

## Doing it together: co-creating innovation for resilience with local people

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*In this article development agents are encouraged to work with local communities to co-create innovations that support resilience. Strategies for identifying local innovations are proposed; including fully recognising the worldviews of the communities that they work with, and engaging with the process of innovation as much as the outcome.*

### Innovation for resilience – business as usual...

Innovating to promote resilience is big business. Collaborations such as the Global Resilience Partnership (GRP) bring together major donors including the U.S. Agency for International Development (USAID), the Swedish International Development Cooperation Agency (SIDA) and the Rockefeller Foundation to offer large grants for 'bold, innovative and scalable' ideas that are 'locally driven, high-impact solutions that build resilience.'<sup>2</sup> Whilst these awards nominally place community engagement at their centre, academic and project literature suggests that a 'pipeline model' of planned research activities leading technology-focused interventions remains at the heart of dryland development innovation.<sup>3</sup> The persistence of this techno-centric focus may be down to deep-rooted narratives that cast local innovation as somehow 'less innovative',<sup>4</sup> whilst simultaneously overlooking many of the negative socio-ecological and sustainability impacts of technology transfer.<sup>5</sup>

### ... or identifying 'other' innovations

The emergence of counter-narratives to challenge this dominant technology-transfer focus is increasingly being seen across disciplines and regions; from medical equipment being adapted by local practitioners for use in remote areas<sup>6</sup> to dryland farmers and herders collaborating to find alternative ways to improve yields outside of biotechnology and commercialisation<sup>7</sup> For millennia dryland communities have innovated in response to emerging threats and opportunities; the resulting endogenous innovations are often bold, locally driven and of high impact. These forms of innovation are often a far cry from the 'Rockefeller model' described above, but

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2 <http://www.rockefellerfoundation.org/blog/announcing-global-resilience-challenge/>

3 Biggs, S., *Building on the positive: an actor innovation systems approach to finding and promoting pro poor natural resources institutional and technical innovations*. International Journal of Agricultural Resources, Governance and Ecology, 2007. 6(2): p. 144-164.

4 Scott, J.C., *Seeing like a state: How certain schemes to improve the human condition have failed*. 1998, New Haven, CT: Yale University Press. p. 285

5 Robinson, L.W. and F. Berkes, *Multi-level participation for building adaptive capacity: Formal agency-community interactions in northern Kenya*. Global Environmental Change, 2011. 21(4): p. 1185-1194.

6 Anner, J., *Emerging economies drive frugal innovation*. Bull World Health Organ, 2013. 91: p. 6-7.

7 Leach, M., et al., *Transforming innovation for sustainability*. Ecology and Society, 2012. 17(2): p. 11.

have the potential to offer a great deal to development programmers. This article sets out the case for greater engagement between innovators at a local level, calling for indigenous and non-indigenous development actors to consider how they may collaborate to co-create solutions to stubborn problems. Whilst challenging, these co-created innovations can reflect multiple aspects of development best practice; genuine improvements in participation, advocacy, risk-management and efficiency can all be proposed as outcomes of the co-creation process. The following sections discuss a number of barriers to this co-creation detailed in academic and development literature, and suggests a methodology through which development actors could begin to engage with local innovators.

### Barriers to collaborative innovation

There is an assumption that innovations should service needs identified by the development community, but in reality a large number of endogenous innovations are 'informal, illegal or not in line with development prescriptions'.<sup>8</sup> If development actors shift their gaze from seeking pre-formed answers towards engaging with innovative potential, some of these seemingly less-desirable innovations begin to demonstrate valuable features, for example regional *miraa* distribution networks<sup>9</sup> can be seen as simultaneously black-market illegality and evidence of well-connected conduits across challenging terrain.

The current drive for technological innovation is reinforced by a clear 'problem-solution' narrative, but the reality of local innovation is much more complex. In many cases the innovations themselves are not the product of local ingenuity alone, arising instead in response to external inputs. Evidence of these 'hybrid-style' innovations can be found across the globe with community-level adaptations and modifications of external inputs a feature of almost every culture. Indian *Jugaad* innovations demonstrate repurposing of vehicle components and housing materials in response to local need;<sup>10</sup> Chinese *Shanzhai* innovation is a well-established form of counterfeiting and adaptation of telecoms equipment.<sup>11</sup> Building on cases like these it is possible to suggest that the future of innovation for dryland development may be found in the dynamic, hybrid combination of external and

8 Catley, A., J. Lind, and I. Scoones, *Pastoralism and Development in Africa: Dynamic Change at the Margins*, ed. A. Catley, J. Lind, and I. Scoones. 2012: Routledge. P.1

9 Carrier, N.C., *Kenyan khat: The social life of a stimulant*. Vol. 15. 2007: Brill.

10 Singh, R., V. Gupta, and A. Mondal, *Jugaad--From 'Making Do' and 'Quick Fix' to an Innovative, Sustainable and Low-Cost Survival Strategy at the Bottom of the Pyramid*. International Journal of Rural Management, 2012. 8(1-2): p. 87-105. Birtchnell, T., *Jugaadas systemic risk and disruptive innovation in India*. Contemporary South Asia, 2011. 19(4): p. 357-372.

11 Goxe, F., *Innovation with 'Chinese' characteristics? Reflecting on the implications of an ethnic-based paradigm of management and innovation*. Prometheus, 2012. 30(2): p. 155-168.

grassroots innovations.<sup>12</sup> Drawing on established theories and ideas surrounding the dynamic and flexible nature of knowledge, some authors suggest models of innovation in which development groups and local collaborators engage in the co-creation of innovations.<sup>13</sup> This model, proposed in the 1990s, goes beyond employing ‘solutions’ created by local or remote groups and instead combines notions of participation, advocacy and sustainability in the creation of resilience innovation.



Pastoralist families continue to innovate and adapt as local resource supply changes. Here, wire fencing replaces a traditional boma wall and motorised vehicles are substituted for traditional camel-powered methods of relocating dwellings. Photo credit: Alex Tasker.

### Innovation ‘back to basics’

So how can development organisations engage with this form of dynamic, co-creative innovation? There is no simple answer, but there are ways in which development groups might equip and position themselves in order to improve their chances of effective engagement. Engagement can take many forms; local, regional and national organisations, research centres, academic establishments, government departments and interest groups can all provide rich relationships with development groups through which to create new ideas and innovations. This article however deals with one of the more challenging sources of collaboration – local communities themselves. Whilst many of the suggestions below hold true for any knowledge-partnership, this article examines collaboration at the local level. In order to engage with this process, organisations must first consider a number of challenges: they must focus on clarifying what is meant by innovation, locate local innovation beyond the project remit, engage with innovation and the innovators, be able to learn as an organisation and modify structures to enable feeding-back into the organisational understanding of innovation.

<sup>12</sup> Ely, A., et al., *Innovation politics post-Rio+20: hybrid pathways to sustainability?* Environment and Planning C: Government and Policy, 2013. 31: p. 1063 – 1081.

<sup>13</sup> Scoones, I. and J. Thompson, *Beyond farmer first*. Rural people’s knowledge, agricultural research and extension practice. London, 1994.

### 1. Framing innovation

Firstly it is necessary to clarify what is understood by ‘innovation’. Whilst seemingly obvious, this requires an organisation to be explicit about their definition of innovation; openness about existing assumptions allows exploration of new pathways of engagement. Recent dryland case studies highlight some of the difficulties in operationalising these ideas:

- *Innovation for whom?* Index-Based Livestock Insurance (IBLI) featured in Daud and Mbiyu’s article in the last DLCI journal<sup>14</sup> is suggested as an “innovative approach... aimed at cushioning livestock owners from drought”. Globally, insurance cannot claim to be a novel concept, however few would argue that the IBLI system was not innovative to livestock owners of Northern Kenya. It is clear that innovation need not necessarily be ‘new to world’ (in the language
- of innovation studies) but can be ‘new to user or community’.
- *Innovation or invention?* Often used synonymously, it is worthwhile unpacking just what is meant when these terms are encountered. In many cases invention is considered to be the act of creation, whereas innovation may variously be the application of an invention or the process by which ideas are adapted and evolved.

#### Box 1: Challenges of locating local innovation

*“As a field extensionist working with the Ministry of Agriculture, I started to look for farmers with interesting innovations. This was not easy at first, even though I know the area where I work quite well. Not everybody understands what “innovation” means, so I had to start by asking for someone who is doing “something new”. Some farmers referred to something they had tried once, and which was not visible anymore. And many farmers found it difficult to differentiate what they had tried and done on their own from what somebody had told them. But the process got easier over time and, after a couple of months, I had collected about 50 cases.”*

*“Farmers generally do not keep records, while it may be essential to consider input quantities, concentrations, or the energy or effort required for each innovation. And effective innovations dealing with a particular process, such as controlling a pest, are easily lost once the problem has been dealt with successfully. Farmers have very little time to spend talking with an outsider about what they do.”*

Ruth Tagoe, from Wettinsha et. al 2008 p. 14

<sup>14</sup> Daud, A. and P. Mbiyu, *Index Based Livestock Insurance: The next steps and why government support is needed*. Resilience in the drylands of the Horn of Africa, DLCI, 2014(5): p. 21 - 23.

- *Incremental or radical?* When viewed as a process, innovation (or the outcomes of innovation) may be considered to have a rate—commonly termed as ‘incremental’ (slower) or ‘radical’ (faster). Some of the most notable innovations in dryland development have been leaps forward into uncharted ground such as the social and economic ‘sea-change’ resulting from increased mobile phone access.<sup>15</sup> But a large proportion of innovations at grassroots level are incremental: changes and adaptations that arise from small experimental steps, albeit having profound impacts on resilience.
- *Focus and direction?* Community-level innovations may arise in response to problems unseen by development actors, or create answers that run counter to development goals. Rather than dismissing these innovations out-of-hand, organisations can instead start to ask questions: Where do innovators draw their knowledge from? How did they experiment? How do they distribute? Understanding these issues may help shape more ‘programme friendly’ innovations.
- *Power and value?* The history of drylands development is littered with failed attempts to impose external ideas and technologies. The process of co-creating innovations is dependent upon willingness from development agents to engage openly and fairly with the worldviews of the communities in which they work. Knowledge exchange is an intimate<sup>16</sup> and relational act<sup>17</sup> that requires time and trust, features that can run contrary to the timelines and evaluation criteria employed by donors and government.



*Innovating need not be grand; repurposing USAID oil tins for a chicken coop. Photo credit: Alex Tasker.*

### 2. Locating innovation and innovators

Once an organisation has clarified how it understands innovation, it can begin to take steps to locate it. This requires an opening up of ears, eyes and minds starting from within the organisation. Once field staff are trained in appropriate methodologies, activities for detecting innovation can begin. There are numerous approaches that may be taken; the section below provides a good overview of four methods adapted from the 2005 workshop ‘Promoting Farmer Innovation and Experimentation in Ethiopia’ (PROFIEET)<sup>18</sup>:

- *Observation:* One approach to uncovering innovations is a ‘learning walk’. These walks deliberately open a dialogue away from prescribed project aims to discuss new ways of doing things and can be completed at a variety of stages throughout the intervention.
- *Key informant guidance:* Consulting with local key informants as to who the ‘experts’ in the community are can often provide a starting point from which to identify households who are doing things differently.
- *‘Snowball’ interviews:* Local innovators draw on a range of knowledge sources in generating innovations; these may be explored by tracing networks of contacts in a step-wise fashion revealing sources and flows of new knowledge.
- *Innovation histories:* Innovations that have become important to local families can be examined to understand who is developing them and why.

These techniques describe ways of uncovering local innovators and innovations, but can overlook a second source of local innovativeness — partner field staff, local collaborators and contacts — who are often perfectly placed to understand the wider impacts of development interventions on local livelihoods. In many cases these field-level personnel themselves may well be innovating in order to achieve programme goals. These forms of

<sup>15</sup> Shrum, W., et al., *Mobile phones and core network growth in Kenya: Strengthening weak ties*. Social Science Research, 2011. 40(2): p. 614-625.

<sup>16</sup> Reid, W.V., et al., *Bridging Scales and Knowledge Systems: Linking Global Science and Local Knowledge in Assessments*. 2006, Washington DC: Millennium Ecosystem Assessment and Island Press.

<sup>17</sup> Briggs, J., *The use of indigenous knowledge in development: problems and challenges*. Progress in Development Studies, 2005. 5(2): p. 99-114.

<sup>18</sup> PROFIEET, *PROFIEET Tigray PID Workshop, 2–5 April 2005, Axum. Mekelle*. 2005.



innovation are key to understanding how and where development groups can engage with creation of new innovation, and are all too often overlooked.

### 3. Engaging with innovation/facilitating Innovation

Central to co-created innovation is the understanding that development actors need to engage with the *process* of innovation, not simply the *outcome*. In moving beyond the search for pre-formed ‘solutions’ (endo- or exogenous) development organisations may create instead a more enabling environment for co-created innovation; there are however a number of challenges. There may be no pre-identifiable outcome at the project planning stage, which poses difficulties for monitoring and evaluation. The approach requires a high degree of individual and organisational self-awareness, time, and a commitment to organisational learning – a challenge for any project team, let alone one working in remote areas with limited resources.

**Box 2:**

**Example of Innovation Evaluation Categories**

- Originality
- Usefulness
- Adaptability
- Problem solved
- Replicability
- Acceptability
- Technical viability
- Economic viability
- Gender responsiveness
- Research potential
- Affordability

(Wettinsha et. al 2008 p.12-13)

There are a number of tools available to organisations wishing to follow this path; one such approach is the Participatory Innovation Development (PID) framework developed and employed by the PROLINNOVA (PRomoting Local INNOVAtion) network.<sup>19</sup> PID differs from a number of rural development innovation frameworks by bringing together multiple actors involved in innovation for the primary purpose of development, rather than research. The capacities generated from PID may compliment more formal agricultural research and development through enabling context-specific and sustainability innovations at a local level. The PID approach follows the process of identification above but then moves to evaluate the innovations found on a range of criteria (examples of criteria are given in Figure 2).

### 4. Closing the loop: Learning and evolving

One of the aims of co-created innovation is to promote further innovative activity between actors. It is therefore imperative to maximise learning and impact from the process. Methods for achieving this can include:

1. *Celebrating innovators:* In order to promote openness and collaboration it is necessary to break down traditional ideas of power and role in

development. One of the key ways in which this can be done is to celebrate innovators as partners in the process. Excellent examples of this include poster campaigns promoting local innovations in tick control in Uganda, and newspaper articles on wasp traps in Nepal.<sup>20</sup>

2. *Sharing innovations:* The broadcasting of local innovators and innovations can have a valuable role in increasing the reach of an innovation, but also in promoting experimentation and innovation in similar communities. A number of media approaches have been trialled including cataloguing, posters, magazines, radio and other forums. These outlets have achieved varied success, but in all cases great care should be taken to consider issues of ownership and intellectual property.
3. *Recognising limitations:* Co-created innovation is a process, and as such requires reflection and appraisal. For example one of the most commonly encountered obstructions in local innovation programming is gaining access to female-led innovation. Women often do not consider themselves innovators, or may have their innovations hijacked by men. In many cases it is worthwhile investing specific time and effort to engage with those sections of the community with the quietest voices.

### Conclusion

By engaging with innovation processes, development actors can start to move away from being harvesters of innovations, moving instead towards an active role in the creation of new ideas and knowledge. In reality, innovation has been occurring in dryland communities for as long as those communities have existed; the interventions of development actors may be considered as yet another threat or opportunity. What is novel is for development groups to recognise their impact in shaping innovation trajectories and to engage positively with this process. This is not to suggest that the process of knowledge co-creation is straightforward; development groups face internal and external pressures from all sides to provide services at a time where resources are increasingly stretched. It may seem that dedicating additional time and human resources to building the necessary trust and contacts is a major challenge, but in all likelihood the intimate relationships required already exist to varying degrees between field staff and local partners. The big leap comes when the rest of the organisation recognises and supports these valuable networks and begins to open up the possibility of shaping the future of innovative resilience programming together.

20 Wettinsha, C., M. Wongschowski, and A. Waters-Bayer, *Recognising local innovation: experiences of PROLINNOVA partners. A publication in the series on Promoting Local Innovation*. 2008, IIRR/Leusden: PROLINNOVA International Secretariat.

19 <http://www.prolinnova.net/>