

seed and limited access to reliable draught power all contribute to a situation where good establishment is often the exception rather than the rule. Even where irrigation is possible, crop establishment is far from a sure thing.

Crops like wheat or chickpea are sometimes sown, for example, in fields previously compacted and flooded to grow rice. Sparse crops must be re-sown, an expensive process that can lead poor farmers into crippling debt. If farmers are to improve their livelihoods, solutions must be found, however simple, for better germination and establishment of crops. Fortunately, such solutions are available.

Once sown, seeds spend a great deal of time just absorbing water from the soil. If this time is minimized, seed germination and seedling emergence can be significantly hastened. The easiest way to do this is to soak seeds in water before sowing. This is not a new idea, of course – farmers from Nepal to Botswana have used this technique for generations. Remarkably, however, soaking has only been done regularly during particularly poor conditions to "catch up" on time lost to drought. Soaking was never done on a regular basis and the duration of soaking was highly variable. Results have therefore been mixed.



*Maize emerges faster and more completely when seed is primed overnight, as shown in this farmer's field in India.*