

Changing Practices: A Case Study

**Textbook concepts become a hundredfold more meaningful
when experienced and studied in the world of reality**

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If theoretical concepts are any good, they are practical and useful; they can help in exploring or understanding what goes on in the "real world." Some theoretical notions have been found useful in explaining what happens when an attempt is made to have farmers change practices. These same practical applications of theoretical ideas have been found useful in helping extension trainees understand how to work with people in effecting change. This case study explores an interesting experience between farmers and "university people."

THIS case study of a farming community working on its own problems is used to illustrate the influence of a number of sociological and educational concepts on changes in farming practices. The story covers a period of three years in which a group of farmers met with a University group once a month and, in addition, held a number of field days. Only one aspect of the work carried out with these farmers will be considered: the introduction of improved pastures.

The case will be presented from two points of view: (1) a narration of what happened (the case) and (2) a statement and some elaboration of relevant theoretical ideas and concepts. The theoretical ideas and concepts and their elaborations are interspersed with the narration in an effort to make their pertinence and application more obvious. However, in order to help the reader distinguish the two types of material, narration of the case is presented in standard size type in normal column width. The theoretical ideas and concepts are in smaller size type and indented.

THE SITUATION

The Caleta Valley lies only 30 miles north of Brisbane, Aus-

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tralia (a city of about 663,500 people). There are 32 dairy farmers in the valley. Farm size varies from 76 to 1572, averaging 300 acres. It is a poor dairying district. However, with improved pastures it could contribute effectively to Brisbane's milk supply.

Some 15 years ago two farmers in the valley put in some improved pastures. These two farmers are very successful and are making at least three times as much money as any other farmer in the valley. One has a relatively large farm; the other has a below-average size farm. In 15 years no other farmer in the valley has followed their example.

A majority (68 per cent) of the dairymen have lived in the valley more than 20 years; 75 per cent have brothers and sisters living in the valley; 65 per cent have other relatives; 75 per cent still have friends living in the valley with whom they went to school (60 per cent of these said that they still "saw a lot of" at least some of these families).

These people have worked together over a long period of time. Many years ago they built a community hall (which was burned during World War II). After the war it was rebuilt by community effort in spite of the fact that the valley is only six miles from Calcutta town. They have built their own Methodist church which once a year holds a fete in which the whole community joins, Methodist or not. They worked together to get their first one-teacher school (one family donated the land). When the school was resited so that it could become larger, they fought for a school bus service.

The Social Structure

An extensive pattern of life-long associations exists in the group. This means that in the group there has been much face-to-face interaction over a long period of time. This can be called a permanent group since interaction between the majority of members is life-long. The face-to-face interaction is promoted by an extensive kinship pattern. In addition to this interpersonal association within the group, there is a long history of group action to attain group goals.

Such social structure can be characterized in relation to the following concepts:

1. *A membership reference group.* A reference group is one to which an individual refers or relates his behaviour, and one to which he wants to belong.¹ The people of Calcutta Valley constitute a permanent membership reference group. In such a group it is ob-

¹ See Robert K. Merton, *Social Theory and Social Structure*, revised and enlarged edition (New York: Free Press of Glencoe, 1963).

vious that diffusion of farming practices would not take place if adoption of improved practices by some would constitute a transgression of group norms. As will be seen later information diffuses in such a situation but is not put to use.

2. *The socialization process.* This is the interaction process through which individuals acquire their values, beliefs, and attitudes.² It is evident that a large proportion of the socialization process for many of those living in Caleta Valley must have taken place within the group; therefore there will be many values, beliefs, and attitudes held in common by the group.

3. *Group control.* The commonly held values, beliefs, and attitudes in a group are the basis of group norms—expected and accepted ways of behaving.³ Individual members of the group who deviate too far from group norms have social pressures applied to them by the rest of the group. If they refuse to conform to group norms they become deviants and lose their influence in the group. This has happened to one of the two farmers who put in improved pastures 15 years ago; the other has become an isolate in the group. These are the effects of negative social sanctions. Positive social sanctions may support change.

AN AGRICULTURAL DEVELOPMENT GROUP

The Caleta Agricultural Development Group was formed to study its problems and to help the author in the training of agricultural extension men. A group of six men and women from the valley named the people who belonged to the group. From this list, each man identified the people he would personally ask to a meeting to decide whether they wanted to form a group to co-operate with the University and to study their own problems.

Twenty-four out of the 32 dairymen attended the first meeting. It was proposed that if they would help train students by meeting with them once a month I would help the dairymen with their problems, bringing in resource men from other organizations to help when needed.

It was suggested that before either side made up its mind we should identify the problems. A problem census was conducted and summarized on a blackboard. Finally the farmers agreed unanimously to co-operate with the University. They also decided on which problems they wanted help.

Only the people themselves know who belongs in one of these

² See Talcott Parsons and R. F. Bales, *The Family Socialization and Interaction Process* (London: Routledge & Keegan Paul Ltd., 1956).

³ See G. C. Homans, *The Human Group* (London: Reading & Keegan Paul Ltd., 1959).

permanent membership reference groups. By using this method we could work with a social group and not just a collection of people. Some members of the group were involved in calling the first meeting by making personal contact with their friends. As personal face-to-face contact is a norm in such groups, we utilized the normal method.

The initial learning situation was designed to (1) find out what the majority of the people considered to be their main problems; (2) determine how members of the group defined their problems in comparison with our definitions of their problems; and (3) involve the whole group in this process.

To be effective, a learning situation must actively involve the majority of the group in the study of topics which they see as relevant to their own situation, their resources, and the accepted group goals. In this case, active involvement was accomplished by using the problem census technique.

The Problem Census

A problem census is a highly structured situation which provides an opportunity for everyone to express his opinions (*i.e.*, provides for involvement of the whole group). The group of 24 was divided into 5 subgroups, usually close friends, who were used to talking freely among themselves. Each man or woman was given pencil and paper and asked first to list briefly the factors which were holding up development on his own farm. This gave a frame of reference for the discussion. Then each small group was asked to pool the lists and decide which were the six most important problems. Each group appointed one of its members as recorder. The recorder reported for his group to the full meeting at the end of an hour or so of discussion. Results were summarized on a blackboard.

In such situations everyone contributes and feels that he has been a party to the decisions. It is remarkable how much consensus comes out of such an exercise. The fact that the problems are common to all becomes evident to the whole group.

The Problem of Improved Pastures

Even a brief look round the valley would reveal to any extension man that cattle were in poor condition and that pastures were mostly "blady grass" and "matt grass" (both useless from a nutritional point of view for most of the year). He would therefore define the farmers' problem as "the need for improved pastures."

At the problem census the farmers defined their feed problem as "weeds in their pasture."

In the extension man's frame of reference the farmers' problem was defined as a need for improved pasture. In the farmers' frame of reference their problem was "weeds in their pasture." Both however referred to pastures in one way or another. So at the more general level there was a common frame of reference. Both parties felt there was something wrong with the pastures. Without this common perception no effective communication could have taken place.

However, the two different definitions of the farmers' problems formed a barrier to any effective communication between the farmers and the extension men. Anything that the extension man would say at this stage about improved pastures would be seen by these farmers as irrelevant to their situation as they perceived it.

A LEARNING SITUATION

The farmers asked: "What can we spray the blady grass with to kill it?" We asked: "Has anyone tried spraying blady grass? If so, what with?" Several farmers had sprayed blady grass with an effective weedicide. We asked: "What was the result?" The answer was: "It died but was as thick as ever next season." "What did it cost you?" "Too—much." "Well that is the best spray for killing grasses there is, and it's no good. What else could you do?"

Eventually the suggestion came from the group that planting improved pasture might be a way of combatting blady grass. But the group ruled out this suggestion saying: "We can't afford improved pasture."

Again we replied with a question: "What do you reckon it costs to put down improved pastures per acre?" They'd never really worked it out but they knew it was a lot more than they could afford. We said: "Well, let's work it out. You give us the figures." They did, and the cost came to much less than they expected. (Only cash costs were included.) They refused to believe their own figures. The sum was worked out again and again until *they convinced themselves of its accuracy*. The whole group argued every figure.

Experience from within the reference group is used as far as possible in any teaching situation. A reference group of this type trusts its own members' experiences far more than any outside experiences, such as scientific experiments. Note that no information was given in this learning situation. Questions were used to direct the discussion until the difficulty about the definition of the problem in terms of weeds was recognized by the group.

This led to the beginning of the recognition of the problem.

Until a problem is recognized in realistic terms by farmers no effective communication about the problem can take place.⁴ It also has to be accurately defined for recognition in realistic terms. As has already been pointed out, the problem must be seen as relevant to their own situation by those concerned.

Further, it must be recognized as important to the achievement of their own goals and therefore relevant to these goals. The recognition of the importance of the problem to their own goals provides the motivation to learn and to act. Overcoming the problem then becomes a goal. If it is seen as important enough, scarce resources are usually channeled to accomplishing the goal.

Improved pastures were not relevant to them in terms of their resources. Again their own information was used in this learning situation and no information was offered. The whole group was involved in heated discussion until they convinced themselves that they could afford improved pasture. Consensus was reached.

The questions were used to structure the discussion, but a permissive atmosphere and a nonjudgmental attitude on the part of the extension officer was maintained throughout. Now sowing of improved pasture was relevant to their resources, but was it worth the time and trouble? They still had to recognize that improved pastures were important to them. Until this was recognized there was no motivation for action. Improved pastures had not yet become an accepted goal.

Importance of Improved Pastures

At this stage a survey was made of 26 of the 32 dairy farms in the valley. This survey collected data on total acreage, cleared acreage, per cent of cleared acreage infested with blady and mat grass, acreage of pasture fertilized, acreage of fodder crops, value of fodder bought, and production per cow.

Tables were made relating these factors to production. It became evident that low net production was associated with a lack of feed. Data on individual farms were produced but names were withheld. These tables were discussed and argued by the group for three consecutive monthly meetings until a consensus was reached as to the importance of getting more cow feed off their farms. They also decided that improved pastures provided the best and cheapest feed.

To get recognition of the importance of improved pasture, the survey information was relevant because it was about their own farms. Members of the group had provided the information and therefore could not argue that it was wrong or that it did not apply to them.

These farmers were presented with their own situation in a new

⁴See John Dewey, *How We Think* (Boston: Heath & Co., 1933).

way. They could study and discuss it and reach their own conclusions.

Their conclusions were accepted by the majority of the reference group.

Now they clamored for information, not about the white clover and rye grass irrigated pasture of the two innovators but about the new tropical pastures that had recently been developed and recommended for their district. They asked for a field day to see some of these new tropical pastures that they knew existed about 30 miles north of the valley. This was arranged. About 20 farmers went to the field day and were very impressed with what they saw.

These farmers were perfectly well aware of the fact that new tropical legumes and grasses were available and knew where they had been tried out. Until this stage had been reached in their thinking they had no motivation to use them or even to see them.

It was not lack of information about improved grasses and legumes that was holding up the development of improved pasture in the valley, but the fact that improved pastures were not seen as relevant to the weed problem; these were also considered beyond their resources. These beliefs led to attitudes which did not favor the planting of improved pastures.

At the next meeting some were in favor of putting in the new pastures. Others had doubts about how it would survive frosts and wondered whether it should be planted on the hillsides or the flats.

Since all this discussion took place within a permanent membership reference group and consensus decisions were reached, the norms of the group were not transgressed. The norms about improved pastures within the group were changed. Improved pastures had become a group goal. If this group had not been a membership reference group, but simply a collection of people who met to discuss improved pastures, individuals trying out improved pastures in their own reference groups would have run the risk of becoming deviants, as had the two innovators in the Caleta group.

The Trials

It was suggested that members of the group might like to put down their own trials. The Department of Primary Industries, the extension authority in Queensland, would provide seed and fertilizer for 20 acres of the new pasture and advise on its establishment. If one farmer put in 20 acres and kept records the group could see the effect on production.

The group accepted the suggestion of a trial but rejected the idea of one 20-acre trial on the grounds that (1) one man would get all

the benefit and (2) as a group they needed to know how the new pastures would do on the hillsides and flats and on the two main soil types. It was agreed that there would be four 5-acre plots. Who would have them? The group nominated farmers of the group to have the plots. The criteria for these choices were interesting: (1) the farmer had to have the desired type of site and (2) the farmer should be one who could least afford to put down pastures for himself.

Those chosen protested that they had not the equipment to plow up blady grass. Their objections were overruled by the group, and specific offers of help with land preparation were made by neighbors. I was somewhat apprehensive for the success of the plots in that the least able farmers had been chosen to do the work. Group leaders reassured me: "Don't worry, 'Doc,' we'll fix them." And they did. One man looked as though he would be late with his land preparation but the group "fixed him."

As no equipment for sowing the seed or spreading fertilizer was available, the seed and fertilizer had to be broadcast by hand. Again the group went into action and arranged for half a dozen neighbors to be on hand on planting day at each plot. Each man who had a plot undertook to keep records of planting, fertilizing, rainfall, frosts, and cow-hours of grazing and report to the group monthly. This has been faithfully carried out.

Reference Group Influence

The reference group took responsibility for a number of decisions at this stage: (1) setting up trials, (2) the form the trials were to take (*i.e.*, testing the pasture on hillsides and flats and on two soil types), and (3) choice of co-operators.

These were all consensus decisions made by the reference group. They were able to arrive at these decisions fairly easily because they had all taken part in the same learning process and were therefore at the same stage in their thinking.

Because these people belonged to a permanent membership reference group they were able to take the further responsibility of seeing that their decisions were effectively carried out. They were able to do this because they were able to apply social sanctions to any co-operator who did not fulfill his undertaking (*i.e.*, the man who lagged in his land preparation or who did not keep records properly). If you do not belong to a particular reference group, that group's opinions of your actions do not influence you at all unless it is a group to which you aspire. In membership reference groups, the individual's membership and status in the group depend on the group's opinion of him and therefore influence him a great deal.

The criteria on which co-operators were chosen express two

group values: (1) everyone should benefit from the trials (an egalitarian value) and (2) a value on helping the less able members of the group. Perhaps this is an expression of the Australian value on "mateship," or another facet of the egalitarian value. The reference group was working and thinking as a group on the basis of reference group values.

THE OUTCOME

The plots have suffered many vicissitudes. One was flooded shortly after planting. In the first winter three of the four were badly frosted and in the following summer and winter there was a bad drought. Nevertheless, these farmers are convinced they can grow these pastures. As evidence of this, many of them had land prepared for planting this season. However, because of the drought, seed was very expensive and scarce and they were not able to plant.

Because these plots are perceived as their own, these farmers are not prepared to admit failure; they recognize that seasonal conditions have been adverse. They say: "The pastures have survived all this and they are still struggling on. In reasonable seasons they will be good." This is another characteristic of reference groups. If they had been University or Department of Primary Industries plots they would have "rubbished" them long ago.

Their attitude is now favorable to the introduction of improved pastures and they believe they can and should grow them. The reference group's whole attitude to the problem originally seen as "weeds in the pasture" has changed.

These farmers have never borrowed money for development in their lives, but improved pastures have become such an important group goal that many are now prepared to borrow money to achieve this (a radical change in attitude toward borrowing). The Queensland Government has made money available to dairymen on long term, low interest loans for drought relief.

At the last meeting in 1965 the group suggested that if money is available to put in improved pastures as an insurance against future drought they would take advantage of the loan. Members pointed out that to make any difference in production they needed at least 20 to 30 acres of improved pasture but, at present, could afford to put in only a few acres a year. It was agreed that the group chairman should write to their Member of Parliament and ask if the loan could be made available for improved pasture.

They now see a way to increase their incomes and are prepared to borrow money to do it. Today they have a goal of increased income. This change in attitude has been brought about by group

discussion of their problem. The learning situations have been carefully structured but the discussion has been very free. As a result attitudes have changed and motivation for change with reference group support has been generated.

Extension Effort and Results Achieved

From March 1963 to October 1965 there have been nine meetings and nine field days concerned with pasture improvement. No farm visits have been made. The radio has not been used but the local paper published a brief article before each meeting, outlining the topic for the meeting and naming any resource man who would be present. These represent a relatively small extension effort to produce a radical change in a very conservative group.

Working with this permanent membership reference group has been both a fascinating and extremely enlightening experience for the author and her students. The textbook concepts have become a hundredfold more meaningful. For this we are grateful to the people of Caleta.

The students have changed their attitudes toward helping farmers with their problems just as radically as the farmers have changed their attitudes toward the use of improved pastures. Students now recognize the complexity of their job and have seen the social forces within a permanent membership reference group at work.

Of course, as van den Ban has shown, there are many different types of reference groups, and attitudes toward change in different groups will vary.⁵ Also, for different problems different groups may be at different stages in the recognition and definition process, and in their perception of the relevance of information. In this particular case study both processes had to start from the beginning. This is not always so.

⁵ A. W. van den Ban, *Boer en Landbouwvoorlichting: De communicatie van nieuwe Landbouwmethoden* (Assen, Netherlands: van Gorcum, 1963).

PRACTICING EXTENSION demands a special form of procedure or mental activity by way of learning, teaching, modelling or education. The system or procedure mostly concerns adults who have a free will of their own and who must be convinced or persuaded to change their actions or behavior, with the result that extension education also depends on exceptional skill as well as on the convincing power of communication. This system or procedure of extension is referred to as its methodology and also requires certain knowledge regarding education, sociology, anthropology, psychology and practical extension.

—F. F. H. KOLBE.