

Reverse engineering innovation for impact



Innovation thought provoker by Dr Andy Hall

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I spent the last week talking to scientists at ICRISAT about innovation and how ICRISAT and CSIRO could form an alliance to understand how we can get better at it. I saw a number of clusters of work where ICRISAT is doing something different and distinctive and achieving tangible impacts (more on this in a moment). Surely it is possible to reverse engineer these experiences, extract lessons on how these process have succeeded and use them to perfect the innovation and impact thing that we are all talking about?

But first let me share some of my worries about the global obsession with innovation and the energy devoted to discussing what it is and whether or not we are doing it. Has innovation become the new participation, a normative tyranny where the journey has become more important than the destination? When three or more scientists are gathered together thou shalt suggest establishing an innovation platform (chapter 8 verses 19-20, the gospel according to Saint Innovation Systems).

I am increasingly coming to the view that if you want to have truly transformative impact, a focus on innovation is the wrong place to start. I am not saying that innovation is not critical for impact. I am a firm believer that innovation in the sense of the application of high performing ideas is the only way to tackle the evolving set of challenges that our planet faces today: food security and sustainable and equitable economic growth to name just two. However what I am saying is that if we are interested in impact, the place to start is a clear focus on the impacts being targeted and then innovation will follow.

Let's look at the icons of innovation such as Steve Jobs and Bill Gates in the corporate world or Muhammad Yunus the Bangladeshi social entrepreneur behind the

Grameen Bank and the micro-financing revolution. Did they start out trying to innovate? No, they started out with very clear goals in mind: making profit, beating the competition and capturing market share or, in the case of Yunus, making poor people less poor by making them a bankable proposition.

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They were all risk takers and problem solvers who were able to stitch together ideas, people, technologies and organizational tactics and processes to arrive at world beating products and services that disrupted markets and fundamentally changed the way we live and work. Said another way, these were transformative modes of innovation that had pervasive social and economic impacts. Of course that stitching together and continuous improvement is the elusive core of innovation. Elusive because the process of innovation and impact can only truly be understood retrospectively. Elusive because there isn't one way of doing the innovation and impact thing as its all depend when and where you are doing it and for what end goal.

Jobs, Gates and Yunus all had distinctive approaches to innovation. All successful, but all different. What does that look like in ICRISAT? I saw four contrasting approaches to innovation all of which appear to be

making real impact progress. re creating impact at a significant scale.

1. **The ICRISAT Development Centre.** Unique feature: A science informed public-public partnership in large-scale rural development program implementation with tangible livelihood and policy impacts.
2. **The Seed Revolving Fund for improving groundnut and pigeonpea seed systems in Malawi.** Unique feature: Public and private sector agendas aligned around export drive creates incentives for farmer investment in technology including upgrading seed systems backfilled with technical, financial and institutional innovations.
3. **The ICRISAT Agri-Business Incubator.** Unique feature: A science informed capability to promote technology commercialization through public-private partnerships and business incubation aligned to wider policy thrusts in India on SME led economic growth including “start-up India” program.
4. **Farming and market systems transformation in Zimbabwe.** Unique feature: Negotiation of new marketing arrangements for goats rapidly spreads creates new livelihood opportunities for dry land farmers backfilled by appropriate cropping system and policy responses.

These examples are all very different modes of innovation and impact, some market led, some public policy led. More importantly these modes are all contextually relevant and clearly impactful. A tentative commonality in at least three of them is that high-level alignment with public policy agendas and private interests seems to be a key ingredient in success.

What is also clear to me as an external observer is that each of these areas of work are led by individuals who have been willing to try something different. They have worked at the outer edge of their organisation’s mandate and accepted way of doing things and have often faced fairly stiff resistance. They have done this not because they were trying to be innovators, but because they wanted to get to impact, whatever it took, whatever the pain and whatever the challenges. They stitched together solutions and made things work. It would be disingenuous to compare these individuals to Jobs, Gates and Yunus. Never the less, like these innovation icons, their starting

point was impact and not innovation. Innovation was just a means to get them where they wanted to get to.

But can these cases be reverse engineered to explain, beyond the individual, what made them work and identify success ingredients that could be used elsewhere? Let's take a closer look at one that I had the chance to get familiar with during my visit.

The ICRISAT Development Center. Science informed implementation of large scale rural development programs on behalf of India state agencies impacting hundreds of thousand farmers. Includes development and adaptive testing of technology in implementation environments. A policy driven approach, but has positioned ICRISAT to also be policy informing.

Critical success factors include:

- pilot scale demonstration of impact early on;
- development of long term trust-based relationships with critical state government agencies;
- a pragmatic and client responsive mode of research and problem solving; builds on strong science foundations developed over many years; and
- implementation through a “business unusual” special program that has allowed experimentation with a different take on the research for development and impact task where regional impact trumps international public goods outputs.

Even this most superficial analysis suggests that there are lessons that can be extracted. **These are certainly not universal truths, but there are lessons for how science can contribute in this case to impact in large-scale rural development programs.** So can we really reverse engineer these experiences?

Its seems inconceivable to me that with the huge analytical fire power of major scientific organisations like ICRISAT and CSIRO that we can't. For sure there is some work to be done on how best to frame such inquiries. The innovation systems concept is a starting point and CSIRO has an on-going investment in developing this further to help explore how transformative innovation and impact take place. However, returning to our cases, while these needed and received ICRISAT support, they nevertheless had to push boundaries and question norms. These were

positive deviant groups. They made the impact and innovation thing happen even though they faced exactly the same challenges of all the other research groups: **achieving impact within the envelop of existing organizational resources.**

This raises the question for me on what are the appropriate organizational responses and strategies both to these experiences and to the wider impact imperative?

- **Focus on a small number of transformative impact opportunities** where public and private sector interests align and that match our core scientific capabilities?
- **Create the conditions for positive deviant groups** to emerge and then back the winners with substantial resources? or

- **Identify sectors or countries where the political will exists** to pursue long-term transformative innovation trajectories?

If we are serious about reverse engineering innovation for impact, we should not just be doing so at a project by project level. Rather, we should be reverse engineering our organisations and trying to work out the organizational strategies and approaches needed to enable transformative modes of innovation that deliver impact at scale. That is a challenging task made all the more challenging by modes of funding that, despite impact ambitions, lock us into business as usual and quick wins at the expense of transforming the agricultural systems that we work in.

WANT TO KNOW MORE?

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