real interest is in using geographical research to 'speed up the planning and provision of better-targeted measures to facilitate the spread and support of relevant new practices'. This is clearly not a call for independent or critical research. Rather, it suggests that the role of social science should be to provide support for particular technology and development paradigms. Thinking along these lines has deep historical roots, but in our view misconstrues and devalues the potential contribution of geography and social science to agricultural development and development studies more broadly (see DeWalt, 1988).

There is, in our judgement, a much more nuanced debate about SRI and CA to be pursued and we welcome further exchanges. This response is thus an intervention in a debate that is far from settled.

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