Agriculture in Mongolia is dominated by livestock husbandry, which accounts for some 87 percent of agricultural Gross Domestic Product (GDP) and which employs some 40 percent of the agricultural workforce, providing rural households with an important but vulnerable source of income and food security. Livestock’s importance to rural livelihoods increased dramatically during the 1990s with the transition from collectivized farming to family-based herding. Between 1990 and 2000 the number of herding households increased from 75,000 to 190,000 (World Bank 2005a). Mongolian herders are subject to catastrophic weather-related shocks, such as droughts, and the severe winter-spring colds known as dzuds. Between 1999 and 2002, a series of dzuds led to the loss of one-third of the national herd, seriously impacting national GDP. The levels of livestock mortality associated with a dzud have major effects on rural poverty, and many of the households that had entered herding during the 1990s were stripped of their principal assets. By 2004, rural poverty had risen to 43.2 percent.

Addressing the problem of such severe weather-related risk in an effective and sustainable way posed a difficult challenge for the country and for the World Bank. The government endorsed a program of improved pastoral risk management that includes activities from the community- to the national-level, including increased investment in infrastructure, services, and hay and fodder reserves. While these activities can be helpful in the context of limited, low-level risks, they are insufficient to prevent the kinds of losses incurred in extreme dzud events, which bring about high costs in the short- and long-run. Government interventions, such as restocking programs, have been found to be expensive, inefficient, and likely to provide perverse incentives for herders not to take steps to lower herd mortality.

The alternative of livestock insurance likewise revealed itself as fraught with problems, with past attempts proving unsustainable and susceptible to corruption. A new project that became effective in 2005, however, sought to address past failures and to establish the viability of a new form of insurance – index-based livestock insurance.

THE MONGOLIA INDEX-BASED LIVESTOCK INSURANCE PROJECT

The project is piloting insurance plans in three provinces, Bayankhongor, Uvs, and Khenti. It consists of five components. The first provides the
mechanism to pilot two index-based livestock insurance (IBLI) products:

1. The *Base Insurance Product (BIP)* is a commercial risk instrument, sold and serviced by insurance companies, for which herders pay a fully loaded premium rate. It pays out when a district’s (sum) mortality rates exceed a defined “trigger” percentage—generally between 7 and 10 percent—depending on species and location.

2. The *Disaster Response Product (DRP)* is a social safety net product financed and provided by government that begins payments at mortality rates that exceed the exhaustion point of the BIP. Herders who purchase the BIP are automatically registered for the DRP, on the same species of livestock and at no additional cost. Those herders who have not purchased the minimum value BIP must pay a contribution to cover DRP administrative costs.

The second component of the project entails a variety of targeted promotional and public awareness activities to foster awareness and inform stakeholders about the details of the two products and the IBLI pilot. The third component supports the institutional framework and capacity necessary to expand the availability of the insurance products once the viability of IBLI instruments has been established. The fourth component monitors a variety of stakeholders during the IBLI pilot in tracking access by different social groups, monitoring how the two products are received, and in determining whether herders modify their behavior in response and, if so, how their behavior changes. The project’s fifth component supports the project implementation unit in its management functions.

The pilot experience will go far in demonstrating the viability of the model and in guiding and informing the project’s expansion beyond its initial participants. The lessons learned also suggest themselves as potentially replicable by other project teams, and as warranting the attention of other governments that seek to manage the risks faced by livestock-dependent communities. More specifically, the pilot is affirming the great practical importance of formulating an appropriate regulatory framework and of strengthening the country’s statistical system for livestock management. Providing support to insurance companies in developing linkages to international reinsurance markets and devising an effective public information, education, and communication campaign were also essential elements warranting careful consideration in project preparation.

**INNOVATION**

The problems with individual livestock insurance rendered conventional approaches based on individual losses ineffective and unsustainable in Mongolian conditions. It is unpopular among both livestock owners and insurance providers, subjecting the latter in particular to transactions that are fraught with moral hazard and related—and often prohibitive—costs of verifying individual losses and determining their eligibility for coverage. The alternative of government-provided public livestock insurance would do little, or nothing, to offset these shortcomings, while the scale of the losses between 1999 and 2002 made it clear that government resources were, by themselves, insufficient to provide for full catastrophic insurance.

Yet insurance itself remained recognized as an essential element of risk mitigation, and a logical complement to other ongoing pastoral risk management activities. Insurance clearly has the potential to protect herders from unavoidable losses, and to mitigate the need for government-sponsored
re-stocking programs—if innovative solutions to the problems of moral hazard and high verification costs could be identified. Any such innovations would necessarily spread the risks and costs more evenly among herders, the government, and the commercial insurance industry. Involving the private insurance industry on a commercial basis not only improves the financial sustainability of livestock insurance, it also serves to strengthen the rural finance sector—a key element in the government strategy for diversifying the rural economy.

IBLI is an innovation that satisfied these conditions and that addressed a variety of the flaws that hampered previous approaches to livestock insurance in Mongolia. It is affordable to a very large number of herders and does not reward poor livestock management. It is financially sustainable and profitable for private insurance providers, focusing squarely on the most significant sources of covariant risk. The approach explicitly defines and delineates the government’s proper role, and purposefully interacts with other pastoral risk management, post-disaster assistance, and micro-finance initiatives.

**SUSTAINABILITY**

The sustainability of the BIP beyond the life of the project and its commercial expansion to the national scale is contingent on the decisions of private insurance companies, based on their experience during the pilot and taking into account the relative profitability and future administrative costs of IBLI. Access to international reinsurance markets is another important factor that may well influence whether Mongolian insurance firms will continue providing coverage, and exploring channels of such access is an important facet of the project. The project’s institutional capacity building component seeks to increase the financial attractiveness of index-based insurance by strengthening the National Statistics Office, and other government agencies, in providing commercial insurance providers an enabling regulatory environment.

The DRP, on the other hand, is a social, rather than commercial, product which in the event of a major disaster, may expose the government to significant fiscal risk. Yet in the absence of a structured mechanism like the DRP, the government has found itself compelled politically to expose itself to the even greater risk of compensating herders for livestock losses. The fiscal risk implicit in the DRP should, therefore, be weighed against this greater risk, which the government incurred in full in the past. Conversely, unless there is a catastrophic event early in the project, there may be insufficient data on the medium term economic and social impact of any indemnity payments to permit the government to make an informed decision on the continuance of the DRP. Other critical sustainability factors thus include the design of monitoring and evaluation arrangements that will allow any difficulties to be addressed early in the life of the pilot, thereby enhancing the overall quality of project design.

**REPLICABILITY**

A precondition for an index-based insurance product is highly correlated loss. While there is no direct precedent for IBLI, the use of area-based index insurance for crop yields addresses a number of similar problems to those facing Mongolian herders. Many farmers, for instance, may experience a crop failure from the same event at the same time, drought for instance. Individual insurance of crop yields also involves high monitoring costs and the risk of reducing incentives for farmers to adopt drought mitigating farming practices.
Experiences with index-based crop insurance in countries like India, Mexico, and the United States established a number of guiding principles that were incorporated into the design of IBLI in Mongolia. Sound financial and actuarial methods were introduced to encourage greater discipline within the project, and to transfer a proportion of risk to the international reinsurance market. Regardless of whether the project determines that IBLI is viable in Mongolia, a number of lessons should be derived from the pilot that will be useful to other countries facing similar issues.

**ENVISAGED OUTCOME AND POVERTY IMPACT**

The IBLI project is considered to be an ‘enabling’ operation, promoting livestock insurance as one mechanism to enhance the livelihood security of livestock-owning households by reducing their vulnerability to catastrophic livestock mortality events. While not focused specifically on the needs of poor and marginalized people, it provides an opportunity to ameliorate the social and economic impact of severe weather events on herders’ livelihoods, thereby contributing to overall poverty alleviation in Mongolia. Surveys conducted during project preparation found that poorer herding households were more likely to purchase the insurance than more wealthy households, which are better able to withstand dzuds.

Indemnity payments made under the project are expected to be used for productive activities. These include the replacement of livestock, and purchases of goods and services to increase risk preparedness and enhance livestock productivity. They would also enable insurance policyholders to pursue the alternative and supplementary livelihood strategies that are stimulated by improved financial services in rural areas, including insurance services.

**RECOGNITION**

The project received the 2005 Golden Plough Award for Innovative Project Design based on its contribution to the World Bank’s rural development strategy, *Reaching the Rural Poor*, and for its attention to sustainability and replicability. Accepting the Award on behalf of the project team and Mongolian project managers and participants, task team leader Nathan Belete noted that the pilot “is not only testing the viability of a new insurance product, but also piloting a disaster response program for highly catastrophic livestock mortality events” (World Bank 2006).

**SOURCES**


