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Effect of social capital on conservation behavior under individual and collective incentives: a framed field experiment in the Jambi province of Indonesia.

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The establishment of oil palm and timber plantations has now become the main drivers of deforestation in Indonesia, it is expected they will reach about 13 million hectares by 2020. In order to control the process of land use change, payment for environmental services (PES) are being promoted to incentivize the cultivation of jungle rubber to avoid the transformation of forestland to oil palm plantations. Many studies have focused on micro level factors influencing smallholder decisions to participate in PES. Nevertheless, social capital as determinant of participation has not been analyzed. In this study, we focus on how social capital (in the form of network) influence the amount of land allocated to jungle rubber in four villages of the Jambi Province in Indonesia. Social network data was collected using the random matching within sample technique. Then, to explore the effects of an external reward system we conducted a framed field experiment to illustrate behavioral dynamics given a hypothetical situation. The scheme was framed as payments for environmental services that aim to foster environmentally friendly behavior associated with the cultivation of rubber agroforestry. In this framework, we compare two alternative PES schemes: an Equal Payment scheme in which participants receive the same incentive individually for conservation with a Collective Incentive scheme in which every group member receives the incentive once the total number of land units allocated to the conservation of jungle rubber in a group reaches a certain threshold. Under each treatment, participants had to allocate their total land under three different scenarios: no incentives, low incentive and high incentive. Farmers were randomly matched into heterogeneous groups of three farmers to account for heterogeneity in land endowments. We find no significant difference in land allocated between the treatments, but there is significant difference between the land allocated under the no incentive scenario compared to the high level scenario. Results show that the scenario of a collective incentive has a crowd-in effect as participants achieved the threshold (7 ha) of land allocated to agroforestry starting the first scenario of no incentives. Additionally, we find that the size of the network has a negative effect on land allocation to jungle rubber, as the size of the network increases then the amount of land allocated to agroforestry is reduced, this is reinforced by the result showing that the significant effect of the area under oil palm cultivation from the network on land allocated to agroforestry. For the contrary, the level of education of the network has a positive effect on land allocation to jungle rubber.