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Edited by

**Csaba Csáki
Theodor Dams
Diethelm Metzger
Johan van Zyl**

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THE EFFECTS OF EDUCATION AND TRAINING ON MANAGERIAL ATTRIBUTES OF PROJECT FARMERS IN THE KANGWANE HOMETLAND OF SOUTH AFRICA

C A J Botha and P P Lombard

INTRODUCTION

Agriculture normally plays an important role in the economy of a country. Apart from the most general function of supplying food and raw materials to the country, agriculture also provides labour opportunities and plays an important role in the development of natural resources and the generation of foreign exchange while offering a market for non-agricultural products and goods.

Although agriculture has lost its importance as a primary work creator, it should be remembered that there are many people who directly or indirectly depend on agriculture for their livelihood. These include the vast number of people in the rural and underdeveloped areas who depend on agriculture and agriculture-related industries.

Add to this the rising demand for food due to the population explosion, and one understands why so much is done to develop agriculture and its related human resources in underdeveloped areas.

THE PLACE AND FUNCTION OF AGRICULTURAL PROJECTS

Historically, development projects can be classified into two categories, namely infrastructural projects and agricultural (economic) schemes. The basic aim of infrastructural projects was the provision of infrastructure. It was presumed that spontaneous development would take place in such beneficiary communities. The basic aim of agricultural (economic) schemes was to involve communities in economically viable production industries. Inputs such as financial assistance, counselling, training, supervision, control and management played an important role.

Under these broad outlines, agricultural projects can be categorized into humanitarian, core, commercial and farmer support programs.

Humanitarian projects

The main purpose of a humanitarian project is funding and technical assistance. Participants (beneficiaries) have no responsibilities and obligations. Normally the beneficiaries gain through the acceptance of donations in the form of food, money and voluntary technical assistance. Sometimes participants gain by occasional unintentional learning, but the main aim is usually the alleviation of immediate deprivation.

Core agricultural projects

In this category, a development institution usually runs a project for its own gain through financial income and social benefits. Core projects revolve around self-intended economical considerations and project workers have no responsibilities, but to do the work required of them. Crops produced are usually of export significance. Communities in proximity of core projects gain through occasional employment and other minimal (if any)

spin-offs.

Commercial agricultural projects

Commercial agricultural projects offer a single possibility or a combination of possibilities to participants, including the orientation of project members to the world of capitalism, the introduction of project members to commercial agriculture, teaching and training of project members, technical assistance to project members, with the aim of eventually establishing the project members as full-fledged commercial farmers.

On commercial projects, the project members do have decision-making responsibilities, but could be restricted by one or several factors such as the project outlay, project leaders and their attitudes, severe financial control measures, and in the final instance, controlled markets (depending on the type of crop).

FSP (Farmer Support Programmes)

In a typical FSP situation, goods and services are brought within reach of the rural poor (subsistence) farmers by small "cooperatives" and/or other forms of infrastructure in the rural communities. Rural farmers take full responsibility for credit (if available) and the purchase goods or rent services. FSP develop the structures and provide the processes by which poor farmers gain access to goods and services which previously were unobtainable to them.

METHODOLOGY

The respondents in this investigation were all participants in commercial agricultural projects in the KaNgwane homeland of South Africa. Data were gathered by way of a personal interview schedule, drawn up, translated, tested and processed by a panel of agricultural experts and qualified field workers.

THE MANAGERIAL CAPABILITIES OF KANGWANE PROJECT FARMERS

Successful farming is to a great extent dependent on the managerial aptitude and abilities of the farmer. Without managerial skills, agricultural technology cannot be applied efficiently or productively. Many researchers have indicated low managerial skills as a major constraint to agricultural development. This problem has to be addressed before other constraints can be removed successfully (Tapson & Rose, 1984:74).

Farm management can be defined as the ability to analyse the situation, to plan or take action to overcome problems, to decide on the best possible solution (decision making), and to adhere to the action decided upon. These actions refer to the most common and traditional four functions of management, namely **planning, organizing, controlling and leading**.

In each community, the abilities of entrepreneurs to forecast accurately in terms of needs and to adjust or plan accordingly, to decide upon and schedule actions (i.e. to organize), to adhere to or to see that these actions are implemented according to set criteria (control), and to motivate (lead) their workforce so as to get the work done by them, differ significantly.

It has been estimated by Bembridge et al. (1982:81, referring to a specific project in the Bophuthatswana homeland), that less than 5 percent of participating commercial farmers had the necessary managerial abilities to run their undertakings efficiently.

The data presented in Table 1 bear this out by way of a profile of the KaNgwane

project farmers. It illustrates that the formal (school) education of the farmers is very poor with 53,4 percent having less than 5 years of formal school training.

Table 1
Certain personal details of respondents included in
the KaNgwane study (N = 118)

Item	Number of respondents (N)	Percentage of total (%)
Age (years)		
20 - 30	16	13,6
31 - 40	14	11,9
41 - 50	28	23,7
51 - 60	37	31,4
Over 60	23	19,5
Number of children		
No children	2	1,7
Less than 5	36	30,5
5 to 8	47	39,8
More than 8	33	28,0
Farming experience		
No experience	46	38,9
Subsistence farming	52	44,0
Subsistence and selling	14	11,9
Commercial	6	5,2
Number of years schooling		
Less than 5	63	53,4
5 to 9	46	38,9
10 and more	9	7,7
Courses attended		
None	100	84,7
General*	13	11,0
Agricultural*	5	4,2

* At least one attendance per respondent

The data also indicate that the majority (84,7 percent) of the respondents have never even attended a single course in agriculture or matters relating to farming. The reasons for this situation are often sought in a socio-political history which is seen to have stimulated inequalities.

The profile of respondents also suggests a certain degree of underdevelopment among the respondents, as indicated by the relatively high number of children per respondent. Sixty-four percent of respondents have more than 6 children and the maximum number of children is 17 per respondent. A high fertility rate (as is indicated here) has often been indicated as reaction to conditions of poverty (Goldthorpe, 1988:31).

Fifty percent of the respondents are over 50 years old, but lack the necessary

education, experience, training and background to really be able to stand up to the demands and complexities of the commercial world in which they have to live.

The data presented in Table 2 suggest a willingness of respondents to try and manage their allocated farming units - 46,6 percent of the respondents spent more than 51 percent of their time on management. This cannot be seen as an indication of the quality of the management, because the quality of farm management (especially in the commercial sector) is a function of knowledge, insight, perception, sense of responsibility and other related personal and environmental factors.

Questions now arise regarding a possible correlation between certain personal and environmental factors and respondents' ability to interpret financial data. This was investigated using Pearson correlation coefficients. The results appear in Table 3 and indicate that there is a statistically highly significant correlation ($p < 0,01$) between formal training, course attendance and professional experience. There is also a statistically significant correlation ($p < 0,05$) between years of experience and the ability to interpret financial data.

These findings suggest that lack of the most basic training probably constitutes a serious constraint in the development of people through these projects.

The data set out in Table 4 indicate a statistically significant correlation ($p < 0,05$) between school education and training through the attendance of courses with the ability and competence of the farmer to plan his enterprise.

The results in Table 2 suggest that 66,9 percent of the respondents are incompetent when it comes to planning their enterprises, while the correlations set out in Table 4 suggest that the low level of education is probably a major contributing factor to this dilemma. Planning plays an essential role in any farming enterprise, as it involves most aspects of the production function and is important in decision-making (Castle et al., 1972). If the farmer cannot plan his enterprise, he is bound to take low-quality, wrong or no decisions at all. According to Table 5, the level of education and training also affects the financial managerial capabilities of farmers in the sense that it is significantly related to the budgeting ability of farmers. It would appear that the higher the level of training and formal education a farmer has had, the better his ability and confidence to budget independently. On commercial projects, farmers usually have access to the back-up technical services of development corporations which assist them with their planning and budgeting.

According to the figures in Table 2, a total of 67,9 percent of respondents had no or only a vague idea of their own management problems and only one respondent really grasped the difficulty and multi-functionality of the managerial function.

Having said this, it is interesting to see how the farmers view the importance of training and education as a factor contributing to the success of farming. Six percent indicated that a better education and training would help them towards success. On the other hand, 91 percent said that more experience, and 83 percent said a higher age, was necessary for success.

The data in Table 2 also suggest a generally low level of managerial capabilities, in the sense that 81,4 percent of respondents have no insight into the causes of production losses, 79,8 percent have no comprehension of problem solving, 93,2 percent have no idea regarding the water requirements of the crops they cultivate under irrigation, and lastly only 42,4 percent have a good insight into the production potential of their resources.

Project farmers in general are poorly qualified to manage commercial farming enterprises. They do not have the required capabilities and therefore project goals and

Table 2
Indications regarding managerial capabilities of respondents in the
KaNgwane study (N = 118)

Item	Number of respondents (N)	Percentage of total (%)
Time spent on management as a percentage of available time		
50 percent and less	63	53,4
51 to 70 percent	24	20,4
71 to 99 percent	31	26,2
Interpretation of financial records		
Incapable	57	48,3
Good idea	28	23,7
Fully competent	33	28,0
Planning competence		
Incompetent	79	66,9
Fair idea	31	26,3
Good idea	8	6,8
Perception of own budgeting capabilities		
Dependence on others	32	27,1
Manages with help	38	32,2
Totally independent	48	40,7
Perception of own management problems		
No to vague idea	79	67,0
Slight idea	38	32,2
Good idea	1	0,8
Responsibility		
Little	4	3,4
Mediocre	10	8,4
Rather good	18	15,3
Very good	86	72,9
Insight regarding causes of production losses		
No insight	96	81,4
Mediocre	16	13,6
Good insight	6	5,0
Insight into problem solving		
No insight	94	79,8
Mediocre	3	2,5
Good insight	21	17,7
Knowledge of crop water requirements		
No idea	110	93,2
Vague idea	7	6,0
Good idea	1	0,8
Insight regarding potential of resources		
No insight	43	36,4
Mediocre	25	21,2
Good idea	50	42,4
Knowledge of obstacles to better production		
Very poor	63	53,4
Mediocre	28	23,7
Good	27	22,9

Table 3
Relationships between certain personal and environmental factors and the ability of respondents to interpret financial records (N = 118)

Personal and environmental factors	r	p
School education	0,61104	0,0001
Course attendance	0,23940	0,0090
Years of experience	0,18966	0,0405
Professional experience	0,25146	0,0087

Table 4
Relationships between certain personal and environmental factors and respondents' competence to plan (N = 118)

Personal and environmental factors	r	p
School education	0,18408	0,0469
Training through courses	0,19246	0,0368

Table 5
Relationships between certain personal and environmental factors and respondents' ability to budget (N = 118)

Personal and environmental factors	r	p
School education	0,25562	0,0070
Training through course attendance	0,27398	0,0036

strategies will have to be seriously re-evaluated. It can probably be said that selected project farmers are in serious arrears regarding (at least) their fundamental training and education.

Project farmers also display a somewhat conservative rational economic behavior in the sense that 91 percent of them save money (at local branches of commercial banks) and see to it that not all their capital is invested in their enterprises. Eighty-three percent of farmers, although not competent to interpret their financial records, consider records as important and see them as an essential tool in management as illustrated by the 59 percent of respondents who keep complete records with the help of project managers. Other records such as irrigation records are seen as important, but not as important as financial records. The respondents indicated that they had an absolutely free hand to manage their enterprises in their own styles and according to preferences.

FACTORS CONTRIBUTING TO INEFFECTIVE MANAGEMENT

The relative poor managerial performance of project farmers can probably be attributed to a variety of interrelated factors, including socio-economic conditions, perceptions of farmers and the political climate, to name but a few. Farmers have to be successful to make

a living out of farming. Ninety-one percent of respondents indicated that 99 percent of their annual income is derived from their farming enterprises. Their monthly financial requirements to make a living is pegged at the rather conservative level of less than R1 660 per month (for 85 percent of respondents). Fortunately, most (i.e. 74 percent) farmers have low debt commitments (of less than R1 000 per annum). Notwithstanding these considerations, they are committed to farming and cherish certain expectations from the enterprise. It is therefore clear that project managers should feel a serious responsibility towards them by identifying and rectifying the causal factors of ineffective farm management.

Environmental and personal factors

Lack of education, literacy and numeracy as well as the type and number of courses attended by farmers (which are too few and of little relevance to farming and their present farming conditions), seriously hinder the development of managerial capabilities of farmers.

The second factor contributing to the low level of management capabilities can be sought in the lack of relevant farming experience (only 17 percent of the respondents had any relevant previous farming experience). The influences of the past and (to a degree) the present political climate leading to farmers' lack of experience must not be overlooked. In this regard the lack of access to land and production inputs, influenced by inequalities and the tribal land tenure systems, is significant. Rural areas are well known for their lack of young men and high-quality manpower. This problem is a result of urban migration motivated by the search for a better life and better opportunities. This leads to rapid urban growth, which in turn reflects (in today's developing countries) in rapid growth of total population (Johnston & Clark, 1982:45). Consequently project members are chosen from the available manpower, i.e. the older folk.

Mediating variables

Despite the environmental and personal variables that influence project farmers' behaviour, there are certain mediating variables (factors) which can have a direct effect on behavior.

These factors are generally referred to as perception, knowledge and the aspiration (need) levels of the entrepreneur, and are indirectly influenced by the environmental and personal factors such as age, level of education, tradition, previous experience, training, etc.

Commercial project farmers are usually faced with a vast amount of modern technology which is transferred via the project outlay, blueprint planning, extension advisors, and technical personnel. This modern technology ("high-tech") has to be received, interpreted, and restructured in such a way that the recipient can apply it in practice. With the low levels of education, training and managerial capabilities of farmers, one would expect a lack in their level of understanding. Hardware such as machinery, irrigation equipment, etc. can therefore not be properly used. Farmers' progress toward the goals of the projects will consequently be slow. Farmers are often biased toward high-tech, because they perceive it as a symbol of status and success as a farmer. Fifty percent of respondents indicated that they would like their own tractors and implements to cultivate their own lands. With their present level of training and education as well as their limited experience, this could be catastrophic to many of them.

Only 11 percent of respondents lived on the projects, while the rest live at various distances away from the project and have to travel on foot, by bicycle, taxi and other means

to the projects. Seventeen percent have to travel further than 6 kilometres to reach their farms. This situation potentially has a negative effect on the motivation and general morale of the farmers. On the other hand, it is possible that they are more contented, because they stay in a home of their choice and among their families and friends in their familiar traditional surroundings. Only 10 percent of the respondents indicated that transport is a serious hindrance to optimum management. One would suspect that, if respondents had a better insight into the intricacies of management, more of them would probably object to living away from their land.

CONCLUSION

There are indications of positive correlations between formal education and several managerial aspects of KaNgwane project farmers. The socio-political climate in South Africa has not been conducive for sufficient cognitive development of project farmers. Together with a strong emphasis on education and formal training, several factors such as the need for appropriate technology, incremental planning and smaller, culturally sensitive development attempts have to be considered in conjunction with, or as replacement for commercial projects where and when poor, illiterate farmers are to be introduced to the milieu of commercial agriculture.

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