Supporting Information

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SI Methods

Household Surveys. The GTGP enrollment took place in Wolong Nature Reserve in 2000, 2001, and 2003. For the 304 GTGP enrolled households in our sample, 297 (97.7%), 5 (1.6%) and 2 (0.7%) of them enrolled in the GTGP in 2000, 2001, and 2003, respectively. Among those households that enrolled in 2000, 176 and 65 of them added more land plots in the program in 2001 and 2003 respectively. For the 5 households that enrolled in 2001, 1 of them added more land plots in the program in 2003. In a total of 735 land plots that were enrolled by households in our sample, 62.9%, 27.2%, and 9.9% of them were enrolled in 2000, 2001, and 2003, respectively. We tested the potential impacts of the number of years enrolled in the program on the re-enrollment intention, and found that the number of years enrolled in the program did not have a significant impact on the re-enrollment intention.

Among the households in our sample, 98 of them (32.2%) planned to reconvert at least some of their GTGP land plots to crop production after the GTGP ends and payment ceases. The number of land plots for reconversion (166) accounts for 22.6% of a total of 735. This low reconversion rate is not unique. Even lower planned reconversion rates (<20%) have been found in several other places in China (1–3). Although the reconversion rate is low, the land plots chosen for reconversion may be important to ecosystem services, such as the connectivity of panda habitat in Wolong, because they are often scattered among enrolled land plots.

As suggested by two very influential theories of intention–behavior relationship, namely the theories of reasoned action and planned behavior (4–6), intention is very often the strongest predictor of actual behavior (7–9). These theories specify three conditions that affect the magnitude of the relationship between intention and behavior: the degree of correspondence of specificity between the measure of intention and behavior; the degree of an individual's volitional control of carrying out the intention; and stability of intention during the time of measurement and performance of the behavior (6, 9). To improve the consistency between people's intentions and actual behaviors, our policy scenarios specify conservation payment and program duration, which are also attributes of the current GTGP as well as many other PES programs, and therefore are familiar to respondents. In addition, we selected household heads or their spouses as our interviewees because they are usually the decision makers for household affairs, and have the most volitional control over participation in PES programs.

Previous studies in this reserve demonstrated that respondents' intentions generally reflected their behaviors. For instance, An et al. (10) studied the stated intentions of switching from fuelwood to electricity for energy use based on a survey of 220 (a subset of sample in our study) randomly selected households in 1999. Using a similar discrete choice model as used in our study, An et al. found that lower electricity prices, higher household income, higher voltage and better stability of electricity would increase respondents' intentions of switching from fuelwood to electricity. Although the price of electricity has since increased from 0.08 Yuan to 0.18 Yuan per kW*h in 2001, each household has been subsidized by the government with an annual payment of ≈900 Yuan (≈20% of average household income in 2001) that can be used for electricity purchase. This subsidy offsets the cost due to the price increase. Moreover, the voltage and stability of electricity have been greatly improved due to the reconstruction of electricity networks in 2001. As a result, a substantial amount of energy use has been switched from fuelwood to electricity (11), as suggested by the stated intentions data and model results of An et al. (10).

Using other data from the survey in 1999, An et al. (12, 13) studied intentions of young adults moving from their parental homes to establish their own households. Based on young adults' intentions, An et al. predicted that the number of households would increase at a faster rate than the population due to the implied trend of household sizes in the reserve. From 1999 to 2005, the number of households increased 22.1% (from 947 to 1,156) while the population sized increased only 4.5% (from 4,354 to 4,550) due to the decrease in average household size from 4.60 to 3.94 (14), which is consistent with the previously stated intentions of young adults in the reserve.

Meta-analyses covering diverse behavioral domains have reported moderate to high correlations between intention and behavior (15, 16). For instance, based on intentions of Conservation Reserve Program (CRP) participants from a national survey in the United States in 1993, Cooper et al. (17) predicted that ≈50% of CRP acreage can be renewed at the original cost of $50 per acre. After its original contract matured, the average cost of the renewed CRP contract was similar to its original cost (e.g., the average cost in 2001 was $46.4 per acre) (18). By the end of 2001, ≈55% of CRP acres were re-enrolled from previous contracts (19), which reflected stated intentions of CRP participants. Moreover, stated choice methods are commonly used in marketing situations where actual decisions cannot be observed (e.g., due to new or novel products). In the context of purchase decisions, the literature has also found that stated and actual choices often correspond well (20, 21), especially in settings where respondents are familiar with the decision making context (22, 23).

Moreover, both intention and behavior have been used in studies of the impacts of social norms on individual's actions. For instance, studies in diffusions of innovation found that intentions of technology adoption were significantly affected by social norms (24–26). When behaviors of technology adoption, instead of intentions, were used, social norms were also found to have significant impacts (27–29).

Econometric model. Empirically, utility functions U_i^1 and U_i^0 can be given by $U_i^1 = X_i^1\beta^1 + \varepsilon_i^1$ and $U_i^0 = X_i^0\beta^1 + \varepsilon_i^0$. Hence, a re-enrollment decision is modeled as

$$\Pr(Y_i = 1) = \Pr(U_i^1 > U_i^0) = \Pr(X_i^1\beta^1 + \varepsilon_i^1 > X_i^0\beta^0 + \varepsilon_i^0)$$
$$= \Pr(X_i\beta + \epsilon_i > 0) = \Pr(\epsilon_i > -X_i\beta) = 1 - F(-X_i\beta), \quad \text{[s1]}$$

where β is a parameter vector, X_i combines utility-related variables, and ε_i is an error term. When ε_i is assumed to have a normal distribution, $\Pr(Y_i = 1) = 1 - \Phi(-X_i\beta)$, where $\Phi(.)$ is the cumulative normal distribution, and the probit model can be used for estimation. Parameters estimation is conducted in STATA 9.0.

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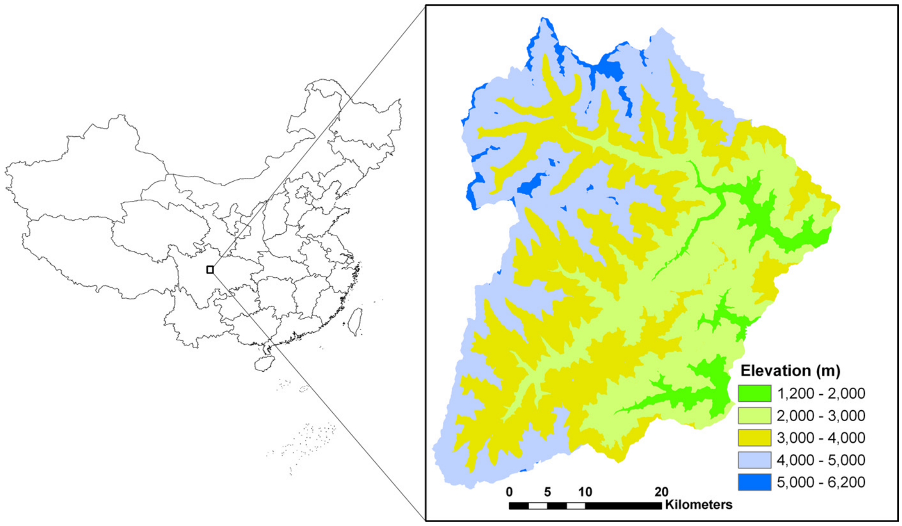

Fig. S1. Location and elevation levels of the study site, Wolong Nature Reserve in China.