

### Contracting for Irrigation Management

Who should manage small-scale irrigation systems -- farmers or government agencies? Farming communities along the foothills of the Indian Himalayas in Uttar Pradesh, have developed a third option -- hire a contractor to design, build, and maintain the system. The tekidar (contractor) alternative is attractive to farmers who cannot afford the time for checking the diversion weir and feeder canal each time they irrigate. Tekidars can also protect inter-farmer relations, since the burden of closing and opening channels rests with a third party.

The tekidar management system dates to the first construction of irrigation canals in the river valleys we visited in Pithoragarh District, NE Uttar Pradesh (close to the border with Nepal). As population pressure started to outpace the production potential of rainfed agriculture, local entrepreneurs took up the business of constructing and managing small (8 to 40 ha) diversion systems tapping tributary streams along major river valleys.

The entrepreneurs had the necessary capital and marketed their services to farming communities. Each tekidar had to reach an agreement with his clients, whereby he would be paid a certain portion of each farmer's harvest for a given period of up to 30 years. The share varies with the labor involved in construction and maintenance. Since the tekidar has to pay village laborers for anything he and his family cannot do themselves, a careful assessment of labor requirements is critical to financial viability.

Farmers continually assess their economic benefits, and look around for a cheaper solution to the management problem. After the initial contract expires, a new one must be negotiated, and others may step forward to offer their services at a lower price. One canal system we visited was built in the 1920s by a tekidar who managed it for 18 years. His farmers offered him

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a 30 year contract if he could extend the 3 km canal a bit further to bring additional area under command. He was unable to accomplish this and his contract was not renewed. Since then there has been a series of tekidars; the current one is three years into his ten year contract, receiving 1/11 share. His predecessor worked for only four years, at 1/9 share, and gave up his contract because it wasn't profitable.

How can the new tekidar earn more at 1/11 share than his predecessor who was earning 1/9? The simple answer is that not all farmers pay. Indeed, there is a very strong incentive for the tekidar to deliver adequate water supplies and to devise a distribution system so that his customers are kept happy, thus strengthening his claim to his 1/11 share. Even so, the astute tekidar visits his clients' fields at harvest time to be sure he is not short-changed, and receives his full share of wheat and mustard (winter crops) and paddy (summer crop).

What is the future of the tekidar system? There is a real danger that this efficient management system will fall victim to the forces of "irrigation development." The Irrigation Department's ongoing practice of upgrading FMIS in the area gives farmers a free service formerly provided by the tekidar at a cost. But the tekidar had a contract with the farmers; the contractors hired to upgrade the system are paid directly by the Irrigation Department, with no obligations to farmers. The result: poor quality construction and, in some cases, failed systems.

One tekidar system constructed recently (1972-75) by a local entrepreneur, was taken over by the Irrigation Department in 1982. Farmers enjoyed irrigation for nearly 10 years under the tekidar system, and paid a rather steep 1/4 share of their crop for the service. When the Irrigation Depart-

ment stepped in to upgrade the system, however, the situation changed. The 4 km canal was rebuilt at a cost several times that of the tekidar's original construction, with much of the expense going to concrete lining. The tekidar's 30 year contract with the farmers was broken. Supervision of the new construction, however, was difficult, due to the

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remoteness of the area. Construction quality was poor, and today, the canal walls are broken. No water has flowed to the 50 acre since the tekidar was displaced. The farmers have reverted to rainfed cultivation, as they had done before command area the system was constructed in the first place.

Tekidar management has the efficiency of the free-market; it may also exacerbate social inequities when cash-poor farmers are exploited by entrepreneurs who control capital and can offer something the farmers need: irrigation. But in the systems we visited in Pithoragarh District, the farmer communities seemed well in control; indeed, if one party was in danger of exploitation it was probably the tekidar rather than the farmers. The key element in the tekidar management model may be a surplus of water. So long as there is plenty of water in the canal, farmers can be satisfied that their tekidar is doing his job. When water becomes scarce, it is difficult to distinguish whether the fault lies with the tekidar, or with nature. The outcome is likely to be disenchantment with the tekidar's performance, and an eventual decision by the farmers to run the system on their own.

Management arrangements similar to the tekidar model have been documented in parts of Nepal, and may exist in other countries as well. If you are aware of tekidar-like systems elsewhere, please share your experiences with the Newsletter. Can this type of management model play a role in FMIS assistance programs? How can private initiative be tapped for the benefit of the larger community in irrigation development?

- David Groenfeldt (based on a recent visit hosted by U.C. Pande, whose background article on hill systems of Uttar Pradesh appears elsewhere in this Newsletter).