

Sustainable Agriculture Kits (SAKs)

Reduce Drudgery and Increase Farm Income

STORY OF CHANGE

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Photos: Roshan Pudasaini, LI-BIRD.



KEY MESSAGES

- Several low cost innovations (practices and tools) exist that can reduce drudgery, increase farm productivity and improve lives in smallholder farming systems. However, there is gap in mechanisms for providing the information, training and sustained access to these innovations to smallholder farmers.
- The SAK approach creates a large menu of affordable innovations that have the potential for smallholder farmers, uses farmer participation to identify the ones that are useful and then engages local private entrepreneurs to ensure efficient and affordable supply.
- Even smallholder farmers are willing to pay for affordable technologies if they perceive that it adds value. NGOs play an important role of introducing innovations and creating demand for the ones that work, while private entrepreneurs are effective in ensuring efficient supply of the tools at affordable prices.

Adoption of Innovations

It is often assumed that once farmers know of a new innovation (a tool or a practice) that works they will adopt it readily. This is typically an exception rather than the rule. Even great innovations often take several decades before becoming widely adopted while the majority never get adopted (see Rogers' *Diffusion of Innovation* for a comprehensive history of diffusion research in agriculture and other fields).

In the broadest sense, an innovation is not adopted because: i) it is not suitable for a particular context, and/or ii) it is not accessible to the farmers in terms of information or affordability. The first bottleneck can be overcome by ensuring that needs and use context are accounted for in the process of innovation development. Participatory plant breeding, for example, involves target farmers in goal setting, parent and progeny selection to develop varieties that are more likely to be adopted. The second bottleneck can be overcome by making existing innovations available to farmers. This is the focus of Sustainable Agriculture Kits (SAKs).

Sustainable Agriculture Kits

The SAK approach, as articulated by Prof. Manish N Raizada (sakglobal.org), starts with the premise that there are several low cost innovations that can help smallholder farmers reduce drudgery and improve productivity. It also assumes that farmers will buy these innovations using their own money if they are affordable and they can see immediate benefit from using them.

Despite this, it is also important to recognize that even innovations that work well in research context may not be adopted in a given social, cultural and financial context. Therefore, instead of pre-emptively selecting one or few innovations to promote, sustainable agriculture kits encompass a large menu of innovations that are tested for adoption with farmers. As innovations in the SAK menu are selected from various sources we as implementers do not have emotional connections to prefer any one particular innovation succeed and hence are more likely to make unbiased decisions.

The innovations included in the SAK menu share a few salient features. They are affordable for the target smallholder farmers and typically fall in the range of NPR 100-500 (~ CAD 1 to 6) per item. Affordability is important for the consumers to maintain demand that will sustain their distribution channels even in rural markets. They are small and portable and hence usable even on small and narrow strips of land on terrace farms. For instance, farmers preferred handheld corn shellers that they could carry with them. Women often help

each other out when shelling corn and portable corn sheller allows women to continue this social practice. By contrast, the tabletop corn sheller was less portable and hence less successful. They are simple enough for farmers to test and assess if they meet their needs or not. They reduce drudgery. The SAK approach also focuses on improving farmers' experimentation capacity so that they can actively seek out options out there and choose what works for them or not.

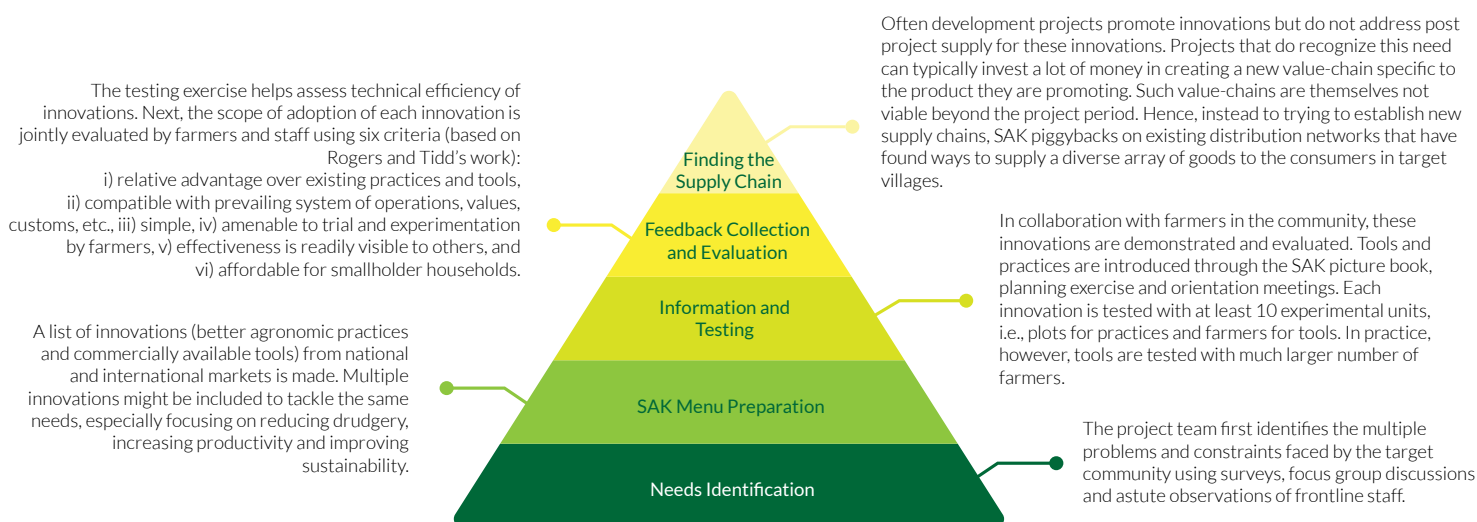
Scaling up Successful SAK Innovations

The SAK approach marries the comparative advantages of non-profit non-governmental organizations (NGOs) and for-profit private enterprises. The former takes the lead in the testing phase, while the latter steps in for the marketing phase.

In the testing phase, the NGO partner provides access to a large menu of innovations to determine what is accepted by the farmers in the target community. Although these innovations have been tested in research and other context, the process of first giving farmers access to them can itself be another form of testing. Since the context of innovation development can be different than the context of adoption, seeing farmers adopt certain innovations while discarding others gives confidence to the private sector partners on the market potential of the "champion" innovations. Without the research on adoption, private sector will have little confidence to step into the marketing.

The SAK Method

The selection, testing and scaling up of sustainable agriculture kits is achieved in following steps:



Once the “champion” innovations are identified, in the next phase, the private sector partner procure and supply these innovations to the community through efficient and multi-purpose distribution channels. Mostly NGOs are not proficient in navigating the business world and without a business mechanism for distributing these tools and products, long term sustainability cannot be achieved. Non-profit NGOs are unable to negotiate competitive prices for these tools from suppliers as well as private enterprises.

Another point to note is that while the private enterprises have comparative advantage as well as an economic interest in marketing tangible products from the SAK menu, they are not interested in delivering knowledge and practices. Hence, traditional extension services, development NGOs and community-based organizations are still crucial for scaling up innovations that are based on knowledge and package of practices, e.g., intercropping of ginger with maize, or cultivating yam in sacks.

The SAK Nepal project is funded by the International Development Research Centre (IDRC) and Global Affairs Canada (GAC) and implemented by the University of Guelph and LI-BIRD in Nepal. Based on detailed needs assessment of the communities in Kaski and Dhading, a set of 27 practices and 21 tools were selected as part of the Sustainable Agriculture Kit menu and tested in these communities. A global SAK picture book with over 150 practices and tools were also produced to give farmers and practitioners further ideas of innovations. Farmers and staff used six criteria of: i) relative advantage, ii) compatible, iii) simple, iv) amenable to trial by farmers, v) visible effectiveness, and vi) affordable to evaluate the adoption potential of these innovations.

Cultivating yam in sacks, intercropping ginger in maize, growing legumes on terrace wall and water harvesting for drip irrigated vegetable production were practices that farmers adopted. Among tools and products, handheld corn sheller, farm rake, vegetable composite kit, super grain bag and silpaulin sheet were preferred.

Women farmers preferred the handheld corn sheller over table based corn sheller for its portability, price and ease of operation. A lot of the tasks that women do in farming, such as shelling corn, are repetitive. Doing the task once does not appear to be that difficult and the perceived simplicity of the task has often contributed to the lack of perceived need for

automation. However, when they have to repeat these task for hours it leads to repetitive motion injuries and blisters. Low cost tools from the SAK menu have managed to save both the time and reduced the drudgery for farmers.



Farmer in Majhthana harvesting yams from sacks. Photo: Roshan Pudasaini, LI-BIRD.



Farmer in Majhthana using farm rake. Photo: Roshan Pudasaini, LI-BIRD.



Photo: Chinch Gryniwicz

Lessons Learned

Often development and extension in developing countries have viewed smallholder farmers as too poor or illiterate to invest in themselves. Therefore, the development model has been about providing them free goods and services, which inevitably is not sustainable. The experience of SAK Nepal shows that even smallholder farmers are willing to pay for affordable technologies if they perceive that it adds value.

A lot can be gained by providing smallholder farmers access to information on the technologies and practices already available and letting them test it out. Similarly, tracking the acceptance or rejection of technology is valuable information which, when made available to private sector actors, can reduce their perception of risk and help them identify a new market opportunity. Even in the most remote villages, effective distribution channels that supply snack foods and soft drinks already exist. Engaging private sector partners can help the project use these existing channels for the purpose of supplying sustainable agriculture kits as well.

Conclusion

Public and private research have developed many innovations (tools and practices) that help farmers produce more using less labour and resources. While the traditional extension model typically picks one or few innovations to promote and support, the SAK approach starts with a few dozen innovations that could collectively address multiple needs of the community. From this larger menu of options, an individual farming household is likely to find a set that works for their context. The smaller set that been vetted in the target community are then taken up by private enterprises and distribution networks to supply to eager customers in an efficient manner at an affordable price.

For more information:

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