

Institutions and Social Capital Approach to Promote Agricultural Productivity¹

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Agricultural productivity results from improved farming practices. Even assuming that superior technology is available, the bigger challenge is getting the farmer to adopt it, as adoption involves learning new technology, taking new risks, and fostering new relations.

In 2002, the Cost and Returns Survey conducted by the Bureau of Agricultural Statistics reported that, while almost 90% of palay farmers claim to use high-yielding varieties (HYVs), only less than a quarter of them use certified seeds. The target then is to increase HYV utilization rate to about two-thirds of all palay farmers, from the current 21%. This is a tall order for program implementers. If this target were reckoned by year 2010, then this would have called for a threefold increase in utilization rate within the last eight years.

Aims and Scope

Institutions, social capital, and learning costs are additional factors that influence farmers to take on the challenge of using HYVs to increase production. Besley (1995) emphasized security of property rights as a critical factor. Some farmers choose to adopt early on, but delay the decision, waiting to learn from the experience of early adopters (Foster and Rosenzweig, 1995). These are institutional factors – difficult to measure, but nonetheless influential.



Institutions are broadly defined as rules and mechanisms for enforcement, be they formal or informal, that govern political, economic, and social interactions (North, 1991). The institution of property rights is codified to correspond to how secure is the operator's claim to the land he tills – if he can freely decide on the use of the land and if he can transfer the right to use the land. Social capital is defined as the total amount of resources that an individual can mobilize out of his interaction with other individuals. Variables that affect learning cost are also included: educational attainment of the farmer, visits by a government or non-government extension worker, to name a few. The technical issue is

proxied by the index of the expected yield of the certified seed over the non-certified seed.

The impact of these factors is estimated using data on palay farmers as surveyed in the 1991 and 2002 censuses of agriculture conducted by the National Statistics Office and the 2002 Cost and Returns Survey conducted by the Bureau of Agricultural Statistics. Not one dataset contains all the variables and certain conditions had to be assumed for the econometric analysis.

Findings

A higher expected yield from the new technology encourages a farmer to adopt

it. If the new technology has an average yield that is twice more than the old, then a farmer is three times more likely to adopt it.

Social capital, which includes networks, membership in organizations, and other social structures that lead to collective action, increases the likelihood that a farmer will adopt the new technology. A farmer with even a little social capital, as measured in the study, is 16% more likely to adopt the new technology, than a farmer with none. Access to capital from formal sources increases this likelihood by almost 50%.

Likewise, security of property rights (institutional capital) influences a farmer's decision to adopt the new technology. Farmers with greater freedom of use are supposed to be more likely to adopt the new technology. However, this was not the case in the Philippines. Farmers who are more able to transfer their rights to the property are less likely to adopt new technology. This may seem a surprising result and should be interpreted within the context of the Comprehensive Agrarian Reform Program (CARP) implementation. A farmer with a "secure" title to his property may consider his claim more insecure because of higher likelihood of CARP coverage. Perhaps, farmers equated CARP with expropriation of property and everything on it. CARP, to a certain extent, also restricted freedom of use and has added to the cost of land transactions. In 1991, a farmer with a secure title is about 80% less likely to adopt the new technology against a farmer with no title at all. In 2002, the odds have worsened even more (Edillon, 2010).

High cost of learning associated with the new technology is expected to discourage adoption. Hence, any factor that reduces this cost will encourage

technology adoption such as higher education (human capital) and visits by an extension worker. However, a farmer with a college degree is again found to be less likely to adopt the new technology. A farmer allocates his labor time to different endeavors. If the new technology (or learning it) requires more time, then a college graduate will less likely take this on.

There are also indications that farmers adopt a "wait-and-see" attitude before deciding in favor of the new technology. This means that late adopters expect to gain from the experiences of early adopters. The early adopters appear to be the wealthier and more educated farmers.

Conclusion and Policy Implications

Policies and programs to improve agricultural productivity should consider a comprehensive approach to include institutional and social issues. Some other policies and programs may have increased the perceived risks to property rights; others may have reduced access to measures that can mitigate risks. These need to be corrected even before an extension program is introduced.

The study provides a new perspective on the CARP. Under the CARP, with all its prohibitions, land is treated merely as a factor of production, albeit almost non-transferable; and not a store of wealth. Hence, it cannot be used as leverage for higher investments or a means to purchase risk-mitigating instruments. Worse, if the process of land acquisition has strained the relationship between the agrarian reform beneficiary (ARB) and the previous landowner, then CARP may have seriously eroded the social capital of the farmer-turned-ARB.

The revised CARP may be designed to restore the other functions of land. It must also include strategies to enable the

farmer to rebuild his social capital. Even previous landowners should have the option to rebuild social capital.

With respect to technology transfer, the extension program should exploit the characteristics of farmer networks as social capital. It is important to identify the potential innovators and the imitators. The profile of land distribution is a good proxy for understanding these networks. If the distribution has become more equal, perhaps because of CARP, the profile of education of farmers and ownership of equipment may be used as alternative variables in strategizing technology transfer. For instance, innovators may be trained under a certificate program. They may also be granted concessional loans to avail of production equipment. Having reinforced the leadership position of innovators, the program can then implement strategies to induce a "leader-follower" model of learning.

Needless to say, all these recommendations assume the availability of technology that is proven superior to the old.

¹ The brief is drawn from "Institutions, Social Capital, and Productivity Growth in Philippine Agriculture," a study supported by the Productivity Growth in Philippine Agriculture (PGPA) Project, a joint undertaking of SEARCA, Department of Agriculture - Bureau of Agricultural Research (DA-BAR), and the Philippine Rice Research Institute (PhilRice). The opinions expressed in this brief are the authors' and are not the official views of any of the institutions mentioned here.

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