

Mechanism Design and Village Economies: From Credit to Tenancy to Cropping Groups

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Various mechanism design models are used to study the allocation of risk and the allocation of productive resources in one ICRISAT village of India's semiarid tropics. This is done with the use of a specialty data base which tracked intensively the operation of a salient village institution. A cropping group is an institution in which multiple tenants pool risk and resources and jointly farm the land of a single landowner under either a fixed- or share-rent contract. The major findings in the specialty data are as follows. First, as theory might predict, sharecropping and even fixed-rent contracts have implicit and explicit risk contingencies. Second, as theory might predict, credit-financed inputs and crop operations are sometimes under the control of a landowner or single outside creditor. One should not take for granted unobserved side exchange or unrestricted access to credit markets. Third, as theory and the revelation principle might predict, interim plot and crop conditions are communicated to participating landowners and to outside creditors on a regular basis. Fourth, there is indirect evidence for information-incentive problems, and attempts to control them via costly state verification, in the sense that there is physical monitoring of plot and crop operations by participating landowners; still, monitoring by outside creditors is rare. Fifth, and related to communication and monitoring, ex post information sets of participating landowners are close to but slightly less accurate than the information sets of tenants throughout the cropping season. Sixth, income risks, the risks of sickness and unemployment, and productive inputs all appear to be shared within groups. Group members tend to work together and thus presumably to have good information about each other. This would allow them to enter into a group contract which, despite collusion against the landowner or creditor, is beneficial for all in risk and input reallocations. Seventh, owner-operation, single-tenancy, and group plots all coexist with each other. Insurance may be better within groups than across groups, or better for groups than for owner-operators, but in one land-allocation model this insurance comes at a cost, and so the optimal allocation of land allows the coexistence of various arrangements. Eighth, some landowners do pay attention to intertemporal asset movements and debt positions of tenants, but some do not; long-term relations seem governed in part by explicit intertemporal tie-ins, but limited commitment, turnover, and reputation also seem to play an important role.