Learnings from the first Conservation Agriculture focused MOOC

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Massive Open Online Courses (MOOCs) are a disruptive innovation that emerged through the education sector in developed countries after 2012. MOOCs have continued to evolve and change, now becoming a facilitated learning tool that has the potential to reach vast populations as part of a two-way learning and sharing process. To date, this has mostly been used for academic and classroom teaching and interaction.

More recently, researchers at Bihar Agricultural University (BAU), India, have been working to catalyse the benefits of MOOCs at a wider scale with a focus on farming communities across the developing world. This was first attempted with a MOOC focused on agricultural start ups that had 5,886 enrolments and 1950 completions (33% - while the average student completion for MOOCs is less than 10%). This was achieved through novel mechanisms such as nudging though social media and cultivating a vibrant discussion on the platform.

In Early 2020, the first Conservation Agriculture focused MOOC was implemented by BAU, in collaboration with the International Maize and Wheat Improvement Centre (CIMMYT). Topic covered principles of CA, CA machinery, CA agronomic management, common CA challenges and constraints, advantages of CA and CA business models for successful service provision. Course content was delivered in both Hindi and English. The MOOC had varied participation from farmers to researchers, small entrepreneurs and policy makers, and others.

This study provides an analysis and learnings of this novel CA based MOOC. The includes a comprehensive analysis of enrolment statistics, content evaluations and active engagement with course content and learnings. Further to this, a pre and post informational needs assessment of enrolled participants was undertaken. This highlights key CA information gaps that are common to the populations who participated and remaining gaps that future MOOCs should address. Further to this, a novel randomised control trial was implemented to assess different engagement mechanisms within MOOCs, to increased active participation and completion. Such findings will ensure future extension and learning activities (both MOOC and other) are relevant and impactful, with a particular focus on addressing an information gap within local farming communities that are not able to access traditional extension services. MOOC specific learnings will also provide key pathways to nudge and increased active participation and completion.

Keywords: *MOOC; Extension; Knowledge Gap; Farmer Education; Training*