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# THE ROLE OF THE AGRICULTURAL ECONOMIST IN FARM MANAGEMENT

by J.F. KIRSTEN

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## INTRODUCTION

We as agricultural economists should indeed take pride in and have a high regard for our discipline. If we have this and if we make it evident from the image of our field that we project, this will contribute to the advancement of agricultural economics as a specialised field. If we as agricultural economists do not project a positive image of this kind to the outside world nobody else will do it for us. It is necessary, however, for one to analyse one's field critically from time to time and try to make a contribution to advancement in one's field in the light of one's critical analysis. Today, therefore, I am going to look inward and make a modest attempt to evaluate certain aspects of the field and their possible applicability to practical farm management. It is my wish, however, that we make a positive attempt in the course of this evaluation to further study in our discipline and create a basis for discussion that can contribute to its development and advancement. I believe that if we approach the matter in this way a critical evaluation will also contribute to the advancement of the image of the agricultural economist in the long term.

I should like to approach this subject by analysing certain characteristics of agriculture, the decisions taken by the farm manager, and certain characteristics of agricultural economic training and in the light of this analysis make an evaluation of the applicability of agricultural economic training for the farm manager.

## THE ROLE OF THE AGRICULTURAL ECONOMIST

For the purposes of this paper an agricultural economist is considered to be any person who has completed at least three years of study in Agricultural Economics at a university.

With this definition as the background, the role of the agricultural economist in farm management can be approached from three directions, namely:

- (i) The way in which and extent to which the trained agricultural economist can apply knowledge and skills in his field when functioning as a farm manager.
- (ii) The research and research results of agricultural economists that can be applied by any farm manager, who need not necessarily have had formal training in agricultural economics.

- (iii) The role of agricultural economics in continuing education for the farm manager who is trained as an agricultural economist.

Greater emphasis is placed on the first-mentioned role of the agricultural economist in farm management, the other roles being merely referred to.

## CERTAIN CHARACTERISTICS OF AGRICULTURE AS AN INDUSTRY

It is necessary to identify certain characteristics of agriculture and evaluate the demands made on the farm manager in the light of these characteristics.

Unlike industrial production, which takes place in a factory, agricultural production takes place in nature. As a result of this the quality, volume produced and time of harvesting are dependent on the natural elements over which the farmer has little or no control. This complicates planning and creates a unique challenge to management.

The repayment period of capital invested in agriculture is long, for instance in the case of fruit farming it is between seven and nine years, depending on the type of farming. In certain other kinds of farming it is even longer and in the case of short-term annual crops it is shorter. Furthermore, relatively large amounts of fixed capital and small amounts of operating capital are used in an agricultural enterprise. These characteristics and many other patterns in the application of capital in agriculture should be given due consideration when evaluating the agricultural industry and consequently the role of the farm manager in the industry.

In the case of most agricultural products the price at which the product is sold or the money the farm manager receives per unit for the product is beyond his control. The individual farm manager does have control over quality and quantity of production, but in most cases not over the price.

The marketing structure for an agricultural product - its nature and efficiency - is the result of the collective decisions and views of the farming community in the industry in which the farm manager is working. The individual, therefore, has only limited freedom and say in the setting up and efficiency of these structures.

The alternative crops a farmer can produce in an area or on his farm are limited by resources and climate. The farm manager should therefore be able to take all these variables into account in evaluating crop possibilities.

The reaction time available to the farm manager to adapt to changes in demand, products or technology is generally long and frequently a great deal of capital is required. Long-term planning is therefore of cardinal importance. Mistakes in such planning are frequently very expensive.

In a specific form in which an agricultural product is marketed, a shortage leads to exceptionally high prices and an oversupply to a rapid drop in prices. Therefore, to obtain an optimum balance between supply and demand is problematical and the prices of uncontrolled products may fluctuate a great deal. This complicates price or income projections. The farm manager should therefore take the over- or under-supply situation in the industry at the present moment and in the near future into account when evaluating his branch of farming.

Re-investment by the farm manager in agriculture is essential for growth in volume production and higher production per input unit. A portion of the annual net income from the farm unit should therefore be used for this purpose annually, and this has an influence on cash flow planning and financing policy.

The long-term trend is for agricultural products to show lower price rises than the inflation rate, and the resulting price-cost squeeze obliges the farm manager to produce a greater volume irrespective of demand, or to switch to an alternative product. The farm manager should also place more and more emphasis on increased production efficiency. The extent to which technological development in an industry can still take place, or the current rate of development, has a vital influence on future profitability.

Technological progress in agriculture is of cardinal importance for the development of a successful farming enterprise and the reduction of input costs. The individual has no control over the rate at which development takes place. Research is carried out by the State and organisations over which the individual farm manager has no authority; he has no say in the use of funds and capital for research.

The fact that the individual farm manager has limited freedom compels him to look after the communal interests of the farming sector, his community and the industry in which he earns his living. The individual farm manager's responsibility therefore does not end at his farm gate, as is the case in many other industries.

## **FACTORS OVER WHICH THE FARM MANAGER HAS CONTROL**

Against the background of the characteristics of agriculture, we need to evaluate the factors over which the farm manager does have control. In the light of this we can gain an indication of the knowledge and skills the farm manager requires.

(i) A farm manager who is interested in his farming and approaches it with enthusiasm has a

better chance of success. If the decision to farm is forced on him his chances of success are reduced.

(ii) Although certain crops should be given preference in certain areas, there is still some degree of choice and this may have a palpable influence on the farm manager's success. Each farm manager can therefore decide for himself what products he wants to farm with. He can choose the products of which he has the most knowledge and so improve his chances of success.

(iii) The farming area or region is related to risk, profitability and profit-earning capacity in agriculture. Each farm manager has a choice as to where and in which area he would prefer to farm and so by implication has some say regarding these factors, which influence his farming.

(iv) The level of technology a farm manager applies is related to the level of production per input unit, the quality of the product produced, production costs, risk and profitability.

(v) The financial policy, the own:foreign capital ratio, the rate at which he will expand, the extent of the reserves the farm manager builds up and the way in which new assets that are purchased are financed, as well as numerous other financial decisions, fall within the framework of each farm manager's decision-making plan.

(vi) Whether a farm manager has to purchase extra farm land or not, the price at which it has to be purchased and whether realistic land prices are paid are matters that have a cardinal influence on the profitability of an investment in land. These decisions can be taken by the individual farm manager.

(vii) To what extent does the farm manager plan for the short, medium and long term? Should strategic planning be done at all? Correct realistic planning is of cardinal importance to successful farming.

(viii) The number of people in the service of his farming enterprise, their characteristics and whether they are used to the optimum or not are factors over which a farm manager has full control and which have a vital influence on the success of his operations.

(ix) The leadership of the farm manager,

- his motivation,
- acceptance of innovations,
- enthusiasm,
- view of the future,
- analytical attitudes

and numerous other personal qualities and characteristics are matters that he can deliberately improve and develop.

The degree to which they are developed will have a decided influence on his success.

(x) Whether or not sound and correct decisions are taken will depend on the farm manager's knowledge of and skill at the techniques of decision-making, and on the extent to which he has access to management information and utilises it.

(xi) Knowledge of and insight into the agricultural industry contribute to the development of better judgement regarding decision-making by the farm manager - therefore broader knowledge and better

insight into and contact with his farm enterprise can have a marked influence on his success.

The farm manager therefore does have control over the most important factors and properties that determine farming success. Bearing this in mind, the role of the agricultural economist and the equipment he receives through his training require further analysis.

### CHANGES IN THE NATURE OF THE FARM MANAGER'S TASK

The complexity, extent and dynamic nature of the task of farm management have increased greatly over the years. If we compare the responsibilities of the farm manager from fifty to a hundred years ago with the demands made by the highly complex, business ventures that farming units have become today, this increase in complexity and extent is very apparent. Where the farm manager of former years worked with a team of oxen, modern farm managers have to take decisions on the purchase of mechanical equipment such as tractors, and combines whose price may amount to thousands or hundreds of thousands of rands.

Whereas the farm manager of the past was usually alone on his farm, the modern farm manager has staff to control. In certain cases there may be a management hierarchy for which he is responsible and in respect of which he has to fulfil a managerial function. This means that management systems have to be worked out and developed.

This increase in complexity, from the one-man farming enterprise to the more commercialised farming enterprises of today, has taken place as a result of changes in technology, the extensive, costly and complex equipment used, uncertainty regarding the markets, a high inflation rate, additional staff and more complicated financing decisions etc.

As a result of inflation and the scope on which farming operations are conducted, considerably more capital is required for farming these days than was the case in the past. The average farm today has therefore also increased in size, not necessarily in terms of hectares, but decidedly in terms of capital, turnover etc. Therefore the implications of management errors have increased considerably and the farm manager consequently has to be better equipped.

The fact remains that the demands made on the farm manager today are higher than in the past. The farm manager therefore requires more knowledge and greater ability.

The role of the agricultural economist as a farm manager should be viewed against the background of the increasing complexity of the task of the farm manager:

- (i) Are we as agricultural economists equipping farm managers to cope with the greater complexity and size of modern farming enterprises?
- (ii) Are new management techniques being developed in order to deal with the greater complexity of modern farming successfully?

(iii) Are agricultural economists well enough equipped to be aware of this increase in complexity and adapt to it and prepare themselves for the change?

(iv) Is sufficient attention being given to enabling agricultural economists to refresh their knowledge continuously and to giving those who have completed their studies the opportunity to refresh their knowledge for the more extensive task and the demands that will be made on them?

To what extent does the theory presented to students of agricultural economics include the ability to master new technology?

Further research should be carried out continuously so that management techniques can be further developed and farm managers better equipped for the challenges.

In view of the new challenges inherent in the task of the agricultural economist as farm manager, the situation should be analysed to determine whether the agricultural economist is adequately equipped for these ever-increasing challenges.

### CERTAIN CHARACTERISTICS OF AGRICULTURAL ECONOMICS

The general characteristics of Agricultural Economics as a discipline can be approached from various points of view. These characteristics do, however, differ from one university to another. Without going into detail, I should like to continue by pointing out a number of characteristics that are related to farm management:

- Agricultural Economics as a discipline is presented in combination with several other disciplines.
- Within the agricultural faculty it is presented together with subjects such as Agronomy, Pasture Science, Horticulture, Pastoral Production etc.
- It is presented by other Faculties such as Commerce, where it is combined with Economics and Business Economics.
- At the school of business leadership it is presented in combination with management subjects in general.

The versatility of Agricultural Economics as a discipline is therefore clearly apparent from the fact that it can be combined with so many other fields.

The value of Agricultural Economics as a background subject for other subjects is also evident.

Furthermore, it may be inferred that other subjects may also constitute a valuable background to Agricultural Economics as a major.

The most important conclusion that can be drawn from this is that there appear to be wide possibilities for applying the knowledge gained from the study of Agricultural Economics.

A large number of courses are presented within the field of Agricultural Economics, which indicates that this field comprises a wide variety of facets.

The study of Agricultural Economics includes courses in which a general over-view of agriculture is

given, such as Agricultural Marketing, Agricultural Policy, Agricultural Resources, Agricultural Development, Farm Management, Agricultural Financing, Planning Techniques etc.

This variety of courses within the field gives the farm manager who qualifies as an agricultural economist a thorough and comprehensive over-view of the agricultural industry. The variety of disciplines it comprises and the versatility of agricultural economics as a science are again emphasised.

Because the subject affords a good, general over-view of the agricultural industry, and can be combined with many other subjects, agricultural economics is found in a large number of different occupational disciplines both inside and outside the agricultural industry. It must be asked, however, whether this training is not too general for the task of a farm manager.

Courses in Farm Management as such are presented as part of the Agricultural Economics course at all universities.

Topics to which attention is given in these courses or studies include farm record-keeping, gross margin analysis, various planning and decision-making techniques, control functions, budgeting techniques, cash flow etc. Since the degree of emphasis on Farm Management as a course in Agricultural Economics differs at different universities, it is impossible to generalise here.

Because of the present approach to the training of agricultural economists, namely to present a broad general course at undergraduate level, there is no question of specialisation in Farm Management at this level. Farm Management as a separate science with its own character is therefore not recognised in the present approach to the training of agricultural economists. Thorough attention is certainly paid to some aspects of farm management in the course of undergraduate training. These include planning and planning techniques, production, economic principles, profit maximisation etc.

However, Farm Management is regarded as a facet of the training of agricultural economists.

### **THE ROLE OF THE AGRICULTURAL ECONOMIST IN REGARD TO RESEARCH ON FARM MANAGEMENT**

We should take the following into account:

- \* As has already been mentioned, there has been an increase in complexity and in the scope of the responsibilities of a farm manager owing to the way the agricultural industry has developed over the past few years.
- \* It may also be assumed that the degree of complexity will increase at a faster rate in future.
- \* More and more will be demanded of the farm manager if he is to be successful in these rapidly changing times.

As a researcher, the agricultural economist also has a responsibility to investigate better and improved farm management techniques to enable the

farmer to deal successfully with the greater complexity within which he has to conduct his business. This implies that new techniques, methods and management aids have to be developed.

Research can offer a wealth of information. The demand for agricultural products, price trends, price prospects and profit possibilities in the broader agricultural context should be researched and the information made available to the farmer, to be used for improved decision-making.

The agricultural economist is therefore responsible for carrying out basic and applied research on agriculture in general and farm management in particular so that the farmer will be able to adapt to the demands of changing times.

### **AN EVALUATION OF AGRICULTURAL ECONOMIC TRAINING FOR THE FARM MANAGER**

The preparation that training in Agricultural Economics affords the farm manager should be viewed against the background of what the subject offers at present on the one hand, and on the other hand against the challenges presented by the industry. In the light of the above, what does this training have to offer and where does it fall down?

Training in Agricultural Economics offers the following:

- (i) Agricultural Economics as a discipline gives the farm manager a very good background in the agricultural industry, its characteristics and its structure. Owing to the complexity of communal decision-making it is necessary for the farm manager to have this knowledge.
- (ii) The subject offers a good background in various production options, the large number of alternative products between which the farm manager has to choose and the techniques to help him make these choices.
- (iii) In Agricultural Economics a great deal of emphasis is placed on the necessity for planning and the application of various planning techniques in practice. Owing to the importance of planning in agriculture and the fact that Agricultural Economics as a subject gives a great deal of attention to this, it is important for the farm manager to have this background.
- (iv) A great deal of emphasis is also placed on the scientific approach to problems and the analysis of problem situations in the course of training in Agricultural Economics. The scientific method and approach are therefore very successfully imprinted as part of the courses. Add to this the necessity for a critical and analytical attitude towards the problems of agriculture and the challenges the individual farmer has to face and it will be evident that the course offers a valuable contribution to the farm manager's background.
- (v) Because the course in Agricultural Economics affords a good general view of the agricultural industry linked to an analytical approach, it is a very good course for teaching the farm manager where to

look for and find information relevant to his decision-making.

(vi) A general over-view of the principles underlying agricultural marketing, the problems of agricultural marketing, the challenges involved and the relevant underlying principles is also successfully transmitted.

(vii) The basic principles of management information systems or record keeping, the necessity for keeping records and how they should be utilised by the farm manager are also successfully passed on to the students.

It is therefore apparent that the subject Agricultural Economics has a great deal to offer the farm manager.

However, training in Agricultural Economics falls short in respect of the following:

It is necessary to discuss those aspects of the training of agricultural economists that are required for farm management and that the discipline Agricultural Economics does not offer.

Too little attention is given to defining management as a science in its own right. In view of the challenge to the farm manager, farm management *per se* should receive more attention in the courses. Farm management should be developed as a science in its own right so that it can be included as a major subject in a degree course. Farm Management I, II and III should be presented as a major subject so that students can specialise in management. Agricultural Economics I, II and III should then be presented as a course in which general background knowledge of the industry is acquired.

In view of the long-term implications of farming decision-making, strategic planning and the techniques involved in it should receive a great deal more attention as part of the training. At present attention is only given to planning as such, even in the case of long-term planning, and not to strategic planning as a separate science.

Greater emphasis should be placed on the importance of innovations, the necessity for the farm manager to adapt to changed circumstances, new techniques of management and business methods. This will enable the farm manager to adapt

continuously to changed circumstances and think innovatively. A course in technology and a scientific approach to the technology should be presented as a part of the Agricultural Economics course to equip the farm manager more effectively, for these challenges and enable him to adapt to changed circumstances.

More research on farm management should be conducted by agricultural economists so that the farm manager in the field can be better equipped with new agricultural economic research results and methods of transmitting these new research results to agricultural economists should be found so that agricultural economists in the field can continue to adapt their farm management to changed circumstances.

It is therefore apparent that Agricultural Economics as a science has a great deal to offer the farm manager. However, there are certain shortcomings in Agricultural Economics which affect the farm manager and to which agricultural economists should give further intensive attention in the course of the training. This will make it possible to equip agricultural economists better for their task as farm managers.

## CONCLUSION

The agricultural industry is a dynamic and complex industry. It offers unique challenges to the farm manager. The farm manager requires background knowledge of the industry. Agricultural Economics as a science affords a good background.

The agricultural industry is becoming increasingly complex; so, consequently, is the task of the farm manager. More emphasis should be placed on specialised management training. More research on farm management and the development of farm management techniques should also be conducted by agricultural economists.

In the past the agricultural economist played a major role in farm management, a role of which he can indeed be proud. This role will become increasingly important in future, but the agricultural economist will have to make certain adjustments.