

Title:

Economic experiments for collective action in Kyrgyzstan: Implications for Payments for Ecosystem Services (PES)

Summary (150 words):

The scholarship and empirical application of ‘payment for ecosystem services’ (PES) schemes has tended to focus on contract design and conditionality of payments rather than fundamentally examining whether incentives do indeed influence behaviour in desired ways. In this paper, a set of incentive framed treatments are introduced to existing institutions promoting otherwise unpaid collective action in order to explore the effects of incentive provision on the propensity to participate in the maintenance of collectively owned irrigation canals. The experiments take place in Kyrgyzstan, where the first PES in the region is being piloted. We reveal the close interplay between the framing of incentives, the influence of village leaders mobilizing collective activity and social norms of reciprocity, trust and enforcement associated with village leaders mobilizing collective work. Each framed experiment exhibits a unique configuration of ‘I’ ‘We’ and other regarding rationalities, providing useful implications for this new frontier of PES implementation.

Extended Abstract (600 -1200 words)

Payments for ecosystem services (PES) is gaining traction within the conservation and development field and is being piloted in locations across the Global South despite challenges of ingrained political relationships between social actors and pre-existing norms over managing common pool resources which make purely self-interested behaviour difficult to observe in practice (Muradian et al., 2010; Vatn, 2010; Van Hecken et al., 2012). While incentives can be a powerful influence on behaviour (Fehr and Falk, 2002), a salient research agenda requires a better understanding of the circumstances in which incentives can facilitate or discourage behaviour and the types of incentives that resonate with nuanced combinations of social and market norms characteristic of a particular context. Where social norms exist to govern individual behaviour for collective resources, the introduction of economic incentives may have unintended consequences which could either reinforce norms for resource stewardship (crowding-in) or at worst ‘crowd-out’ the moral imperative which otherwise lubricates traditional histories of land-use stewardship and/or informal institutions required for collective resource management (Cardenas, 2000; Fehr and Falk, 2002; Volla, 2008; Kerr et al., 2012).

This study is exploratory in nature and seeks to understand how different signals conforming to the ‘I’, and ‘We’ or other-regarding narratives interplay with existing social norms and informal institutions in order to reveal insight for promoting longer-term natural resource management (Vatn, 2009). This study compares participation in framed field experiments with post-hoc surveys of participants to compare how well the actual behaviour of individuals under non-hypothetical conditions conforms to stated perceptions. Secondly, our experiments analyse the role of an established mobiliser who encourages individuals to participate in order to distinguish between pre-existing reputational effects and the role of the incentive in influencing participation. We carry out the analysis in Kyrgyzstan, representing both the first Central Asian

PES pilot and a unique setting for examining the behavioural implications of incentives for natural resource management.

The research took place in the four villages located in Issyk-Kul province in the north-east of the country. The selected villages are similar in terms of their population, socio-economic makeup, distance from major urban centres, and annual frequency of collective resource management. The framed experiment involved measuring participation in planned collective management activities for each village once per week over the course of four weeks. Each activity involved the removal of fallen trees, shrubs and large rocks blocking water from flowing through collectively managed irrigation canals. The activity itself did not change throughout the four week period or between villages. One of the following treatments was allotted to each of the four villages:

- 1) Payment is not mentioned nor offered (*control*);
- 2) Payment is not offered, but it is clearly mentioned that no payments will be offered;
- 3) US\$100 will be donated to the school library if the number of individuals contributing labour continues to increase from the first to the fourth week of the planned collective activity, and
- 4) Payment is offered as an individual award provided according to effort in the collective work. The individual(s) participating the most and with the greatest effort will be publicly recognised by the village government at the end of four week period. In addition, a contribution to a local publication would mention the individual(s) as ‘community steward’.

To better understand the source of motivation, semi-structured interviews were conducted with randomly selected participants. In total 32 interviews with participants were conducted at the end of the four week period. Individuals interviewed were asked to express the primary motivating factor for participation, whether they would be inclined to participate if provided some form of payment, how they would feel if they knew the activities were taking place but were not contributing labour, their perceptions towards the village government school director, and water user association (WUA) organiser facilitating each activity. Focus groups were also carried out (one per village). In addition to exploring the nature of labour contribution for collective action in the village, questions from individual interviews were repeated in order to triangulate the responses in a social setting and to expose further insight underpinning participation.

The participation in the collective work activities across the four villages and across four weeks was analysed according to: a) what villagers actually *do* when asked to participate in a collective action activity for the public benefit, with and without incentives; b) what villagers *say that they would do* in relation to participation in these activities with incentives and c) what additional insights social *deliberation* on the subject has to offer. The measurement of participation across and within incentive treatments as well as the probability of repeated contributions per treatment was determined through probability regression.

Results of the study indicate that the probability of participating was significantly different between the different treatments; the probability of participating in treatment 2 is lower than the control ($p < 0.01$) and higher in comparison to the control for treatments 3 and 4 ($p < 0.001$). Incentive treatment 3 (group payoff) attracted the greatest percentage of possible

participants. Conversely, it was not possible to attract further contributors after the second week in treatment 2 where no payment was explicitly stated; suggesting that the framing of market versus social norms associated with collective resource management may play a role in influencing behaviour (Heyman and Ariely, 2004). It can also be seen that the individual incentives (treatment 4) attracted a different constituency of participants (younger versus older individuals) than did the control (treatment 1). Despite a lack of significant difference in the number of participants contributing to the collective effort across time within a single incentive treatment, several interesting relationships were evident between those participants that contributed labour for two or more activities based on data collected in the post-activity interviews. Specifically, those who contributed repeatedly (across any of the treatments) were substantially more satisfied with their participation. Thus, participants in the treatment 1 (control) were more likely to be satisfied with their contribution than in the other treatments, since there was the greatest percentage of returning individuals. Additionally, those who were most satisfied with their contribution were also those who had more faith in the WUA organiser as a strong motivator.

The results of this study identify clear differences in the proclivity to participate between the incentive treatments, but suggest that incentives alone did not provide sufficient evidence to explain repeated contributions of labour for collective action. The plurality of rationalities guiding behaviour coalesces in interesting ways. Individuals attend *ashar* for the purely self-interested reason that if they do not contribute, they will not have the social ‘permission’ to remove water for their crops. However, they also attend based on a historically embedded tradition of cooperation for collective benefit as well as to socialise with their neighbours. Additionally, respect and reputation associated with relationships with village-appointed leaders reflects an ‘other-regarding’ motivation that straddles both ‘I’ and ‘We’ rationalities. In conclusion, the introduction of incentives for managing ecosystem services is a delicate process of co-creation between individual needs and wants as well as social norms which maintain processes of collective action. In the wake of calls to ‘scale up’ PES across Kyrgyzstan, we warn that formulaic recipes of motivating behaviour through incentives will at best underestimate social dynamics and at worst reinforce social inequities or perceived injustices.

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