MEXICO

Payments for hydrological environmental services (PSAH) programme

Mexico's predominant environmental issues are water scarcity and deforestation. Challenges associated with limited water supplies have been aggravated by (i) subsidies to electricity for pumping water and (ii) the failure to price water according to its scarcity. In order to combat problems of high deforestation and water scarcity, the government of Mexico developed a Programme of Payment for Hydrological Environmental Services of Forest (PSAH). This scheme was developed to make payments to forest owners to conserve forest in order to ensure watershed protection and aquifer recharge in areas where forestry was not commercially viable. The scheme is financed by increasing the already existing federal water fee paid by water consumers and earmarking a percentage to pay for environmental services. This mechanism to link those who benefit from environmental services to those who provide them was rather innovative at the time.

Two eligibility criteria were applied in order to ensure that payments covered the forests that are most important for water supply and at risk: participants had to be (i) located in over-exploited watershed areas (ii) at risk of deforestation. Research was undertaken to quantify opportunity costs near forested areas in order to estimate the amount per hectare that should be paid to compensate landholders. The objective was to maximise the area protected for a given budget. While the use of auctions was considered, they were not used because they were considered to be too innovative, difficult for potential participants to understand and, therefore, could potentially have very high transactions costs. A fixed price two-tiered payment approach was adopted with a base rate (US$18/ha) paid for most forest and a higher rate (US$27/ha) paid for cloud forest due to its important role in capturing water from fog in the dry season. Payments were made annually and contracts were signed for five years. Payment was conditional on performance, i.e. no payment was made if any deforestation took place in contracted areas.

First experience suggested that many payments had initially been made in areas of low deforestation risk and that improved targeting was needed to produce a greater environmental impact and to improve the cost-effectiveness of payments. The scheme has since introduced a series of weights for water scarcity, deforestation risk and poverty in the application grading system in order to improve targeting and efficiency.

Impact on biodiversity

Deforestation rates on land included in the scheme are very low (in fact the programme reported no deforestation in participating areas, but as this is unlikely it is thought that monitoring is not as rigorous as would be desired). The scheme is popular and is generally oversubscribed. In 2003, 127,000 ha were accepted for five years and in 2004 another 180,000 ha were enrolled. In 2005 a further 169,000 ha were included.

Lessons learned

Early evidence suggested that little additionality had been achieved. As a result, the scheme's targeting and use of criteria in the selection of applications has been improved with a focus on developing an indicator for deforestation risk.

Rather than a providing a uniform payment to landholders who face different costs, a high degree of targeting should be combined, when possible, with a payment mechanism that reveals the true costs of conservation to different landholders. By paying landholders the minimum amount of

compensation they need, PES schemes are able to maximise the area included in the scheme and thereby maximise their environmental effectiveness.

Sources: Muñoz-Piña et al. (2008).