Research into Use: Policy Brief No. 8

Speeding dramatic change in **rice fallows:** low-input pulses where nothing grew before

Research Into Use

In the monsoon season, rice fields in South Asia are a patchwork of brilliant green. But a few months later, in the post-rainy *rabi* season, the same fields lie fallow and bare. Now, farmers can grow profitable pulse crops where nothing grew before.

Above: Returns from rice are falling. Yet rice paddies (left) lie fallow in the post-rainy rabi season (middle). Low-input pulse crops (right) bring higher returns, improve soil fertility and create jobs—for example 50 person days per hectare per year for chickpeas.

After the rice harvest there is still enough water in the soil for another crop

For generations, farmers have avoided growing a second crop after monsoon rice—the risks that seed would not germinate as the rice fields dried out or that crops would fail for lack of rain were too high.

Now, pulse varieties that mature quickly, and simple practices such as early sowing, minimal tillage and seed priming, mean farmers can grow crops confidently in the *rabi* season. Pulses have deep roots that make the most of moisture remaining in the soil after the rice crop and need no irrigation.

Pulse crops like soybean, mung bean, chickpea, lentil and faba bean need few inputs and little capital, and their grain fetches high prices. This means that they are more profitable than irrigated rabi crops such as wheat. Plus, demand is strong and set to rise.

Farmers need the right seed

Pulses are hardy crops that are highly marketable in south Asia. But rice fallow areas vary widely. Centralised plant breeding therefore isn't an efficient way to produce seed adapted to differing climates, soils and consumer preferences.

However, involving farmers in selecting varieties, testing them on-farm and setting up self-sufficient village-based seed production and distribution systems is highly cost-effective.

How decision makers can speed dramatic change

- **Strengthen departments of agriculture and engage non-government organisations**—in eastern Nepal the area of rice fallow sown to crops doubled from 40% to 80% in two years thanks to the NGO FORWARD[1] and the District Agriculture Development Office (DADO).
- **Distribute improved early-maturing and pest-resistant varieties**—in eastern Nepal, chickpea (a crop abandoned by farmers because of disease and insect pests) has made a comeback due to the availability of new varieties.
- **Provide farmers with incentives**—such as crop insurance and micro-credit.

[1]Forum for Rural Welfare and Agricultural Reform for Development

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Photo: S. Mann

What is the purpose of this brief?

This Policy Brief was produced to show that complex subjects can be explained very quickly and simply to busy policy makers. It is part of a series that showcases proven technologies, policies and new approaches in order to demonstrate the importance of high-quality scientific communication.

Through its Policy Brief and Pocket Guide series, Research into Use aims to encourage partners in both the developed and developing worlds to invest more in their communication efforts. Only in this way will useful technologies be widely adopted, helping the people that they were intended to help and contributing to the achievement of the Millennium Development Goals.

What is Research into Use?

The Research into Use Programme aims to do exactly what its name says—to get research findings into use by resource-poor farmers in the developing world. The natural resources research programmes funded by the UK Department for International Development (DFID) produced many significant findings over their 11 year existence. Research into Use is working to put these results into practice—in order to reduce poverty on a very broad scale in sub-Saharan Africa and South Asia.

A key part of this work will involve helping partners to better understand how the promotion and widespread use of such research will help to cut poverty and boost economic growth.

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