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# THE ROLE OF THE AGRICULTURAL ECONOMIST IN AGRICULTURAL DEVELOPMENT

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"The provision and consumption of food may be said to be one of the biggest socio-economic-political priorities in South Africa. This is a field riddled with problems. It is also a field full of challenges. If these challenges can be successfully accepted and met the probability of peaceful co-existence in South Africa will be increased. Failure to meet these challenges could destroy the chances of peaceful co-existence for good ... those who devote themselves wholeheartedly to this important task, with a healthy measure of self-criticism, may be regarded as the true pioneers of the late twentieth century." (Groenewald, 1981).

## INTRODUCTION

The theme of the first congress of the Agricultural Economic Association of South Africa 22 years ago was the role of the agricultural economist. Surprisingly enough<sup>1</sup> no paper on the role of the agricultural development economist was delivered, a state of affairs that is possibly both illuminating and symptomatic of that period. An AEASA congress with agricultural development as its theme was held in 1969. The role of the agricultural economist was not clearly spelt out at that congress either. Since the mid-seventies regular contributions by agricultural economists on the question of development have been included at congresses, and South African academics have even been invited to express their opinions on development at the international level.

The invitation to deliver a paper on the role of the agricultural economist in agricultural development is therefore no more than is due to the profession, although I would not claim to deserve it in my personal capacity. What is more important, however, is that this invitation may also be symptomatic of the times we are living in. The wise words of Professor Jan Groenewald, quoted above, make it unnecessary to justify this point of view any further.

For the purposes of this paper the contribution or function of the agricultural economist may be said to consist in the following two main tasks, which cannot be separated from one another:

- (i) To contribute to the identification of problems associated with agricultural development, to analyse such problems, formulate strategies and undertake planning, so that economic development and growth are stimulated over as wide a front as possible; and

- (ii) in the words of Earl O. Heady (1948) "to guide farmers in the best use of their resources in a manner compatible with the welfare of society".

We are therefore concerned with planning, decision-making and the rendering of assistance at both the macro and the micro levels.

## METHODS OF INVESTIGATION<sup>2</sup>

Three methods of investigation were followed in order to determine what the role and contribution of the agricultural economist in agricultural development is and should be. Firstly, we drew on the wisdom and experience of agricultural economists who had specialised in agricultural development for a long time. Secondly, we attempted, by means of a study of the literature, to gain a historical perspective on agricultural economic contributions in less developed agricultural systems. Thirdly, development organisations involved in Southern Africa were approached for information on the role and functions of agricultural economists in their service, and on the biggest problems experienced by agricultural economists.

The results of the investigation are contained in this paper, which is naturally my own interpretation.

## THE CONTRIBUTION OF THE AGRICULTURAL DEVELOPMENT ECONOMIST, AS SEEN BY AGRICULTURAL DEVELOPMENT ECONOMISTS

"The importance of agriculture in the economy led to pressing demands on the role agricultural economists were required to play. It went beyond filling the details in the framework evolved by others. In fact at all stages a major content to the planning was contributed by agricultural economists. Even at a stage where theorists faced a near impasse, the breakthrough came from leading agricultural economists and it made a lasting impact on the planning process. The present status of the agricultural economist is that of an equal partner in the process of planning." (C.H. Shah, 1981)

"It seems to me important that we agricultural economists involved in rural development in Africa stop to think more seriously about what it is that we are doing. I think we need to recognize that not only may we not be achieving as much as we would like,

but we may also be doing considerable damage." (Judith Heyer, 1981)

"I believe we (agricultural economists) are close to a mechanism for radically increasing the opportunities available to them ('small farmers'). A little extra professional effort at the 'bread and butter' level could clinch it." (Michael P. Collinson, 1981)

"The profession ('agricultural economics') with little conviction as to its role, uncertain of the validity of its techniques and with numbers thin on the ground, had little to offer over the sixties and seventies". (Michael P. Collinson, 1981)

"... the 'yes-men' ... Needless to say, agricultural economists are not renowned for their critical evaluation of the economic effects of various political institutions on agriculture". (Theodore Schultz, 1976)

"... apart from occasional examples policy decisions have not been greatly influenced by studies which analyse existing policies ..." (Charles Capstick, 1976).

*To sum up:* Agricultural development economists have an important contribution to make. So far their "track record" has been somewhat ambiguous. Attempts by individuals do however show promise and have produced results. The important questions that have to be answered in this regard are whether the agricultural development economist is making his contribution from the correct paradigm or development approach, which type of problem inherent in the development problematics is the concern of an agricultural economist and from which institutional position the agricultural development economist can best make his contribution. In order to answer these questions it is necessary to start by examining the context in which the agricultural development economist functions.

### **LESS DEVELOPED AGRICULTURE: THE FRAME OF REFERENCE**

Between fifty and ninety per cent of the population of less developed areas are directly involved in farming operations. Farming units are small and are usually cultivated with the aid of family labour. Farming activities are directed chiefly at the subsistence of the household. Furthermore the farm functions merely as a subsystem of the household as a whole, and is seldom a system in its own right as is the case in modern commercial agriculture (Low, 1982). Less developed agriculture is also characterised by ineffectivities at the farming level (Shapiro, 1977; Sampath, 1979), as well as at the farming support level (Vink, 1981), and inadequate capital resources, low levels of extension and training and poorly developed infrastructure (Bembridge, 1983) constitute serious problems. In general small farmers are concerned with survival rather than with making the maximum profit (Dillon and Hardaker, 1980) and progressiveness is discouraged by the extended family context and social institutions (Van Rooyen and De Swardt,

1984; Collinson, 1981). Moreover, rural areas are characterised by intense mass poverty (Lele, 1975; Galbraith, 1979). A further problem associated with rural poverty is that it often occurs inconspicuously in the midst of apparent prosperity (Chambers, 1980), and that spontaneous forces also have their effect on it so that attempts to break the poverty cycle frequently fail (Vink, 1981). Many inhabitants, especially educated young people in less developed rural areas, try to escape from the snare of poverty by migrating. Subsistence agriculture is certainly not a popular or "status" profession, and the opportunity costs attached to farming are high, especially in a dualistic region such as Southern Africa (Kleynhans, 1983). It is therefore by no means surprising that labour shortages seriously hamper agriculture in less developed areas, especially at peak periods (Clark and Haswell, 1967; Fényes, 1982; Kleynhans, 1983). Politically speaking, small farmers seldom have a power base from which to negotiate a better deal (Chambers, 1980; Heyer, Roberts and Williams, 1981; Thomas, 1982; Bembridge, Graven, Hough and Van Rooyen, 1982). Consequently agricultural development is seldom directed at the development of the small farmer, but rather frequently manifests itself in "concrete and machine" projects that are politically attractive, promote "rural tourism" by development specialists, and are inclined to produce surpluses (Chambers, 1980; Groenewald, 1981; Bembridge, *et al*, 1982).

To sum up in the Southern African context: The rural regions of the less developed areas are characterised by intense mass poverty, inadequate human and physical infrastructure, large numbers of ineffective and "powerless" small farmers and underutilised natural resources and economic opportunities. This frame of reference does not differ significantly from that in any other less developed area (see for example Mellor, 1980 and Collinson, 1981).

The contribution of agricultural development economists within the above context will now be considered with reference to a brief historical review.

### **THE CONTRIBUTION OF THE AGRICULTURAL DEVELOPMENT ECONOMIST: A HISTORICAL REVIEW**

A historical review<sup>3</sup> of the contributions of agricultural development economists shows that their involvement was initially directed at the creation and reform of institutions. Agricultural economists then entered the field of growth and the creation of surpluses in the agricultural sector. In view of continuous and frequently growing rural mass poverty, the problem of fairness and equity<sup>4</sup> is also receiving attention, and the creation of job opportunities is being given the same priority as surplus production.

#### **The contribution at institutional level**

After independence and "uhuru" for most of

the developing nations (from the fifties onwards), economic growth and development was identified as a high priority.

Special attention was given to institutional matters, among other things to the throwing off of the "yoke" of colonialism. For instance, a change in the land tenure system was often advocated as a pre-requisite for agricultural development and in some countries this change did in fact take place. In this regard it was the task of the agricultural economist in particular to undertake descriptive and analytical studies of the existing land tenure situation, and the economic implications of alternative systems had to be analysed and quantified (Mellor, 1980). In general, however, very little came of this, since land tenure reform was frequently a political and emotional priority and no-one was able (or willing) to wait for the results of long-term studies undertaken by agricultural economists. Another institutional matter to which attention was given was the organisation of departments of agriculture and agricultural development. Even here the agricultural economist frequently caused "embarrassment", since no-one, not even he himself at times, was certain what his role should be (Giles, 1979). As a result agricultural economists were in an "isolated position", chiefly responsible for the gathering of data for the annual report and the analysis of macro agricultural situations, the addressing of newly founded farmers' associations and the organisation of co-operative movements. Owing to the obvious problem of an ineffective marketing system, agricultural economists were often used to create, manage and advise marketing institutions and financing institutions.

The success of agricultural economic operations at the level of institutional development is seriously questioned. Mellor (1980) asserts that policy-makers and decision-makers are seldom going to wait for the verdict of the agricultural economist on the economic and social impact of alternatives. Furthermore, the agricultural development economist is seldom in a position where he has a real say. Giles (1979) identifies the most important reasons for this as (a) the virtually total lack of understanding of the role of the agricultural economist on the part of technically orientated agriculturists and politically orientated bureaucrats; and (b) the consequent isolation in which the agricultural economist has to make his contribution.

In the Southern African context the Tomlinson Commission (1955) appears to be a possible exception to this rule. Subsequent procedures and policy show, however, that this exception is merely an apparent one and that Mellor's point of view has a great deal of truth for South Africa as well!

#### **Growth and surpluses in the agricultural sector**

Following the initial view that agriculture was the "backward" sector in economic development, it

became clear by the end of the sixties that agriculture could and should make a real contribution. Agricultural surpluses in particular were held up as an important target (Hayami and Ruttan, 1971; Mellor, 1980). Agricultural economists gradually became involved in attempts to boost production and to transform subsistence farming into commercial agriculture. Here one must refer to John Mellor's contribution "The economics of agricultural development" (1966, but reprinted several times, the latest reprint being in 1980).

Mellor describes the potential contribution of the agricultural economist at micro level as well as at the planning and policy level, theoretically within the framework of an institutional development approach. This serves to emphasise the value of micro level analysis and research for macro planning, which value has been further propagated, especially by universities in developed countries that offer agricultural development. Here the "African Study Series" (1962), of the IFO at Munich, the "Africa Rural Employment Study Series", MSU (1971), and the Cornell International Agriculture Mimeographs were important precursors.

However, the practical involvement of the agricultural economist during this period was chiefly influenced by Theodore Schultz's "poor but efficient" hypothesis, in which it was alleged that the traditional small farmer would not automatically be able to achieve higher production by the re-allocation of his resources, because he was already using them to the optimum (Schultz, 1964). The source of surplus production in the agricultural sector was therefore technological renewal and innovation. Agriculture had to produce at "higher" production functions and what was required for this was large-scale capital investment according to the Harrod-Domar model (Edgemand, 1979), together with the high yielding varieties of the "Green Revolution". The agricultural economist was again partly in the cold, since macro economic decisions were often influenced by the economists of central banks (Giles, 1970), and "Green Revolution" technology required chiefly technical inputs.

The biggest contribution made by agricultural economics during this "growth and production" period was at the level of the development of methodology, adapted to the problem of less developed agriculture. The unsuitability of the big, individual farming approach of developed agriculture was soon realised. With regard to the assembly of data and farm planning in particular, the context within which less developed agriculture is practised was thoroughly analysed. The large number of small farmers, farming under uniform external conditions, necessitated and made possible the development of "low cost and limited visiting" data assembly methods (Collinson, 1972; Norman, 1973). The manipulation of farming information also required methodological adjustments of farming analysis and farm planning techniques. Jolly (1952) used the so-called "test bed" approach as early as the fifties to analyse the farming problems of small farmers. The use of linear programming methods was taken over from modern agriculture during the early sixties

(Collinson, 1963). However, the meaningful application of these deterministic techniques required that target functions be adapted to the problems of under-development and that provision be made for risk and uncertainty in particular (Heyer, 1972), and the effect of the household on farming decision-making (Low, 1982). The maximisation of family income rather than farming profit appeared to be a more realistic target function (Dillon and Hardaker, 1980).

A further development that was also especially important, given the context within which the agricultural economist was able to operate, was the adjustment and development of the technique of the representative farm model (Kahlon, 1962). Individually directed action was considered necessary in less developed agriculture, but with the aid of this approach attempts could still take place within the representative group context.

The "bread and butter" contribution of the agricultural economist during the "growth and surplus" period was possibly slight. At the practical level the agricultural economist was still undergoing an identity crisis. The development of theories on agricultural development and the methodological adjustments in the assembly and analysis of data, farm planning and other micro level analyses should, however, be regarded as one of the most important contributions to economic development. During this period the small farmer was "discovered" as a farmer, as part of a group and as a person. This discovery exposed the lamentable shortcomings of the "institutional" and "growth and surplus" orientations and opened a "Pandora's box" regarding the "Green Revolution".

#### **Growth, fair distribution and equity in agriculture**

Some dramatic successes, especially in India and the countries of the East (Mellor, 1979) with "green revolution" technology were misleading in more senses than one. Surpluses were produced chiefly by elite groups or within the context of projects. These groups were often enabled by their relative prosperity to take scarce resources away from poorer small farmers, who were then eventually worse off than before the "green revolution" (Farmer, 1978; Heyer, 1981). The so-called export-based approach (urban export) gave preference to production on capital-intensive and management-intensive projects, with local small-scale production and marketing initiatives frequently being smothered (Lele, 1975). The package approach of the "Green Revolution" also required agricultural production to take place within a disciplined project context, *inter alia* because of the high financing costs and technical inputs. In general, these "large scale technical interventions" seldom succeeded in stimulating broad base rural development, although surpluses were easily produced (Heyer, 1981, Commonwealth Development Corporation Report, 1975-1983). Heyer (1981) refers in the African context to the "gross failures of large scale schemes".

The "green revolution" threatened to turn into a Red revolution!

The lid of Pandora's box was lifted during the late seventies with the discovery of the highly unequal distribution of wealth in agriculture and the mass poverty that resulted from it. It was especially the agricultural economist, with newly developed and adapted empirical techniques and methods of micro analysis, who contributed to this (Shah, 1981). Serious questions regarding the correctness and applicability of the "surplus and growth" development approach were raised, especially by agricultural economists.

A new problem-orientated agricultural development paradigm began to crystallise out. The agricultural economist in development was indeed gaining an identity as an agricultural development economist. With the aid of his empirical techniques the problems of underdevelopment could be quantified and analysed not only philosophically and politically, but also analytically.

One of the characteristics of this new development paradigm was that agriculture was seen as more than merely an assembly of natural resources, capital, labour and managerial expertise. The agricultural sector was regarded as an assembly of situations, each with its own characteristics, problems and solutions. The problems of less developed agriculture could then be described quantitatively in terms of mass poverty, ineffective production methods and insufficient broad based participation in development programmes. Agricultural development was regarded as an integral part of integrated rural development. Surplus production through optimum resource utilisation and the broad based upliftment from poverty via participation in agricultural production were identified as the goal for a viable agricultural system (Van Rooyen, 1983).

Among the most important consequences of this new, problem-orientated development paradigm were the so-called bi-modal or even multi-modal strategies and the stratified approach to agricultural development (Van Rooyen, 1983; Viljoen, 1983). Surpluses for growth were still essential but the combating of mass poverty was an equivalent priority. Large-scale projects were still considered necessary, but strong emphasis had to be placed on the development of the small farmer. The small farmer within the framework of his farming system was the focal point and programmes and projects were planned accordingly. Productive job opportunities were of prime importance. The function of the agricultural sector was not merely that of a supplier of food.

The views of John Mellor are again worthy of a mention. In his book "The New Economics of Growth" (1979), he links agricultural production via consumer behaviour to the productive creation of job opportunities in rural areas, in order to deal with the conflicts between growth and fairness as equitably as possible. The key role of agriculture lies in raising rural income levels through demand-orientated production, and with the aid of labour-intensive modern production methods, so that

the labour-intensive consumer goods industries are stimulated as a result.

A further insight that was necessary before the role and task of the agricultural development economist could crystallise, especially within the African context, was an understanding of the group as a power factor. According to Judith Heyer (1981) any attempt to allow rural and agricultural development to take place requires a compromise between the winners and the losers. For instance, if it were politically risky for a political leader or tribal chief to support an agricultural programme in which certain groups benefitted at the expense of other groups, such a programme might be scaled down, effectively opposed or forbidden. Heyer (1981) proposes that any development action should start with an analysis of potential conflict(s) between interest groups. Strategies, programmes and projects of which the reconciliation of these conflicts formed an integral part could then be drawn up and implemented.

Agricultural development economists therefore also have to give attention to the distribution of financial, economic and social prosperity among the groups involved in the development process. Without this contribution the danger exists that the agricultural development economist will continue to function as what Collinson (1981) calls a "have tool will travel" specialist.

## THE CONTRIBUTION: TASKS, TECHNIQUES AND METHODS

### The conditions

The task of the agricultural development economist is becoming more clearly defined at present than it has ever been in the past, as are the conditions for a significant contribution. Two of the most important conditions may be mentioned briefly. Firstly, it is essential that other individuals and groups involved in development show understanding of the function of the agricultural economist. For instance, an agricultural development economist cannot design or build dams or roads or breed maize seed. He can, however, weigh up alternative routes or dam sizes and different crop programmes against one another and quantify the differences. Secondly, the agricultural development economist cannot function in isolation. His knowledge of technical relations is frequently too limited for this and his sense of social and political factors too inadequate. The agricultural development economist is pre-eminently a team man. Outside the team context he can easily be regarded as irrelevant or a nuisance; as a member of a team he is often the pivot around which the whole action turns. In discussing the possible tasks and contributions of agricultural development economists, attention will be given only to aspects which have not been mentioned before or which are of special importance within the framework of the new development paradigm.

### Small farmer and rural development

The development of small farms is considered essential if any significant degree of rural development is to take place. As has already been mentioned, micro economic investigation and analysis is indispensable to meaningful policy and planning. This integration is especially important in balancing the traditional "top down" approach to agricultural development with realities as they emerge at the farm level. The so-called farm system research approach (FSR) affords the conceptual framework within which the agricultural development economist can apply tried and trusted techniques such as budgets, gross margin analyses, linear programming, inter-farm comparisons, etc. The FSR approach provides for the necessity to analyse the economic logic of an existing farm system (Norman 1974; 1978) and to evaluate any technical innovations and complementary inputs such as credit, marketing facilities and extension programmes in terms of total impact on the farm system (Collinson, 1981).

Within the Southern African context relatively little agricultural economic work is undertaken within this approach (Van Rooyen, 1984). Bembridge (1983) did analyse agricultural development problems in certain districts in Transkei with the aid of a systems approach, and Kleynhans (1983) refers to the farm system in an investigation into the acceptance of technology by small farmers in KwaZulu. The Sheila/Mooifontein maize projects in Bophuthatswana were also investigated with the aid of a system analysis (Bembridge, *et al.*) and farm system analysis was prominent in the analysis of development possibilities on the Makatini Flats (Van Rooyen, 1983). However, there was no question of true FSR in any of these examples. The establishment of a Small Farmer Systems Research Centre by the University of Fort Hare (Rose and Tapson, 1984) has potential, however.

At present, therefore, the application of FSR results to and their integration with micro and macro level agricultural planning remains a theoretical ideal. What is important, however, is that questions like "How?" and "Why?" are not being asked by academic researchers only. In KwaZulu, for instance, these questions are pertinently put to agricultural development economists at more than one agricultural project of the KwaZulu Development Corporation (Norman, 1984). In Bophuthatswana the same questions were put to the ARDRI: Sheila/Mooifontein evaluation team (Bembridge, *et al.*, 1982).

To sum up, the task of the agricultural economist at micro level may be seen to lie in assisting the small farmer. His task is therefore primarily to determine the following:

- (i) How the small farmer farms and why he (she) farms in this way.
- (ii) What the impact of technological innovation on the farming system will be. Here cash flow, financial results and the creation of job opportunities are especially important.
- (iii) What forces handicap agricultural

modernisation at the farm level and what institutional arrangements can be made to solve these problems.

- (iv) What conflicts could possibly arise as a result of development and how these conflicts could be dealt with.
- (v) What is the total package required for profitable technological modernisation and in what proportions should the complementary inputs be combined. For instance, it is necessary to plan for the prescribed type of inputs to be available to the small farmer in suitable quantities and a suitable form at the right time. At the same time credit facilities, extension, marketing facilities, etc. should also be organised. The argument of the correct institutional framework should also be addressed here.
- (vi) What conditions should be met in order to ensure that the family of a small farmer is able to maintain a minimum acceptable standard of living. For instance, how large should the farm unit be, how much labour is required, and what does the cash flow pattern look like?
- (vii) How can small farmer development programmes and projects be initiated and monitored, taking the above points into account.

In the case of each of these points the agricultural development economist will only be able to make a meaningful contribution in the team context where he has the co-operation of agronomists, soil scientists, engineers, accountants, rural sociologists and even ethnologists, medical doctors, merchants, spiritual and cultural leaders and politicians. The agricultural economist can indeed function as the co-ordinator or pivot because of his technical and social training.

### Project planning and evaluation

Gittinger (1972) regards agricultural projects as the "cutting edge" of development and Kuiper (1972) defines a project as "a concentration of forces in a strategy of initiating improvements". Heyer (1981), on the other hand, refers to the "Gross failure of large scale schemes" in Africa.

The question of agricultural planning and evaluation and project choice should therefore be dealt with very carefully. The well-trained agricultural development economist is eminently suited to make a meaningful contribution in this regard.

Scale size is a factor that is not always given proper consideration in project design. Scale size refers not only to the physical size of a project, such as the size of an irrigation dam, but also to the size and network of irrigation canals, the size of a farm, the extent of farming auxiliary services, the creation of job opportunities etc.

The agricultural economist should give active support to the engineer and agronomist in project design, especially in regard to the weighing up of alternative scale sizes (models) (Van Rooyen, 1983).

In development projects, public funds are often used as development capital. In addition to the financial profitability for the participating groups (small farmers), the broader economic and social impact should also therefore be quantified as far as possible and included in the project evaluation (Little and Mirrlees, 1977).

With the aid of FSR and planning techniques such as linear programming and representative farming organisation models, realistic projections of the net family farm income can be made. Economic farm sizes can therefore be determined. The realistic estimation of yields, input and product prices and labour coefficients naturally plays an important part. Agricultural economists are well equipped by their training to do this.

The quantification of the economic and social profitability of a project is frequently more problematical. According to the methods of social benefit-cost analysis (Little and Mirrlees, 1977; Gittinger, 1972) all project benefits and costs are identified in terms of their economic and social influence and quantified as far as possible with the aid of "shadow prices". The drawing up of realistic economic and social shadow prices again requires team work with agricultural economic inputs as well as the co-operation of economists, policy makers and politicians.

### Macro policy and planning: Data gatherers and decision makers

The traditional role of the agricultural economist in policy making is that of data gathering and analysis (Cromarty, 1981). The argument so far clearly shows, however, that the agricultural development economist has a far more important and comprehensive function to fulfil. The agricultural development economist dare not be a "yes man" (Schultz, 1976) any more, but has to point out the financial, economic and social implications (benefits and costs) of alternative development possibilities. He should therefore insist that alternative situations be postulated and considered before policy, strategy, programmes and projects are formulated. The social benefit-cost method already mentioned can play an important part here.

In view of their critical orientation, agricultural development economists may not be popular with some politicians, policy makers and strong "empire builders" and attempts may frequently be made to make their recommendations subject to some form of screening committee.

Here the role of the agricultural economist as a data gatherer and processor is especially important. The information that emerges in this way forces decision-makers to recognise the agricultural economic section. It offers a foot in the door, enabling agricultural economists to participate more meaningfully in the decision-making process. An important prerequisite for a meaningful contribution from agricultural economists at the macro level is therefore the provision of an accurate, timeous and



relevant information system. An information system of this kind naturally also makes it possible for the agricultural development economist to apply his analytical educational background successfully and improve the quality of analysis.

The contribution of the agricultural development economist at the macro policy and planning level is well summed up by Kuiper (1972): "Political considerations, whether they are valid or not, play their role in the decision making process, but so does economic analysis. There is no doubt that its influence will be stronger when it is based on sound data, on sound methodology and on sound reasoning. Instead of belittling its value ('economic analysis') lets make the most of it". The agricultural development economist therefore also becomes a decision-maker (Cromarty, 1981).

#### **Agricultural economic training and research**

It is illuminating that students in agricultural economics have already taken note of agricultural development as a potential occupational field. In a survey (Van Rooyen, 1980) 47 per cent of all students of agricultural economics showed interest in this field.

With regard to the training of agricultural development economists, it is therefore very important that theoretical knowledge should be gained of the problems of underdevelopment, at both the micro and the macro levels. Traditionally, agricultural economists in South Africa make their contribution from a micro orientation. Within the problematics of development a micro orientation remains extremely valuable. However, if a meaningful analysis of broader economic and social situations is to be made and the agricultural development economist is to become a decision-maker, serious attention should be given to training in macro economic analysis and welfare economics. Project evaluation should also be offered as a subject in its own right, and courses in agricultural development planning and the economic aspects of agricultural development provide fundamental background and insight.

Owing to the great mobility of agricultural economists and the wide variety of job opportunities in both developed and less developed agriculture in Southern Africa and owing to the interest among students, universities should give serious consideration to prescribing the above-mentioned studies for all undergraduate students of agricultural economics. A training programme of this sort would not only serve to prevent the "rediscovery of the wheel", but could also prevent squabbling among agricultural development economists or at least make differences more meaningful.

However, training is not confined to universities. In the nature of things, an agricultural economist is a university graduate, but he can also make a significant contribution to the in-service training of other agriculturists, to training at colleges of agriculture and to management training for small

farmers (Fényes, Vink and Van Rooyen, 1980).

With regard to research in the field of agricultural development economics, it is clear that there is no longer any room for an ivory tower approach. The agricultural development economist has been left out in the cold for a long time. During that period fundamental work has been done. Policy makers, planners, managers and small farmers ask questions and problems have to be identified and solved. With applied research, such as FSR, there is every prospect that a significant contribution will be made.

#### **The institutional seat**

A last important aspect is the position of the institution where the agricultural development economist should be based, in order to make the best possible contribution. There are many theories and thoughts on this (Giles 1979). Only a few will be mentioned. Firstly, the conditions previously mentioned should be borne in mind. An agricultural economist can only function meaningfully as a member of a team.

At the micro level this means that the agricultural development economist should stay as close as possible to the small farmer and his farm. Theodore Dams (1981) refers to the "dirty boots level" here. At the macro level the agricultural economist should consolidate his position as a decision-maker. Therefore the closer he is to the true decision-makers and policy-makers the better. Here he can expect opposition, however. With regard to project evaluation and planning, the "dirty boots level" is just as important as the computer room, the drawing board and the "red carpet" of the decision-makers and policy makers.

The pattern outlined above appears to be developing in the Southern African context. A rough calculation shows that bodies involved in agricultural development in Southern Africa (Government, private and semi-Government) have about 60 agricultural economists in their service. The analysis of the questionnaires received back shows that agricultural economists are chiefly involved in planning, managing and monitoring projects, financing small farmers for cash crop production, marketing arrangements, training, co-ordinating agricultural programmes and research and strategic planning. A demarcation of activities is not possible, however.

An analysis of these activities unfortunately gives the impression that they are of an *ad hoc* nature and that little of lasting importance is taking place. It would also appear that the agricultural economist seldom has any real say in the conduct of affairs, possibly because he is always busy with *ad hoc* activities.

The versatility and the potential value of the agricultural development economist are clearly underlined, especially when one takes into account that the average age is only 29 years.

The identification of problem areas by these agricultural development economists is enlightening.

Different groups would appear to be experiencing different kinds of problems, which are frequently concerned with inter-institutional relations. The shortage of trained manpower and an inadequate infrastructure appear to be common problems. Table 1 contains a summary of the most usual problems.

## CONCLUSION

The agricultural development economist has gained a foothold in Southern Africa. Colour or culture disqualifies no-one from making a positive contribution to long-term stability and peaceful co-existence in Southern Africa. The quality of the agricultural development economist's contribution will be determined by the answers to the following three questions:

- (i) Are the true decision-makers and policy-makers going to allow the agricultural development economist to take his rightful place as a fellow decision-maker?
- (ii) Is the agricultural development economist going to be allowed to get the "mud" of the small farmer's farm on his shoes and rub shoulders with people like agronomists, soil scientists, engineers and sociologists?
- (iii) If the above questions are answered in the affirmative, the next question is whether the agricultural development economist will be able to make positive use of the confidence placed in him. A suitable academic education, positive occupational vision, an understanding of the problem and a healthy degree of self-criticism, as proposed by Groenewald (1981) and Heyer (1981), should enable the agricultural development economist to fulfil his task with vitality and make a significant contribution.

Lastly, I should like to repeat the admonition of John Maynard Keynes, as quoted by Theodore Dams (1981), the previous president of the IAAE:

"A man never realizes how wrong he can be, when sitting alone and thinking by himself".

The agricultural development economist who is worth his salt should never forget this wise advice!

## NOTES

- (1) Prof. Tomlinson, chairman of the Commission for Socio-economic Development of the Bantu Areas within the Union of South Africa (1955) and the first true agricultural development economist in South Africa, was a member of the AEASA management at the time.
- (2) Twenty-nine bodies were requested by letter to complete a short questionnaire. By the middle of April 1984, fifteen questionnaires had been received back and analysed. The bodies that returned questionnaires were four Government departments of agriculture, ten semi-Government organisations such as development corporations and one private organisation.
- (4) See *inter alia*, the papers read at the 17th International Congress of Agricultural Economists at Banf, Canada: "Rural Change: The challenge for agricultural economists" (1981). As reflected in the papers of the 18th International Congress of Agricultural Economists: "Growth and equity in Agricultural Development" (1983).

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TABLE 1 - Agricultural development problems as experienced by various bodies in Southern Africa (Total weight = 100)

Nature of problem	Type of body			Combined
	Government	Semi-Government	Private	
1. Shortage of trained manpower	10	20	13	13
2. Shortage of finance		10	12	6
3. Inadequate infrastructure	10	10	13	10
4. Bureaucratic red tape		20		6
5. Political intervention		10		5
6. Insufficient co-ordination		20		6
7. Inadequate data base	20			6
8. Insufficient support from small farmers	10	10		6
9. Poverty	10		25	10
10. Marketing problems	20		12	10
11. Culture and traditions	20		25	22
	100	100	100	100

Source: Questionnaires received back from 15 bodies involved in agricultural development in Southern Africa

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