Farmers face a range of potential production technologies and practices to choose from, each of which may have different risk profiles and different suitability on a farmer's own plots. A farmer's decision to adopt a new technology requires several types of information. The farmer must know that the technology exists; she must believe that the technology is beneficial; and she must know how to use it effectively. Agricultural extension is the most common program model used to transmit this information to farmers in developing countries.

Evidence-based insights:

How can information be effectively transmitted to encourage profitable decisions among farmers?

- We know from a number of agricultural surveys that the use of these traditional government extension services is low (Beaman et al. 2015) (Blair et al. 2013) (Duflo et al. 2008) (Kondylis et al. 2014) (Waddington et al. 2014).

- Extension services such as farmer field schools (FFS), train and visit (T&V) models, and test plots can be ineffective if they promote a technology which is unprofitable (Duflo et al. 2008).

- Extension may be effective when providing information on a profitable practice that overcomes a behavioral bias. Providing information that helps overcome procrastination (Duflo et al. 2008), or demonstrates an effective practice that may have previously seemed counterintuitive (Cole & Fernando 2016) or whose benefits that were not readily apparent (Hanna et al. 2014) can increase agricultural technology adoption.
Given these challenges to agricultural training, adapting the pedagogical model has been shown to impact agricultural activity:

**Approaches to direct farmer training:**

- Information that is more easily accessible to farmers than traditional extension models (i.e. T&V or FFS) or more tailored to individual farmers at a given moment in time can be effective in changing practices (Islam 2014) (Duflo et al. forthcoming). Technology can be used to refine the training message and increase points of contact for farmers (Cole & Fernando 2016) (Casaburi et al. 2014).

- Trainers face meaningful incentive problems and are more effective at improving technology adoption when incentivized (BenYishay & Mobarak 2014) (BenYishay et al. 2015) (Jones & Kondylis 2015) (Masset & Haddad 2014).

**Approaches to encourage social diffusion of training content:**

- Farmers may be more likely to follow advice from someone similar to them (BenYishay & Mobarak 2014) (BenYishay et al. 2015), or from multiple people within their network (Beaman et al. 2015) (Tjernstrom 2015). Social learning can be improved by the systematic selection of the “messenger.” (Beaman et al. 2015) (BenYishay & Mobarak 2014).

**Information: Future research**

Given the evidence-based insights above, and current interest among related researchers and practitioners, ATAI suggests emphasis on the following topics to further understand effective training and information-sharing strategies for improved smallholder productivity and profits.

**Emphasized:**

- Information provision in the context of the adoption of novel technology
- Making targeting more efficient using information networks
- Mechanisms to tailor information more precisely to individual farmers’ contexts (soil quality, precision agriculture)

**De-Emphasized:**

- Business-as-usual extension systems for familiar crops
Evidence cited


The Center for Effective Global Action and The Abdul Latif Jameel Poverty Action Lab.