



Fostering Farm-Driven Innovation in Sulawesi

By Fiona McKenzie

Being a cocoa farmer isn't easy. It requires the maintenance of soil, plant and water health in order to deliver quality cocoa beans. Farmers must either earn or borrow money to buy inputs like fertilisers, pesticides and fungicides, then ensure that their regime of weeding, pruning, sanitation and harvesting delivers an adequate amount of cocoa beans. These beans need to be dried carefully to prevent mould, and then sold either to local buyers or exporters in order to repay debt and finance the next round of cocoa production. In addition, farmers have to spend time managing nursery seedlings, replanting or grafting new cocoa trees, planting or removing other tree varieties to maintain appropriate shade levels and using compost and manure to enrich the soil. Despite his or her best efforts, a farmer might still be faced with decreasing yields due to aging of trees, and pests and diseases like cocoa pod borer, *Phytophthora* pod rot and canker and vascular streak dieback. Too much rain, or not enough,

can also complicate things. It definitely isn't a job for the faint hearted.

Recognising these challenges, there have been a variety of organisations that have set up programs in Sulawesi and elsewhere to help cocoa farmers. Most have the best of intentions, and seek to train farmers in the latest best practices and techniques. Usually, programs include an 'extension' component, where demonstration plots, farmer training and field visits are used to try to transfer information from researchers to farmers. The problem is that farmers don't always respond to this information in ways those training them might expect. Ironically, failure of extension programs is often blamed on the perceived unwillingness of farmers to adopt 'good technological solutions'.

This assumption would, in most cases, be a mistake. Due to the widespread efforts of government, private sector and other development and non-government organisations, a lot of cocoa farmers do have some degree of knowledge of the types of farming practices

that are available to them. But there is a big difference between being aware of the idea, versus have the resources and opportunity to undertake implementation. It is this crucial process of ongoing implementation on the farm that is too often overlooked.

When scientists develop research in isolation from the farmers they are trying to help, they risk devising techniques that are not suited to the conditions of the farm or that are not relevant to the farmer's chosen livelihood strategies. This means that the choice not to adopt certain practices is often quite logical, given the constraints farmers face, and the other land uses they are also managing.

It would be wrong to assume that farmers are not capable of making their own informed experimental or management decisions – this is something that they do every day. On-farm implementation of any new technique requires a degree of innovation on behalf of the farmer. Each practice or technology needs to be adapted to suit the local

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increased productivity and to conduct their own experiments and trials targeted at these constraints. Our researchers are helping farmers to innovate for themselves, with knowledge exchanged between farmers and researchers in a way that is interactive and consultative. This approach builds on earlier ACIAR-funded research to develop locally applicable, participatory approaches for engaging farmers in the cocoa sector in Sulawesi, in PNG and in the durian and jackfruit industries in the Philippines. We are piloting the approach in Anreapi, Polewali Mandar, where we are developing on-farm experiments and trials, as requested by the farmers and farmer-groups who are participating. It is early days, but we believe that working with farmers, rather than simply telling them what to, will create more innovations and greater productivity.

In truly participatory research, farmers are given equal status in the research process as scientists. This can be challenging to those who are used to a more traditional 'top-down technology transfer' or 'extension' approach, but rewarding for those who take the leap and try something new. The task may sound daunting, but the sector in Sulawesi is in a strong position to move forward. Many projects in Sulawesi already have strong farmer participation, so it may not require radical change so much as subtle adjustments to include program components that embrace farmer-driven innovation. And there is still an important role for scientific research, extension and technical advisory services, which has made many positive contributions in the past, continues to do so today, and will likely do in the future.

Farmers in Sulawesi have already proved that they can innovate, with their willingness to rapidly, and independently, adopt cocoa farming since the 1980s. The challenge is to work effectively in partnerships that foster further farmer-driven innovation, so that the cocoa sector can continue to flourish. We look forward to working with other stakeholders and partners in this endeavour. *Photo: ACIAR*

conditions of the farm. Minor tweaks or major reinvention can sometimes be required.

Recognising that farmers bring their own skills and experiences to the table is an important first step. The second step is to realise that scientific research is not the only driver of innovation. New knowledge doesn't just arise in the lab or on research stations – it can also arise on the farm. The third step is to design programs that take into account the knowledge that farmers already possess. This requires truly new ways of engaging with farmers, with partnerships built upon greater linkages to technically relevant information, flexibility in approach, ways to monitor and give and receive feedback over time. Key ingredients also include the networks and linkages between farmer groups and recognising the importance of farmer-farmer learning processes. Delivering

appropriate resources, rewarding innovators and providing opportunities for those who are motivated to change is also important. Having layers of farmer engagement, from the village level through to global buyers, improves the likelihood of success and longevity.

Having a commitment to the local area, with local staff, is also crucial.

The Australian Centre for International Agricultural Research (ACIAR) and Indonesian Agency for Agriculture Research and Development have been working for several years to improve the extension systems and policy settings that affect sustainable cocoa production in Indonesia. In a new approach, we are now working to foster 'farmer-driven innovation' by supporting farmers to identify constraints to

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