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Some Remarks on Farmers' Abilities and Attitudes

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First I should make clear that my contribution here does not deal precisely with the specific topic of this Symposium since in my Institute we have not studied these particular problems. Nevertheless we have done some research on the *human factor*, for example, on the intellectual abilities and attitudes of farmers. This, I think, does fit into the general problem and may be of interest. Of course, our studies were directed to question which are specific to my country, and many of the results therefore are related to our particular economic and social system and our agrarian structure. Despite this limitation, which is common to nearly all cross-cultural comparisons, I hope I can add something to the discussion and to the problems in this field.

The first study which I may mention was devoted to the problem of the intellectual ability of farmers. Dr. Hiss, a member of my staff, applied an intelligence test to farmers [1]. He used a test which allows a differentiation between intelligence level (which is measured by the IQ) and the intelligence structure, i.e. a kind of combination and integration of several intelligence components or factors. He used the Intelligence Structure Test by Amthauer. This test is often used in our country to compare intelligence (as measured by the test) with the performance and success of persons in different professions, farmers not included. It has been proved so far as its validity, reliability and stability are concerned in more than 9000 cases and is looked upon as one of the best standardized tests in the German language. Our study was a first step to seeing whether, and how far, such a method, which has been approved in vocational guidance and which is often used for selecting employees in industry, is suitable for finding out and measuring those abilities which a farmer needs for meeting the demands of this profession. Seventy-five farmers from 10 villages in different areas of West Germany were tested, 6 to 8 farmers from each village. The sample was not representative because—as one can imagine—not every farmer was willing to undergo a test. The professional performance or achievement was judged or estimated by local authorities

or informal local leaders and by extension personnel (to get a broader than local frame of reference). We are well aware that these estimates are not as objective as farm accounts. But this was the only measure we could use since only about 8% of the farmers keep records, and to test them would have given a wrong picture. According to the judgment of the local authorities 32 farmers were estimated to be "very good farmers", 10 as "below average" (poor in farming), and 33 "average". The extension personnel estimated 15 farmers to be "very good", 12 "below average" and 42 "average". A comparison between professional performance or achievement and the intelligence quotient showed significant differences between the farmers (Table).

Professional achievement	Grouping according to estimates			
	of local authorities (local frame of reference)		of extension personnel (regional frame of reference)	
	number of farmers	intelligence level (IQ)	number of farmers	intelligence level (IQ)
Very good	32	102	15	109
Average	33	91	42	92
Below average (poor)	10	86	12	86

This result is confirmed by the fact that a comparison within each village between the ranking of professional achievement and the ranking of the IQ showed a correlation quotient of 0.60-0.96 and 0.83-0.90. The differences between the farmers were not only differences in respect to the level, or niveau, of their intellectual abilities but also differences in their intelligence structures. The very good farmers differed from the average and the poor in those intelligence components especially which indicate independent critical thinking, and ability for concrete practical calculation and arithmetic. The intelligence structure of the six farmers who were estimated to be extraordinarily good at farming highly resembled the intelligence structure of economists and merchants or employees in high positions. We think this is an indication that the management of even relatively small farms in industrial countries requires abilities similar to those of the leaders in trade and commerce. These results offer an opportunity to find out or clarify by further study the general relationship between the professional achievements of farmers or farm managers and their intelligence levels and intelligence structures. One can also think of identifying types of special intelligence structures, for example, of persons who excel in specific agricultural tasks.

For scientific studies, in which the personality of a farmer or farm

manager, i.e. the human factor is to be examined, such results open up the possibility of understanding better that part of human personality which is called intelligence. This then might become an incentive towards extending the investigation of problems of the human factor. Besides this, such tests will be of importance in the future for educational and vocational guidance and advice for rural youth, and for selecting farm leaders in organizations, etc. The increasing differentiation of the farms, of the organizations which have to serve the farmers and of agricultural institutions leads to more and more specific human abilities. One can only cope with this development by using thorough methods of vocational guidance.

Two other studies, carried through by a member of my staff, Dr. Haris, were concerned with farmers' attitudes. He studied two special problems, namely the attitudes of farmers towards credit or loans [2] and their attitudes towards book-keeping (and towards the doing of the farm accounts by their wives) [3]. In both studies he used a representative sample of farmers, and I can report here some results that may be of general interest.

It seems to be astonishing that in our country, though billions of credit have been borrowed by farmers in recent years, only one farmer in three has a positive unbiased attitude towards using credit. Thirty percent showed an extremely negative attitude, 16% had a moderately negative attitude and 15% an extremely uncritical positive attitude, without considering economic aspects. Fifty-one percent of all their attitudes were emotionally motivated. Farmers with little or no knowledge of questions of financing and borrowing credit had a larger proportion of negative and emotional attitudes. According to this, the proportion of farmers with negative attitudes is smaller the higher their educational level.

The fact that attitudes determine behaviour does not hold true for all farmers. Certainly, the percentage of farmers who did not use credit was significantly higher in the group with negative attitudes than in the group with positive attitudes. But still, 75% of the farmers with negative attitudes used credit for investments. This discrepancy between attitude and behaviour brings about some characteristic consequences in behaviour. These farmers, because they felt the credit as a guilt and as a heavy burden, preferred short-term credits even for long-term investments, and they repaid the credit as soon as possible without considering economic points of view. The result, that negative attitudes are not so often found among farmers with good special knowledge is confirmed by the study on attitudes towards book-keeping. The percentage of farmers with negative attitudes was smaller for farmers of good educational and vocational training, for those who had practised another profession before farming and for those who subscribed to newspapers and farm journals. But there are two other factors that come into play here. The one is the fear of additional

work that book-keeping will cause, and the other is the suspicion that the farm accounts would be misused for taxation. It is difficult to discover whether these arguments are real or not, whether they are subjectively justified or unjustified *. The question of what the farmers think of letting their wives do the farm accounts is answered with the argument of "too much work". The percentage of such answers by the wives is higher, understandably, than that given by the farmers. But more frequently—especially by the men—this question was answered with an argument that originated in a value system: book-keeping is a man's business. Obviously these answers expressed an idea that this task belongs to a well defined system of roles as between husband and wife. By the way, using the special method of preference-comparison we could show that the arguments of "too much work" or "no time for book-keeping" were rationalized answers. The preference-comparison showed that the farm wives preferred all other work, including heavy physical work, to keeping farm or household record. This preference is converted by rationalization mechanism into work of subjective importance, so that the wives "have no time for book-keeping". Here again the close relation between attitude and special knowledge becomes evident. Also, the fact that wives prefer heavy physical work can be related finally to a lack of knowledge of book-keeping and of the tasks which they would have to do. This lack of knowledge causes uncertainty which then leads to a preference even for heavy work.

Our Institute is interested in the problem of attitudes and motivation, particularly as a basis for developing a strategy for advising and educating in the scope of loans or credit and book-keeping. Since attitudes are of great importance for men's behaviour, knowledge of their intensity and of the kind and direction of their influence is indispensable for some insight into the human factor. We admit that research in this area is difficult for methodological reasons. It requires thorough knowledge and training in research methods in the social sciences as well as very careful interpretation of the results of questionnaires and interviews. This is particularly important when one tries to understand what it is that influences farmers in making their decisions in farm management.

How complicated the decision-making process can be appears in a study by Bühler [4] soon to be published. He tried to explore what farmers had in mind when buying and using tractors and other implements (front loaders, manure spreaders, etc.). I can mention only one result here, which

* The fear of misuse for taxation purposes undoubtedly is unjustified from an objective point of view. Since the summer of 1965 the use of farm accounts for taxation is illegal. But although this law was discussed in all farm journals extensively, most of the farmers of our sample did not know of it (or they behaved as uninformed because of mistrust or suspicion).

sums up many of the details. Bühler's method was to use free-structured interviews and content-analysis. His analysis demonstrated that rational considerations directed to economic goals did not play an important part in farmers' decisions, so far as our sample is concerned. There is no one single over-all motive, but a multiplicity of motives integrated into an indivisible whole made up of striving for social prestige and being afraid to take risks, looking for security and straining to avoid change of habits, hesitating from lack of knowledge and aiming not to become an outsider—all this together determines behaviour and results in a specific line of action. Characteristic ways of thinking and a lack of knowledge of important agricultural and economic facts have an additional influence. Economic development in all countries undoubtedly has strengthened the importance of the human factor. Therefore, the necessity arises more and more to obtain precise and comprehensive knowledge about it. Our studies have shown that we have to strive intensively to develop suitable methods and to refine and adjust existing methods for our special purposes in agriculture. We feel that concentration on these problems is necessary. They promise to give added insight into the whole complex of human behaviour and its effects and implications on the development of agriculture.

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