

Disaster Risk Management in East Asia and the Pacific

REESTABLISHMENT OF RURAL
SERVICES AND REVITALIZATION
OF RURAL ECONOMY

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INTERNATIONAL EXPERIENCE

This note presents relevant interventions that have aimed to stimulate rural economies following a natural disaster based on case studies from the Philippines, Turkey, and Pakistan.

Philippines

In July 1990, an earthquake registering 7.7 on the Richter scale hit Luzon, Philippines, causing widespread loss of life and destruction. Luzon is a rural area, dependent on irrigated agricultural production.

Earthquake reconstruction project: Irrigation facilities and systems were one of the key types of public infrastructure targeted for reconstruction. Reconstruction covered 19 national and 567 communal irrigation schemes and restored over 127,000 hectares of land to full productivity. To mitigate against future earthquake damage, efforts were made to improve slope stability, including piloting the use of Vetiver grass. Given that a large part of the damage caused by the earthquake involved siltation, the stabilization of slopes was intended to prevent the need for future dredging.

Turkey

Turkey is frequently hit by earthquakes. The World Bank financed three emergency reconstruction projects during the 1990s. Although the focus was on urban reconstruction and restoration of infrastructure, rural areas were targeted too.

Barn reconstruction: In rural areas, barns collapsed as a result of the *Erzincan earthquake*, which occurred in March 1992, measuring 6.8 on the Richter scale. In response, the World Bank financed Erzincan Earthquake Rehabilitation and Reconstruction Project planned to fund the reconstruction of 4,100 storage and livestock barns and to distribute 10,900 animals in order to restore lost capital. This was the first physical component completed, and the results were

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mixed. While project beneficiaries built 2,885 barns with lump-sum payments for construction materials, the total was lower than the original figure due to inaccurate damage estimates. Moreover, many barns were used for purposes other than housing livestock because as designed, the insulation was inadequate for winter temperatures. In some cases the barns were used for livestock in the summer and storage in the winter.

Cash transfers: A cash transfer program was implemented following the earthquake registering 7.4 on the Richter scale in Marmara on 17 August 1999. The aim of the World Bank financed project was to provide income support, especially to displaced persons and other groups made vulnerable by the earthquake, since employment opportunities were scarce and local economies were almost nonfunctional. In parallel, longer-term reconstruction efforts were started. Providing immediate cash assistance for victims gave the recipients the flexibility in using the funds to meet their priority needs. This approach was preferred to providing goods in-kind, which may or may not have been appropriate to the needs.

Pakistan

The South Asia Earthquake (Afghanistan, India, and Pakistan) on 8 October 2005 resulted in high losses of life and devastation of livelihoods. Many of the people affected were dependent on the agriculture sector. The Government of Pakistan provided a number of short- and medium-term measures to help the sector recover, including the provision of animal feed, maize and vegetable seed, and fertilizers. Reestablishing the maize sector was given the highest priority since maize provides a staple supply of nutrition and is also suited for animal feed.

The medium-term response focused on rebuilding rural livelihoods through community-driven approaches. Community rehabilitation plans formed the basis of all activities at the community level. In practice, the rehabilitation process built on the existing experience and strength of the communities and implementing agen-

cies in each district. For example, the decision to relocate or rebuild destroyed villages followed a transparent and participatory approach to assess the wishes of the villagers and discuss the costs of different options. Locally elected bodies were also given a significant role.

LESSONS LEARNED

Caution on introducing innovation when rebuilding productive infrastructure: Introducing new, untested infrastructure methods or designs involves careful analysis and may delay reconstruction. If this level of analysis is not completed, the reconstructed infrastructure may not meet expectations. For example, in Turkey, following the *Erzincan* earthquake, new earthquake-resistant barns were built according to designs approved by the state. However, the insulation was insufficient for such an intemperate region so farmers abandoned the barns or used them for other purposes. In reconstruction work, relying on simple, well-tested, and easily scalable solutions may be more efficient if an appropriate level of analysis of innovation is not available.

Concentrate efforts on short-term, temporary fixes that get the local economy moving again: The priority for farmers and for other businesses is to reestablish their livelihoods as soon as possible. For farmers this means getting back to their land and/or livestock to maintain seasonally driven activities. This need to restart economic activities is often more urgent than the reconstruction of dwellings or other critical infrastructure.

The livestock sector should emphasize: (i) addressing environmental risks from large numbers of dead animals, and (ii) maintaining the livestock that survived the earthquake. In this regard, providing sources of animal feed may be preferred to reconstruction of barns and animal shelters, especially during the summer months.

Cash transfers to stimulate local economic activity provide quick, valued assistance: Cash transfers can be effectively and accurately administered on a large scale.

Critical to success is using institutions with cash transfer experience, human resources, and management systems in place. Getting cash support to victims quickly can positively affect the economy and may provide a sense of safety and security. In Turkey, the cash transfer program was a prominent first sign of the government's support in a time of acute need. For more information, see the Social Protection and Livelihoods note.

RECOMMENDATIONS

Direct credit to stricken industries: Stimulating local industry is a key challenge. Experience shows that rebuilding and reequipping to pre-earthquake conditions may not be the most efficient method. Ultimately, the decision of what is rebuilt and what equipment and technologies are fitted should lie with the businesses and entrepreneurs. The government can support this by providing credit for affected businesses. One example is to provide compensation to businesses for losses beyond their control, and the likely loss of income during the reconstruction phase. Since a subsidy is involved, these lines of credit should be one-off opportunities to local businesses. Normal collateral requirements, which would usually be the very building and equipment destroyed by the earthquake, may need to be waived. In addition, the government could consider further compensation through temporary tax holidays.

Seed, fertilizer, and animal feed distribution programs:

The most pressing agricultural need is for seed, fertilizer, and animal feed. Where possible, this could be sourced locally; it is more likely to be purchased and transported from outside the province. With regard to seed type, two factors are of influence: the time needed to bring irrigation areas back into production and the opportunity to capitalize on existing knowledge. Of the former, greater areas of rain-fed crop would address a lack of infrastructure (i.e., maize grown in fields normally reserved for rice paddy). And the latter, as the world leader in developing hybrid rice and the leading

province in its use, Chinese scientists and Sichuan farmers have a unique opportunity to implement to scale. In either case, a quick resumption of agricultural activity is necessary, which requires an efficient distribution chain. A simple voucher system, even with the potential for leakages, could be considered.

Cash transfers: Direct transfers to earthquake victims may be the most effective way to stimulate the local economy. An accurate list of victims would provide the basis for the transfers. Transfers would be cash rather than goods, and recipients would be able to use the cash for any purpose.

Irrigation rehabilitation: The severity of damage to irrigation systems may be unclear immediately after the disaster, though it is likely that many channels could be cracked and/or blocked by landslides. Although it may be possible to identify some quick solutions, in the case of China, the full rehabilitation of the irrigation system is not likely to be completed before winter. The focus should be on having as much of the systems as possible functioning prior to the upcoming spring growing season.

Migration: The area hit is not a particularly productive area for agriculture and rural industry. Although the swine industry was strong, even with the infrastructure restored and agricultural systems and industry functioning again, the area is unlikely to become particularly wealthy. Reconstruction pressures could be reduced by giving residents of affected areas the choice of moving permanently to unaffected towns and cities, especially if a sponsoring family member had already migrated and successfully established prior to the earthquake. (See Urban Development note.)

Rural housing: Using funding from the cash grants, it may be optimal that rural housing be rebuilt by the families themselves, or small local contractors reporting to the families in cases where adults have been incapacitated. ■



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