# Summary of lessons learned for FNIH team

This list does not include insights from Calestous Juma’s book, “Innovation and Its Enemies”, but does include input from an interview with Fil Randazzo. The list is incomplete and will expand upon further reading of the literature. These lessons are in no particular order, and are often inter-related.

* Scientists did not realize that the public views risk very differently from them.
* Public perceptions a shaped by the first products introduced.
  + Easier to categorize as unnatural those modifications that do not have a counterpart in nature.
  + In Europe, the first products were introduced by Monsanto: American, multinational, no engagement
* Lack of understanding of biotechnology by the consuming public
* NGOs have also been very skillful about their messaging.
  + General perception that GM crops are inherently unsafe
  + Technologies targeted for the poor make them guinea pigs
  + NGOs found messages that resonated and were able to turn them into an economic engine
* The benefits of the technology were not obvious to the average consumer
  + Production benefits less acceptable to the public
* Since there was not compelling reason to support the technology, the easiest course of action was to be precautionary.
* Scientists are more active in supporting gene drives
* Environmental organizations do not oppose or are involved in gene drive research
* Agriculture perceived as a biodiversity threat—intensifying agriculture increases that threat
* Private sector involved in agricultural GMOs (see above regarding Monsanto)
  + Agrochemical company involvement might have been a disadvantage.
  + Intellectual property owned by multinationals
* US government promotion of GM crops
* Opposition to GM crops in African countries due to jeopardizing European markets
* General opposition to agricultural intensification and technology
  + Opposition to Green Revolution
  + Need for infrastructure to deploy and provide access to products (benefits)
* Political and socio-economic considerations may affect outcomes (i.e. unexpected factors may present a barrier)
* Science communication is key. Need a consistent, easily digestible message across research groups and other actors in this space.