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**Jørgen Delman:** *Agricultural Extension in Renshou County, China - A Case Study of Bureaucratic Intervention for Agricultural Innovation and Change*. Ph.D. Thesis. Ramboll and Hannemann Bulletin, No. 28 (July 1991). 359 pp.

This is an interesting and thorough case-study of an important subject. With the abandonment of its rural collective framework of People's Communes and brigades in the early 1980s, China lost a major part of its extension services. Not only did many extensionists leave the service for better-paid jobs or to establish their own (often related) private rural business, but also the organizational and financial support for such services had to be reestablished. Although most village governments included the use of extension services in the land use contracts given to their farmers, according to a Chinese survey, by 1987 only one-third of all villages had maintained collective services for plant protection, and about one-half for irrigation, mechanized ploughing, disease control, and purchase of seeds and fertilizer. However, for a continued growth and qualitative improvement of China's agriculture, professional intervention to induce changes in farmer's behaviour and technologies is indispensable.

Röling has stressed, that such changes should be voluntary, and that the creation, reception and sharing of information is a two-way process, which should lead to a common meaning and mutual understanding (N. Röling, *Extension Science. Information Systems in Agricultural Development*, Cambridge University Press, 1988). In contrast, China's agricultural extension relies heavily on the mandatory approach to the Chinese government organizations. Its goals of high commercial output often do not correspond with Chinese farmer's goal of minimizing inputs and maximizing welfare and/or income. The Chinese extensionists' approach is still dominated by a top-down, trickle-down approach of "betting on the strong."

Delman's study-in-depth of Renshou County in Sichuan Province and some of its villages, part of which has been published already last year (in Eduard B. Vermeer, ed., *From Peasant to Entrepreneur: Growth and Change in Rural China*, Pudoc Wageningen, 1992), stresses that intervention is part of a much larger political and

administrative state intervention in the village. He traces agricultural extension work back to the Cultural Revolution period, casting some doubts about Sheridan's positive image of farmer's eagerness to participate in the agricultural innovation process during these years (Mary Sheridan, *Peasant Innovation and Diffusion of Agricultural Technology in China*, Cornell 1981). Rather, Delman maintains that then, and now, farmers had little control over the supply of knowledge and industrial inputs. Nevertheless, because scientists worked closely together with selected farmers, who became or already were agro-technicians and leaders in their village collectives, popularization of new techniques and seeds was fast and effective. Delman does not want to change the positive assessments of the four-level research and extension system by foreign observers; however, he cautions us that very little is known about the inner workings of various sub-systems.

On the present "agricultural technology management system" in Renshou County, Delman concludes that it is propelled mainly by the production imperative imposed by higher authorities, and therefore relies on a mandatory approach. The county agricultural extension organization does not differ from other Chinese government organizations in being "enmeshed in a structural context consisting of a policy environment, political and administrative structures, market and other economic structures, and finally the international sector." It is a useful reminder to those accustomed to doing field work in countries where the state is less dominant politically and economically, and rural communities are less tightly organized. Delman mentions the important role played by the County Commercial Bureau, which supplied fertilizers, pesticides, plastic sheets, implements, diesel oil and other such inputs (usually, linked with contractual sales to the state) through its Supply and Marketing Cooperatives at the village level. It had its own 10-member S&T service unit and testing facilities. In this respect, the County Agricultural Bureau and its Agrotechnical Extension Service were entirely dependent on the suppliers of inputs. The strong organizations of rural finance and rural education were important factors as well. Renshou County was some kind of a model because of its large number of new professional (that is, voluntary) societies in agricultural extension, one of which even published a weekly

journal *Renshou Rural S&T News*, which was distributed to about one-half of all farmers.

Delman offers a detailed description of Renshou County's Bureau of Agriculture, with its staff of almost 300 and its extension centre of over 70 people. He notes that his interviewees were very explicit about technical goals and organization, but reluctant to or incapable of discussing economic issues outside of their sphere of control. Because the costs of technological inputs tended to go up in recent years, returns on investment and net income suffered. "I asked cadres whether they did not foresee lack-of-fit between farmer's goals and extension goals in the future. I mostly got evasive answers, and nobody acknowledged that such a problem might arise" (p. 197). Apparently, the need for cost reductions was not much considered. Apart from the mandatory approach of technology push from above, this may also have had to do with the fact, that paid-for services did not (yet) constitute a significant part of their programme. Also, the programme emphasized grain and cotton crops, with less focus on more profitable crops considered attractive to farmers. Delman concludes, that the high concentration of activity and staff at county level made the extension centre-organisation a "heavy superstructure with a thin base." Partly for the above reasons, there were major worries about finance, salaries, equipment and mobility.

In his final two chapters, Delman argues convincingly that village leaders and the village bureaucracy were pivotal in the extension-farm interface and that their role was bureaucratic rather than technical. There appeared to be little room for representing farmers' interest nor to pull down technologies. Nevertheless, at the village level regular and obligatory meetings were held for the heads of households, the purpose of which were the provision of information and discussion of policies, regulations, agricultural production plans, and new technologies. Another, more recent institution on which the interviewees gave some information is that of the "demonstration household," selected by the authorities as models of farm innovation. Apparently, they were a window for new technologies, and experimental, rather than playing an effective role as yet in the diffusion process. Written media, audio-visual means and field visits were also useful to a certain extent. The growing

competition between the above-mentioned agricultural and the commercial systems of technology diffusion did provide the farmers with opportunities to compare their respective advices and products - most interviewed farmers valued the advise they got from the commercial system more highly.

Delman concludes that the extension services still have a long way to go before they will be geared to the farmer's needs, particularly the less rich and progressive ones. Most farmers seemed to be waiting for the annual technology package to be delivered from above, rather than actively pursuing technical solutions and innovation themselves. Nevertheless, the agricultural extension organization and political framework did have sufficient dynamism and productive results not to preclude a future client-directed reorientation and reform of the extension system. These findings are most important to our assessment of rural China's capacity to maintain and develop its quantitative growths and qualitative change. With his careful research and well-pondered evaluation of the issues relevant to agricultural extension, this is a major contribution to our understanding of the present relations between extensionists and farmers in China, and also to the international debate on more effective organization of the popularization of agricultural S&T.

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