The Role of the Public Sector in Agricultural Insurance PPPs

The public sector: A fundamental pillar in agricultural insurance

Background

Sustainable, large scale, affordable agricultural insurance programs require innovation and action from both the public and the private sectors. Involvement of the public sector is critical to ensure that agriculture insurance programs meet the needs of small-scale farmers while ensuring the sustainability of financial providers. However, in recent years, there has been a tendency to overestimate the role of the private sector in agriculture insurance, especially in developing countries. Given their importance, the roles of the public sector and of the private sector need to be clearly defined.

Typical market inefficiencies that prevent agricultural insurance solutions from reaching scale include: (i) information asymmetries for insurance companies that lack information on the target market; (ii) information asymmetries for potential policyholders that lack an understanding of insurance; (iii) lack of the infrastructure needed for high quality, reliable market data; and (iv) limited access of insurers to reinsurance capacity. Public investments to address these issues can enable sustainable development of agriculture insurance markets.

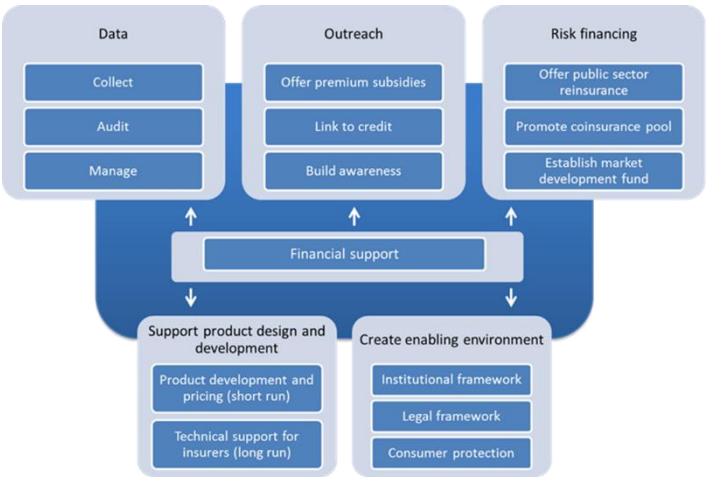
This note seeks to highlight the key areas where the public sector can play a vital role in correcting market inefficiencies. However, it is important to note that governments also play a role on the demand-side, for instance by purchasing agriculture insurance to cover their contingent fiscal liability to natural disasters such as drought.

The supply-side public roles can be classified into five categories: public investments in data, increasing outreach to potential policyholders, investment in reinsurance capacity, providing technical expertise in product development and creating an enabling legal and regulatory environment (see Figure 1).

Highlights

- Large scale agricultural insurance programs require innovation and action from both the public and private sectors.
- Agricultural insurance markets often suffer from market inefficiencies, including information asymmetries, lack of data infrastructure, and limited access of insurers to reinsurance.
- The government can play a vital role to support the functioning of effective market-based agricultural insurance markets in five key areas:
  - Developing Data;
  - Ensuring Outreach;
  - Risk Financing;
  - Supporting Technical Tasks; and
  - Creating an Enabling Environment [generic term: enabling legal/regulatory environment?].

Figure 1. Potential roles of the public sector



Developing Data

Governments can play a central role in coordinating public and private sector investments in collecting, auditing, and managing insurance-quality data, and in making sure that the data is available for private insurers. It typically does not make sense for each insurance provider to install their own weather stations or conduct their own yield

measurements, but rather for there to be one coordinated investment in high quality market data that is available to all insurance providers on standard terms. In the absence of other providers, the government has a key role to play in the development of such high quality agriculture data[1]. In addition to the collection and audit of data, the government can also play a key role in managing data and ensuring that several market participants have access to data.

Ensuring Outreach

Governments can increase outreach and ensure that agriculture insurance schemes achieve scale. Achieving scale of agricultural insurance programs is fundamental to ensure large impact and reduce costs. Indeed, scale allows costs of provision to be spread among numerous policyholders. Premium subsidies and compulsion have been two widely used means by governments to reach a larger scale.

Subsidizing insurance premiums can be a powerful way for governments to achieve larger scale. There are advantages and disadvantages to premium subsidies which have to be carefully weighed against each other in each individual case. Advantages include: (i) promoting take-up through improved affordability; (ii) incentivizing insurance companies to enter markets; and (iii) substituting post-disaster compensation payments. Disadvantages of premium subsidies include: (i) poor targeting; (ii) difficulty to withdraw and hence an increasing fiscal burden[2]; (iii) in some cases, providing more benefit for higher risk and / or larger farmers; and (iv) creation of perverse behavioral incentives in some cases, where farmers imprudently plant high risk crops due to the availability of a premium subsidy. The

Enforcing some form of compulsion or nudging for insurance purchase has been used to increase the reach of agricultural insurance products. Many large scale agricultural insurance programs in low and middle income countries for example China and India (see Figure 3 for more details) have achieved scale in part due to insurance being bundled with agricultural credit on a compulsory basis. Turkey's earthquake insurance program (TCIP), which currently protects over 4 million households, achieved scale in part due to coverage being compulsory for homeowners.

Governments can use other policy levers to increase outreach, including:

(i) ***Launching public awareness campaigns,*** educating the population on insurance, which in Mongolia had the effect of increasing demand (see Box 1);

(ii) ***Investing in public assets for agriculture insurance programs, making the products more affordable for farmers.*** The subsidy could be in the form of paying for agriculture data, as done in India (see Figure 3), or acting as a reinsurer of last resort, as done in Mongolia (see Box 1); and

(iii) ***Using insurance principles as part of safety nets programs***. Social protection programs can indeed be scaled-up (increasing payouts to beneficiaries or increasing the number of beneficiaries) through insurance mechanisms. The CADENA program in Mexico, for instance, has partially replaced traditional ad-hoc post disaster relief schemes with formal crop and livestock insurance solutions at state level.

Box 1. Subsidizing agricultural insurance in Mongolia

Since 2005, the World Bank has helped the Government of Mongolia (GoM) to set up a public-private partnership with domestic insurance companies to offer affordable and cost-effective insurance coverage to herders. Today, 16% of the approximately 1 million herders in the country are insured under the Index-Based Livestock Insurance Program (IBLIP).

While GoM subsidizes the IBLIP significantly, the subsidization does not take the form of direct premium subsidies:

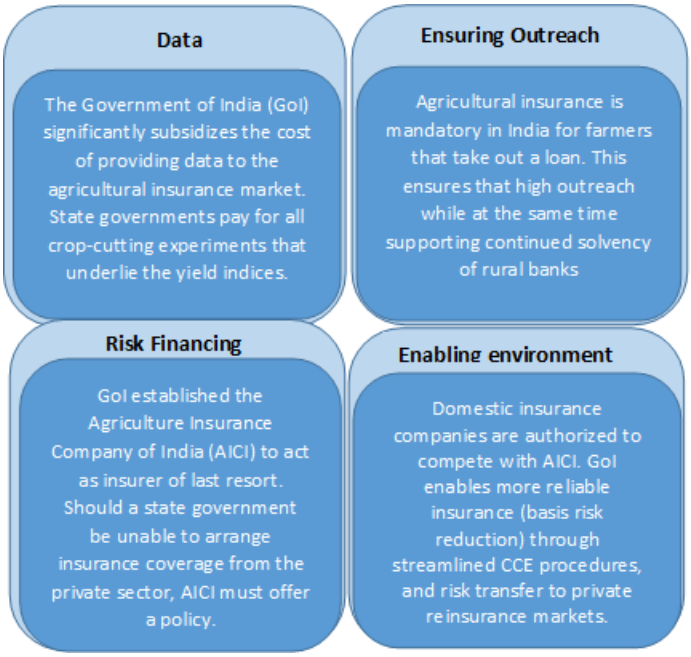
1. The GoM pays for the collection of all data used in the livestock insurance scheme, and provides it to accredited insurance companies;
2. The GoM also provides a social layer of reinsurance to all farmers at no additional cost. While farmers purchase insurance priced commercially against relatively frequent shocks, the social layer protects against infrequent catastrophic losses when the insurance is exhausted. In this way, the social layer provides all farmers with additional coverage beyond that of the insurance they purchase. This "social layer" method ensures the policyholder will still have the initial "commercial" protection if the government decides to remove the layer of cover.

[1] See Disaster Risk Financing & Insurance Technical Note titled "Agricultural Data and Insurance: Innovations in agricultural data development for insurance" for more information.

[2] In USA & Canada, over US$13.6bn was spent in 2011 on agriculture insurance premiums, in Europe over US$4.0bn

Finally, government extension workers provide education to herders about livestock insurance and its potential use as part of a holistic approach to herd risk management.

Figure 3. Public Support to the National Agriculture Insurance Scheme in India



Risk Financing (Reinsurance)

For mature agricultural insurance schemes, the government can retain a portion of agricultural risk and develop incentives to ensure that each level of risk is managed using the most appropriate instrument. International experience suggests that an economically efficient method to structure risk financing strategies may be to break the risk up into layers, with different entities bearing each layer of risk. Under such strategies, small-scale, recurrent risks are retained by farmers; less frequent but more severe losses are transferred to the domestic insurance industry; catastrophic losses are transferred to the international reinsurance market; and otherwise difficult-to-price risks are retained by government. Quota share reinsurance may also play a role in any of these given layers[3]. For example, in India the Agricultural Insurance Company of India uses quota share insurance to enable it to underwrite more risks.

In addition, in the early years of an agricultural insurance scheme, government reinsurance can support insurers in obtaining reinsurance for agriculture risk at a reasonable price. Gaining access to international reinsurance markets is critical for insurers, as agricultural production shocks can be large – they have thus an interest in off-loading some of the risk abroad. However, in early years of a scheme, agricultural insurance data is often not of sufficiently high quality to be accepted by international reinsurers, which is reflected in very high reinsurance prices that can be unaffordable to insurers. Under such scenarios, governments can provide critical support to agriculture insurance schemes by taking on a layer of risk. Until sufficient high quality agricultural data is collected, the government can supplement private sector reinsurance at an affordable price to ensure that the premium is not too high in the early years of program. For example, the government can provide cover for catastrophic risks, which without long time series of data would be more expensive if priced by private sector reinsurers. This has been the model used in Mongolia, where the government provides protection for extreme events to insurance companies (Box 1).

Governments can help domestic insurance companies pool their agricultural risks into more diversified and better-structured portfolios before approaching international reinsurance markets. Thereby, governments can help insurers save on reinsurance cost, which can translate into lower premium rates for farmers and thus higher coverage. To achieve this, governments can establish or promote coinsurance pools, or provide insurance companies with standardized reinsurance terms, which can be placed on the international reinsurance markets. For example, the World Bank has helped develop the Turkish Catastrophe Insurance Pool (TCIP) for the Government of Turkey to limit the financial burden earthquakes place on the government budget; focus government relief funds on low-income residents; and access international reinsurance capacity in a cost effective manner. In Mongolia, reinsurance markets are also accessed through pooling risk. By playing this key intermediary role, the government can ensure that local insurance companies are able to purchase reinsurance coverage at a reasonable price.

Technical Tasks

Governments can play a role in managing the high costs of developing actuarial and specialist expertise. Actuarial expertise is essential to the development of actuarially sound sustainable agriculture insurance schemes. An

[3] Quota share reinsurance is a type of insurance in which the insurer and reinsurer share the amount of insurance, policy premiums, and losses (including loss adjustment expenses) using a fixed percentage. Because the insurer and the reinsurer share liability for every loss exposure, the reinsurer is not subject to adverse selection.

international model used successfully to manage this cost is to house such expertise centrally, for example within a Technical Support Unit (TSU). TSUs are typically present in countries in which there is some degree of competition between private insurance providers or distributers [4].

Through forming a TSU, the government can execute numerous tasks such as: (i) data collection, auditing and management; (ii) insurance demand assessment; (iii) product design and actuarial pricing; (iv) product evaluation, including evaluation of index reliability; (v) design of operating systems and procedures; (vi) training for stakeholders; (vii) awareness campaigns; (viii) analysis of any public subsidies; and (ix) the development of catastrophe risk models and other risk assessment tools.

Legal and Regulatory Environment

Governments can support the development of an agricultural insurance market by providing an institutional framework that supports its expansion. Establishing the right institutions in government to deliver public services as described in this note will unlock the potential of the private sector and enable agricultural insurance markets to thrive.

Appropriate adjustments to the legal and regulatory frameworks for insurance companies can create an enabling environment for sustainable agriculture insurance. Governments need to decide which law will be applied to agricultural insurance for key issues such as the capital and reinsurance requirements for insurance companies underwriting the risk. For index insurance, adjusting the legal framework to legally recognize index products as "insurance" is particularly important to enable their widespread adoption. One example includes the World Bank Global Index Insurance Facility (GIIF) assisting the Conférence Interafricaine des Marchés d'Assurances (CIMA) in drafting required amendments of their current regulation to allow for the promotion of microinsurance and the commercialization of agricultural index insurance which has now been ratified in 14 member countries.

Insurance regulation can improve the resilience of rural banks against agriculture shocks by ensuring that loans to the rural sector are protected by agricultural insurance. The nature of agriculture risk is covariate, which rural banks find difficult to manage; agriculture shocks can lead to large numbers of defaults and threaten their solvency. Regulators and Governments can promote the development of agriculture insurance both (1) at micro-level by requiring rural loans to be bundled with insurance or (2) at meso-level by recognizing insurance as a valid internal risk management tool for financial institutions. Insurance can be a more disciplined, transparent, and equitable risk management tool than loosely structured guarantee funds for rural credit. In India, for example, all loans given to the rural sector must be accompanied with insurance. This has three key expected benefits: (i) it improves the solvency position of rural banks, protecting them against agricultural shocks; (ii) it protects the farmer by providing them with insurance; and (iii) it can increase rural lending, which can lead to increases in productivity in the agriculture sector.

Finally, regulators and governments should provide consumer protection. Regulators can intervene in various ways for consumer protection for example; (i) the introduction of product or index approval processes; (ii) mandating insurers to disclose specific information about the products (historic payouts information, correlation of payouts to losses) to potential policyholders; (iii) setting and enforcing product quality standards; (iv) banning particular products. Regulators should also be involved by insurers in product design processes at an early stage, both to ensure the legality of the product under development and to account for consumer protection considerations[5]. There is also a role for governments to enable consumer protection, for example by carrying out education campaigns as mentioned under "Technical Tasks".

Conclusion

In order to respond to market inefficiencies, large scale agricultural insurance programs require governments to play a key leadership role. The key areas of involvement range from the provision of data to developing an enabling legal and regulatory environment for the private sector to foster innovation and achieve penetration. Governments can combine interventions in various areas to help reduce the cost and improve the quality of insurance both for insurance companies and for customers.

Further Information

World Bank (2005). *Managing Agricultural Production Risks: Innovations in Developing Countries*. World Bank

[4] Countries which have TSUs include Italy, France, Spain, Mexico, Chile, Brazil, Russia, Poland and Ghana.

[5] See Disaster Risk Financing & Insurance Technical Note titled "Regulation of Agricultural Index Insurance for Consumer Protection"

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Mahul, O. and Stutley (2010). *Government Support to Agricultural Insurance: Challenges and Options for Developing Countries.* The World Bank. Washington, DC.

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