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Articles in the field of agricultural economics, suitable for publication in the journal, will be welcomed.

Articles should have a maximum length of 10 folio pages (including tables, graphs, etc.) typed in double spacing. Contributions, in the language preferred by the writer, should be submitted in triplicate to the Editor, c/o Department of Agricultural Economics and Marketing, Pretoria, and should reach him at least one month prior to date of publication.

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THE PRODUCTION ECONOMIC ASPECTS

by

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I. INTRODUCTION

The Commission of Enquiry into Agriculture has undoubtedly conducted the most comprehensive single enquiry ever made of the South African agricultural sector. A critical evaluation of the aspects of importance as seen from the point of view of a production economist is a difficult assignment, particularly since the discussion has to be confined within reasonable limits.

The author of this paper decided on an approach in which the most important arguments and recommendations, seen from the viewpoint of a production economist, will be highlighted and evaluated critically. Although some overlapping with aspects dealt with in other papers on this conference is inevitable, and effort will be made to restrict such overlapping to a minimum.

The discussions will be confined to the Commission's second¹ and third² reports, and stress will be particularly laid upon action which should follow up the reports of the Commission.

II. THE EXISTING SITUATION IN AGRICULTURE

South African agriculture has, as is shown by the Commission, undergone considerable expansions of production since the end of the Second World War. In 1970, the average net income of White South African farmers amounted to an estimated R6 108, compared to R1 179 in 1947³. During the period 1951/52 to 1959/60, personal income rose at an annual rate of 4,4

per cent, compared to a growth rate of 7,2 per cent in the period 1959/60 to 1968/69. This growth rate has to a reasonable extent kept pace with the growth rate in the economy as a whole, and may be regarded as satisfactory from this point of view⁴. There are, however, certain observable bottlenecks such as the skew distribution of this income among farmers⁵ as well as the extreme variability between years. Considerable regional differences are also evident, and it appears that incomes and particularly the stability thereof cause serious problems particularly in extensive stock areas and certain other regions where field crop cultivation of a highly risky nature occurs.

It may thus be concluded that although average figures create the impression that the revenue position of White South African farmers is quite favourable, the real situation is such that many farmers have to be content with very low incomes. It was thus incumbent upon the Commission to detect the causes of such a situation and to make recommendations with a view to a more stable, proportionate situation.

III. THE BASIC PROBLEM

The problematical situation in which South African agriculture finds itself may, according to the Commission, be summarised briefly as maladjustment between farming practice and the environment in which agriculture operates. For our purposes, environment may be subdivided into two components, viz. the natural environment and the socio-economic environment, including all factors determining these two components. These two components influence one another, whilst an interaction exists between farming and each of these two components.

In order to elucidate the Commission's view regarding natural environment, it may be appropriate to accept a statement of principle at the outset, as propounded by Cheveley:⁶ The natural environment determines what can be produced economically. Farm-

* The author has discussed the reports with Prof. F.R. Tomlinson and Dr. J.A. Döckel at occasions. Although they will not necessarily agree with opinions expressed in this paper, the author wishes to express his thanks to them, since they helped him to formulate his thoughts.

- 1) Republic of South Africa (1970). Second Report of the Commission of Enquiry into Agriculture. Government Printer, Pretoria. RP84/1970.
- 2) Republic of South Africa (1972). Third (Final) Report of the Commission of Enquiry into Agriculture. Government Printer, Pretoria, RP19/72.
- 3) Third Report, p. 15.

4) Third Report., p. 22

5) Third Report., pp. 22, 29 — 31

6) Cheveley, Stephen (1957). Opening address. Conference on Agriculture in the British Economy. Imperial Chemical Industries, Ltd. London, pp. 10 — 20.

ing methods, crops and livestock must be adjusted to fit into this natural environment. It is necessary to work with, and never against the natural environment. Any efforts to overtax the natural potential tend to be self-destructive.

In a recent work, Schultz⁷ gave a basic analysis of the interaction between agriculture and the natural environment. Aspects of his point of view may be summarised as follows: The natural environment comprises a scarce resource, which is variant over time. The changes result both from changes in nature and the way in which man uses the natural resource.

Nature is not disposed to be bountiful, and is in reality niggardly with regard to satisfying man's needs. Man was thus forced by necessity to invent agriculture. Agriculture is an invention which reduces the niggardliness of nature, and it also alters the natural environment.

Three basic facts are basic to the relationship between agriculture and the natural environment:⁸

1. The natural environment and agriculture overlap one another, but the natural environment is of larger amplitude and embraces most of agriculture. The natural biological environment is fundamentally antagonistic to domesticated plants and animals, and these domesticated plants and animals are dependent upon man's care — the more refined and specialised these plants or animals, the larger this dependency. Thus, a large part of the capacity of land to produce was created by man.
2. The natural environment at any period of time sets a limit to satisfactions which are mutually substitutable. There are satisfactions of an agricultural, and a non-agricultural nature. If, for example, it is decided to make more land available to wild life, it has to be withdrawn from agriculture.
3. Technological advance in agriculture consists of technical and economic processes which enlarge the earth's biological possibilities. Over time there are also changes in man's consumption preferences, i.e. in the demand for services from the increasing biological possibilities. The optimum choice between agriculture and other satisfactions as well as mutually between different satisfactions derivable from agricultural production, changes. The higher the revenue of the population, and the higher the level of agricultural production, the higher the relative value society places on other satisfactions from land — e.g. recreation.

7) Schultz, Theodore W. (1973). Is modern agriculture consistent with a stable environment? Fifteenth International Congress of Agricultural Economists, Sao Paulo.

8) *Ibid.*

There is always the danger that usage patterns at any stage may be polluting in the sense that it reduces future utilisation possibilities. This may happen through soil erosion, water pollution, etc. These dangers become reality if an effort is made to produce outside the boundaries laid down together by technical knowledge and nature. Such phenomena give rise to physical instability, which naturally have economic instability as a result.

The Commission arrives at a conclusion that in large parts of South Africa, particularly in extensive stock areas and marginal crop areas, such physical, and also economic instability exists within agriculture⁹. A natural result is a recommendation that high priorities should be given to more directed research to determine which types and levels of agricultural activity are naturally adjusted, and will therefore be naturally stable, in the different ecological regions of South Africa. Such knowledge should then be incorporated in agricultural planning.

Any thinking person will agree with these recommendations. Two reservations should, however, be stated:

- (i) Irrespective thereof that shortages of professional manpower may retard such work, the effect of new technological developments will have to be continually kept in mind, since such developments may bring about large changes in production potential.
- (ii) The basic causes for such maladjustments will have to be removed. The question thus arises: What has led to these basic maladjustments? This will now be considered.

IV. CAUSES OF THE MALADJUSTMENTS

The Commission briefly summarises the causes of maladjustments as follows:¹⁰

1. **Physical-biological causes**, which may for our purpose be briefly summarised as inherent climatological deficiencies, the occurrence of diseases and pests, the maladjustment of many farm-enterprises to the natural environment, and the consequential unsatisfactory condition of natural resources. It may be parenthetically noted that these aspects have also been noted forty to fifty years ago¹¹, but that we in South

9) See particularly the Second Report, Chapter 5.

10) Second Report, pp. 9 — 10

11) C.F. Leppan, Hubert D. (1931). Agricultural policy in South Africa. Central News Agency, Johannesburg, pp. 36 — 39. Grosskopf, J.F.W. (1932). Rural impoverishment and rural exodus. Carnegie Commission, Pro Ecclesia Printers, Stellenbosch, pp. 82 — 84.

Africa have nevertheless had so little successful action in this regard, that it has now once again been identified as a basic problem.

2. **Sociological causes**, including the extensive orientation of the South African farmer, lack of managerial aptitude, deficient training, inherent resistance to change, over-optimism, a lack of institutions to accommodate those leaving agriculture, excessive or exaggerated democracy, political pressure causing erroneous action in allocations of marginal or vulnerable land, the land tenure system, the inheritance system and results of the use of inefficient, unskilled labour. It has to be mentioned once again that these factors were mentioned in literature forty years ago, but that efficient action did not follow. Grosskopf¹² mentions many of these factors, and Leppan¹³ states that the low level of efficiency of unskilled labourers caused many White farmers to accept it as inevitable, and this, in its turn, led to a lower standard in their own work.

3. **Economic causes** which consist of the inability of many farmers to finance their expansion in a more commercial farming setup, the selling off of parts of farms and the consequential existence of uneconomic farm units, excessive land prices, injudicious extension and use of credit, interest rates, price structures, marketing and price policies of the authorities, and the rapid technological development to which many farmers are unable to adjust themselves. Even some of these factors were noted by Grosskopf forty years ago.¹⁴

The references to particularly the writings of Grosskopf and Leppan are intended as an admonishment to everyone involved in agricultural policy and planning that it is not sufficient merely to diagnose situations. If correct, purpose-directed action does not follow, such problems become permanent problems which sometimes become more serious over time. Both Cochrane¹⁵ and Britton¹⁶ correctly warn that there does not exist a mythical quality in agriculture which will aid the sector to automatically find its way to some desirable pattern of prices, production and revenue.

Purpose-directed action is necessary, and this should be continually adjusted to new conditions.

In view of the above, a few of the most important aspects of the reports will now be discussed separately.

V. LAND TENURE AND LAND OWNERSHIP¹⁷

The Commission states that, largely due to socio-historical factors, a strong urge towards independent land ownership prevails in South Africa. In 1963, only 5,8 per cent of agricultural land in White areas was not in private ownership.

The attachment to land has, according to the Commission, given rise to a number of less advantageous by-products, the most important of which being the following:

- (i) The creation of uneconomic units (by means of subdivision by inheritance or selling off of land);
- (ii) speculation and excessive land prices; and
- (iii) deterioration of resources.

It is clear that the first two mentioned effects could readily result from the South African attachment to land. The logic underlying the last (third) result mentioned above is not as clear and is questioned by this author. The — as it is called by the Commission — strong tendency of deterioration of so much agricultural land once it lands in private ownership¹⁸ is in the author's opinion not to be ascribed to private ownership as such, but rather to other factors which did happen — such as the creation of uneconomic units and other factors causing maladjustment.

The Commission nevertheless recommends the acceptance of the system of individual land ownership in South Africa. No reasonable person — excepting those in favour of large scale revolution — will differ from this recommendation.

The Commission further recommends that except in unusual cases, land presently owned by the State should remain government property. Seen particularly in the light of alternative possible uses of land, and that indications of an increasing demand for nature conservation are noticeable in South Africa, this recommendation should be supported.

There is, in addition, a recommendation that State ownership of very vulnerable mountain slopes and important water catchment areas should be ex-

12) Grosskopf, J.F.W., *op cit.*, Chapters 2,5 and 8.

13) Leppan, Hubert D., *op. cit.*, p. 27.

14) Grosskopf, J.F.W., *op. cit.*, pp. 35—38,84,93,96—100,111—117.

Drought Investigation Commission, Final Report. Government Printer, Pretoria, U.G. 49/1923.

15) Cochrane, Willard W. (1958). Farm prices: myth and reality. University of Minnesota, unpublished.

16) Britton, D.K. (1973). Agricultural adjustment in developed countries. Fifteenth Internat. Congress of Agricultural Economists, Sao Paulo.

17) Second Report, Chapters 2 and 3.

18) Second Report, p. 16.

panded. In the light of requirements of soil, water and nature conservation, this proposal is worthy of strong support.

The Commission proposes the following with regard to land at irrigation schemes:¹⁹

- (i) That the State should not transfer new irrigated land to private ownership, but rather apply long-term lease to selected tenants.
- (ii) That irrigated land already in private ownership be brought back into State ownership on a voluntary basis when the opportunity therefore arises.
- (iii) That a special unit be founded in one of the Departments of Agriculture to handle the lease of State lands.

These proposals should not be accepted. The most important objection to this emanates from the very fact that in South Africa, private ownership of land is so deeply rooted in social values, that it will be extremely difficult to attract the best farming talent — who are the very persons who should handle valuable irrigation land and water — if the possibility of land ownership and inheritance thereof are excluded.

It is generally accepted that the most successful farmers are those showing the biggest willingness and eagerness to adopt improved practices. In the U.S.A., Lionberger²⁰ concluded that landowners adopt new practices faster than farmers who rent land.

The question is posed: Is this also the case in South Africa? Very little information is available in this regard. Joubert²¹ in an analysis of three maize producing areas, viz, the Transvaal Highveld, Western Transvaal and the North-western Orange Free State, compared results of three groups of farmers: Farmers owning all the land farmed by them (owners), farmers renting all the land they farm upon (renter) and farmers owning land but renting additional land (owner-renters).

He makes the following conclusions:

- (i) Owner-renters utilise their working capital considerably more efficiently than the other two groups, whilst owners fare better in this respect than renters.

- (ii) In the Transvaal Highveld, renters achieve a higher net income than the other two groups. In the Western Transvaal and North-western Orange Free State, however, renters fare considerably worse than the other two groups.

With respect to irrigation farming, Diemont²² shows that renters at the Loskop, Hartebeespoort and Marico irrigation schemes have net incomes considerably lower than those of private owners and landletter holders. Smith²³ and Blignaut²⁴ indicate that owners on these schemes move along a higher production function than renters.

A farmer renting land from a Government department will probably experience large problems in negotiations concerning the erection of nonconventional fixed improvements. This will complicate (or even eliminate) innovation and thus dampen the more enterprising farmer.

In the light of the above, permanent State ownership of irrigation land is definitely not to be recommended. It is, however, very desirable to prevent land speculation in such areas. A method to achieve this, would be to insert a clause in purchase contracts with the effect that if the State sells irrigation land to a farmer, the State, in case the land is sold, will have the first option to purchase such land at a price determined by the State. This price should be determined according to the productive value of the land, and the State will be able to sell the same land again at the same price to another farmer.

The Commission also recommends the promotion in general of systems of leasing of agricultural land in South Africa. An important motivation for this is the financing aspect for prospective farmers. The same reservations already mentioned, also apply here. Joubert²⁵ found that where perennial crops — eg. fruit trees — are planted, lease of land is unpopular, and occurs seldom. Compared to certain European countries,

19) Second Report, pp. 20 — 21

20) Lionberger, H.F. (1961). Adoption of new ideas and practices. Iowa State University Press, Ames, p. 101.

21) Joubert, J. (1973). Ekonomiese implikasies van verskillende grondbesettingspatrone in die landbou. M.Sc (Agric.) thesis, University of Pretoria, pp. 95 — 96.

22) Diemont, J. (1967). 'n Sosio-ekonomiese evaluering van huurders op die Sterkrivierbesproeiingskema. M.Sc.(Agric.) thesis, University of Pretoria, p. 62.

23) Smith, D.J.G. (1962). Die doeltreffendheid in die gebruik van landbouhulpbronne onder verskillende toestande van grondbesetting op die Loskop en Hartebeespoortbesproeiingskema. D.Sc. (Agric.) thesis, University of Pretoria.

24) Blignaut, C.S. (1966). 'n Sosio-ekonomiese vergelyking tussen verskillende besettingsvorme in die Marico-Bosveldbesproeiingskompleks. M.Sc. (Agric.) thesis, University of Pretoria.

25) Joubert, J., *op. cit.*, pp. 78 — 110

little legislation exists in South Africa concerning the contents of leasing contracts, and contradictions exist in interpretations of certain legal aspects²⁶. This factor deserves serious attention of the authorities.

The Commission also devoted attention to large land ownership by companies. Such land ownership has advantages as well as disadvantages.²⁷ The advantages emanate from high managerial aptitude, utilisation and conservation of natural resources, rehabilitation of derelict farms and efficient use of mechanical aids, labour and capital. In certain areas it may also contribute to the outmigration of surplus Whites from agriculture. The disadvantages stem forth from inflationary land prices, obstruction of prospective young farmers, and a blackening (de-Whitening) of White areas. If not well managed, company farms may also cause additional disadvantages. The Commission makes certain tax recommendations in this respect. The recommendations appear to be logical, and a further division in tax categories could also be recommended. These recommendations should, however also be referred to the Fiscal Commission.

VI. FARM SIZES²⁸

Concern has been expressed on previous occasions over the dimensions assumed by the problem of uneconomic farm sizes in South Africa.^{29 30 31}

The disadvantageous results of this phenomenon stem forth from the sociological and economic conditions thus created. It is often also an important contributory cause of the deterioration of soil. In agreement to the Interdepartmental Committee on the Use of Agricultural Land³², the Commission recommends control over further subdivision of agricultural land — a proposal worthy of the support of every agriculturalist. This proposal has already been acted on by means of legislation.³³

In addition, the problem arises: What can be done about already existing uneconomic units? In this regard, it is proposed that the State should take urgent steps to consolidate uneconomic units into economic units. The following methods are proposed:

1. **A more realistic credit policy:** Since this facet falls within the sphere of another paper, it will suffice here to state that credit policy is undoubtedly the State's most powerful policy tool in this regard.

2. **Management:** In some cases, farms which on the surface appear to be uneconomic units, can be rendered into economic units by improved management. It is recommended that in such cases, provided the farmer involved can potentially be a good manager, special attention will be devoted to him.

3. **Retirement:** Where farms are too small to become economic and opportunities for consolidation do not exist, or where the managerial aptitude of the farmer offers little scope for success, the farmer and his family should be encouraged to change occupations. The Commission is, however, aware that in South Africa there does not exist an institutional framework to render it fairly easy for such people to be retrained, placed and relocated. Therefore, it is recommended that serious attention be bestowed to this matter by a variety of government departments such as the Departments of Agriculture, Social Welfare and Pensions, Labour Planning and Community Development.^{34 35} A global approach is recommended in the sense that consideration should be given to everything affecting the development and/or reformation of rural communities. In this manner, attempts must be made to overcome what Bishop³⁶ regards as impediments to mobility.

4. **Pensions** are recommended for aged people who become involved in the abovementioned process.

5. **Consolidation** must occur by consolidating land thus obtained with other uneconomic units in order to create economic units. Such consolidated units should not be divisible. The State will in many cases have to contribute funds to fill the gap between the purchase price and the productive value of the land. If, however, the owner of such land sells the consolidated farm, the Commission proposes that the contribution of the State will be recoverable from him³⁷ in order to discourage speculation.

26) *Ibid*, pp. 111 — 152.

27) Second Report, pp. 27 — 28.

28) Second Report, Chapters 3 and 4 and Third Report, Chapter 2.

29) Report of the Commission of Inquiry into European Occupancy of the Rural Areas 1960. Government Printer, Pretoria.

30) Verslag van die Interdepartementale Studiekomitee oor die Onekonomiese Onderverdeling van Landbougrond, 1963. Roneod Report.

31) Verslag van die Interdepartementale Studiekomitee oor die Gebruik van Landbougrond, Confidential reports.

32) *Ibid*.

33) Act 70 of 1970.

34) Second Report, p. 212. Also Third Report, p. 103.

35) It is somewhat strange that the Department of National Education was not also mentioned prominently in this regard.

36) Bishop C.E. (1969). The mobility of rural man-

6. **Priority** should be given to the most serious problem areas and to units which are such that they can be designated as being uneconomic without any counter arguments.

The above conclusions and arguments have clearly been so well argued and are basically so sound, that they should be accepted in this form by the authorities. It will, however, be a lengthy process.

In the opinion of the author, the authorities should also seriously consider a minority opinion by Mr S.J.J. de Swardt²⁸, dealing with the following:

7. **Part-time farming:** In cases where the farm enterprise is such and other employment opportunities are thus situated, it may happen that a farmer farms on an uneconomic unit, but also does such other work that the combined revenue of the other work and sound production practices assure him and his family of a good, respectable existence. Such a situation is already a process of rehabilitation, and should, as is done in some other countries, be encouraged. Such persons should also be able to qualify for the credit sources available to full-time farmers.

VII. WATER AND IRRIGATION³⁹

The Commission rightly identifies water as a scarce resource in South Africa and states that it is of the utmost importance to utilise water resources efficiently. Approximately 80 per cent of the available water is used for irrigation, approximately one per cent for stock drinking water, and the remainder is used by other sectors of the economy. The average productivity of water usage in agriculture compares unfavourably with certain other sectors.⁴⁰

After completion of present projects, there will in future be few unutilised water resources in South Africa. The Commission rightly concludes that due to South Africa's dependence on water for further development, and due also to the mutual dependence between the different sectors in South Africa,⁴¹ a multi-purpose water utilisation policy and advance planning

on a whole area base has become essential.⁴² Another conclusion, as logical as the above, is that increases in agricultural production under irrigation should be brought about by larger efficiency in water usage and intensification on the present irrigated area, rather than expansion of areas under irrigation.

The lay-out of irrigation schemes requires much capital, and irrigation farming involves the use of the most valuable natural resources. Based on these facts, the Commission concludes that irrigation land should be allocated **only** to persons with a high level of managerial aptitude and sufficient knowledge of irrigation farming.

Therefore, a policy previously followed is criticised, this policy being one of settling as many people as possible on an irrigation scheme, and therefore allotting holdings which were uneconomic or nearly so. The Commission states that it is of national importance that sizes of irrigation holdings are such that it will really render it worthwhile for an able operator to farm upon them. The Commission really deserves strong support in this respect.

As already mentioned, the Commission recommends that land on new irrigation schemes should remain State property, and, as already mentioned, this proposal **cannot** be supported, since this may very well lead to a situation in which the desired type of operator will not be attracted.

Recommendations regarding increased research on irrigation matters deserve strong support, particularly since many cases of inefficient application obviously occur. Recent research has also shown that management on an irrigation holding should be annually adjusted to available water supplies.^{43 44}

VIII. THE USE OF AGRICULTURAL LAND⁴⁵

Under this heading, the Commission firstly devotes attention to the claims of other sectors on agri-

power. In: Papi, Ugo and Nunn, Charles (Eds.). *Economic problems of agriculture in industrial societies*. Mac Millan, London, Chapter 13.

37) Or hopefully, his heirs if the sellers are the heirs of the original recipient.

38) Second Report, pp. 241 — 242.

39) Second Report, Chapter 6.

40) Second Report, pp. 60 — 61.

41) See also the Third Report, pp. 4 — 9.

42) See also Döckel, J.A. (1972). Cost-benefit analysis as a method for improved investment decision-making in the public sector. *Agrekon* 11(3): 17 — 24.

43) Hancke, H.P. & Groenewald, J.A. (1972). The effects of resource availability on optimum organisation in irrigation farming. *Agrekon* 11(3): 9 — 16.

44) Van Rooyen, C.J. (1973). *Die gebruik van proefboerderyresultate vir die beplanning van boerderye by die Hartebeespoortbesproeiingskema*. M.Sc. (Agric.) thesis, University of Pretoria.

45) Second Report, Chapter 7.

cultural land. Close to urban complexes, farmers often receive considerable sums of money for their properties, and this money is often used to pay increased prices for farm land elsewhere. The high land prices in and around urban complexes therefore circle out wider and wider.

The other users of land — roads, railways, parks, towns and cities — continually press larger claims for a share of the land, and take over agricultural land by offering prices which would be unrealistic within the agricultural sector. Thus, the area available to agriculture contracts. These tendencies render it necessary for future purposes to find a basis on which, through directed area planning, it can be determined which method of utilisation of land will be in the country's best interests. South Africa has relatively little land with a really high production potential, and although the Commission does not state it thus, it has been shown elsewhere that the use of such land for purposes other than agriculture tends to diminish national welfare.⁴⁶ Based on this principle, it has been proposed elsewhere that land with a real high agricultural potential should be identified and reserved for agriculture by legislation and zoning.⁴⁷

Although the Commission does not go as far as was pleaded for in the above paragraph, it mentions the detrimental effects arising when high grade agricultural land is used for forestry. This leads to an insistence on a thorough land classification in South Africa; this warrants serious attention, especially in view of the above points. It may be mentioned that the Department of Agricultural Technical Services has made great progress in this regard over the last few years. The purpose with this is to aid in the determination of agricultural potential and to promote optimal land utilisation in line with the recommendations of the Commission.

The Commission may, however, be criticised because they did not go far enough and did not devote more attention to the alienation of agricultural land, particularly for transport and urban development. This is an important aspect which will influence national welfare in the long run.

The Commission also makes recommendations about how land speculation can be combatted by means of fiscal measures. These proposals deviate fairly drastically from existing practices, and should be referred to the Fiscal Commission.

IX. PLANNING AGRICULTURAL PRODUCTION⁴⁸

The Commission comes to the conclusion that for long-run planning of different directions of production, and for purposes of co-ordination of developments in certain directions, it is imperative to have clarity on the basic functions of agriculture in the modern national economy.

As long as Bantu agriculture fails to be self-sufficient concerning food, White agriculture will have to contribute to the feeding of the Bantu. This, together with the need for exports and the provision of material to the White population, brings the Commission to a conclusion that there is a need for more balance and judicious purposefulness in agricultural production. It has become imperative to indicate future directions of production development and Government policy to support this for the present and future of the country, also regarding the optimal utilisation and conservation of its natural resources.⁴⁹

The Commission once again — and very correctly too — states that farming must be adapted to the natural potential. Due to economic factors, it often does not happen. The Commission accords particular prominence to product prices.

At this junction, the Commission gets somewhat off the track with the statement that such "ill-motivated" production trends have already for long been a stumbling block in the way of many agriculturalists.⁵⁰ The immediate question which should arise in the mind of every economist, is under which conditions price relationships, in other words profitability can be regarded as ill-motivated motives. It is, indeed, generally accepted that in a capitalist system, price relationships are the very factors which should direct all economic activity. Maladjustments occur when the situation is such that individual short-run profits are pursued at the cost of long-run advantages to the individual and/or community. Even over the long run prices should, however, give direction to production. Judged according to the remainder of the contents of the reports, the conclusion must be arrived at that such maladjustments could not be sustained in the absence of other bottlenecks, such as particularly excessive permissiveness in the form of credit or State aid for rather risky enterprises, eg. field crop farming in marginal or submarginal crop areas. Hesitation in the application of penal clauses under the Soil Conservation Act can also be blamed. It is just not completely acceptable to

46) Groenewald, J.A. (1973). The allocation of land among uses — A theoretical approach. *Agrekon* 12(3).

47) *Ibid.*

48) Second Report, Chapter 9.

49) Second Report, p. 130 and p. 230.

50) Second Report, p. 230.

blame farmers' responses to prices, although the price policy of the authorities must be criticised in certain respects.

Be as it may, the arguments culminate into a positive recommendation for the foundation of a national advisory board for the planning of agricultural production.

Such an advisory board can play an important role if it will, based on projections of future demand and price relationships, give guidance to the direction in which research, credit and public investments should move. If, however, the advisory board wants to encroach on the micro level, unfavourable consequences may be expected. As soon as production decisions are taken out of the hands of entrepreneurs, a platform has been built which will serve as a launching pad for ever-growing future problems. More will later be said about advisory boards.

X. MECHANISATION AND LABOUR⁵¹

The Commission noted that the rapid process of mechanisation in South African Agriculture has contributed to an increase in agricultural production, but not to a reduction in numbers of labourers. It appears for example from data presented, that maize farmers in South Africa use approximately five times as much labour per unit of area, and 14 times as many man-hours per unit of product produced, as their counterparts in the U.S.A. The efficiency in capital utilisation yields similar unfavourable comparisons. Compared also with other developed countries, South African farmers fare badly in this respect.⁵²

The Commission is rightly perturbed over this situation, and ascribes it to the following causes:

1. Too little attention has been bestowed on implements which will really raise the productivity of labour. In some cases, doubt exists about the technical suitability of certain types of machinery used in South Africa.
2. Machinery management on many South African farms leaves much to be desired. Expensive machines are often used by labourers who have had extremely little training in this respect, whilst farmers often do not have sufficient knowledge to do the necessary adjustments to their machines. To these — obviously correct — findings of the Commission, it may further be added that the quality of maintenance on many farms leaves much to be desired. It does appear, for example,

that a serious lack of systematic approach exists in general maintenance tasks on between 20 and 30 per cent of South African farms.⁵³

These phenomena can, according to the Commission, be very harmful particularly in view of the rising wages and decreases in numbers of labourers available to the White farmer. Any objective person must agree with the Commission that this problem must be rectified.

The Commission makes some recommendations in this respect:

1. More attention should in future be bestowed upon work study, together with critical work on the suitability of farm machinery. This should contribute to a decrease in labour requirements, and thus also retard the blackening of White areas.

This proposal of the Commission is definitely worthy of support. In order to realise this, agricultural economists and agricultural engineers should take note of the following:

- (i) Work study **must** take its rightful place in training in both disciplines; and
 - (ii) this type of research should enjoy a higher priority than at present, particularly among agricultural economists.
2. Recruiting of farm labourers outside a specific area must be limited, and should occur according to a strictly controlled contract system. One should reflect on this proposal. South Africa does have certain areas which at the present technological level of our agriculture, may be regarded as surplus labour areas, whilst others experience labour shortages under present technological levels. This proposal can be executed only gradually together with increases in labour productivity. It can also potentially create large administrative problems. The proposal regarding a strictly controlled contract system can possibly also be extended to all farm labourers.
 3. The Commission cannot support importation of farm labour from outside the Republic's borders. Also in this respect action should be careful, seen particularly in the light of international political relationships. It should be kept in mind that exports of labour are regarded as one of the most important sources of revenue of certain neighbouring countries.

51) Second Report, Chapter 10.

52) Second Report, pp. 150, 161 — 165.

53) Groenewald, J.A. (1973). A review of the quality of management in South African agriculture. *Agrekon* 12(2): 38 — 46.

4. The Commission makes a plea that where Non-White farm labour becomes redundant, other avenues of employment should be found for them. Put into a different framework, this proposal deserves strong support. The other framework is increased attention to the development of the Bantu Homelands and the neighbouring countries, as well as co-ordinated, balanced regional development in our whole economy.

5. The Commission pleads for the use of credit instruments to further this goal. It appears well on the surface, but more research should be done on this.

6. The Commission suggests that more attention should be given to supporting services (workshops, etc.) as well as joint (perhaps co-operative) use of some machines or contract work. In so far as it is practically feasible, this thought must be supported.

7. A recommendation worthy of strong support is that White farmers as well as their Non-White employees should receive better training in the management and handling of machines. The facilities needed for this purpose must be created.

8. Another supportable proposal is that of increased attention to safety — an alarming number of accidents involving farm machinery, occurs.

XI. STATE SUPPORT⁵⁴

The Commission starts off its arguments on this aspect by pointing out that State support to certain sectors, including agriculture, is in no way a strange phenomenon in the modern capitalist system. It is applied everywhere. The question is, however, what should be the nature and magnitude of such aid. One thing which must be avoided, is that State support leads to a malallocation of factors of production.

On the other hand, however, agriculture tends to lag in its adjustment to changing circumstances. As stated by Robinson: With the growth of agricultural productivity in a growing economy, the percentage of population engaged in agriculture must decline and prices and incomes need to be such as to stimulate contraction of agricultural employment; agricultural structure must continually be adapted to a declining manpower, sizes of farms need to be adjusted to changing circumstances, and production methods need to be adjusted to higher real wages. "But agriculture is one of the most difficult of industries in which to make adjustments."⁵⁵

The question is which forms of State aid will facilitate such adjustment. In addition, State aid retarding the necessary adjustments should be avoided.

One aspect of State support has to do with price policy and marketing, which fall within the scope of another paper.

Other aspects of State support involve credit — once again within the scope of another paper.

There are, however, certain forms of State support which are directly production economic in nature. These will now be further examined.

The Commission firstly lays down a number of policy principles:

1. The tendency to institute short run support programmes and then allow these programmes to gradually and/or surreptitiously assume a constant nature, must be condemned; as it assumes a long-run nature, the farmer automatically allows for it in his farm planning. Therefore, definite time limits should be set for such programmes, and such programmes should moreover be instituted only if other existing mechanisms — eg. the marketing mechanism — cannot achieve the objects concerned.

2. A further principle is that aid should not have as its primary goal increases in revenues, but rather the improvement of efficiency and revenues only via this route.

3. Conservation farming should be at the foundation of State aid.⁵⁶

These policy principles are logically valid and acceptable.

Some of the specific proposals are the following:

1. Records

The Commission is in favour thereof that the granting of financial aid by the Department of Agricultural Credit and Land Tenure should be conditional upon the recipients keeping proper farm records and that these records are used to improve their efficiency.⁵⁷

54) Third Report, Chapter 5.

55) Robinson, E.A.G. (1969). The desirable level of agriculture in the advanced industrial economies. In: Economic problems of agriculture in industrial societies, *op. cit.*, Chapter 2.

56) Although the Commission (Third Report, p. 102) couples this statement directly to drought relief, the whole tone of the argument is such that it evidently also applies on a wider front.

57) Third Report, p. 103.

This proposal deserves strong support.

Somewhat later, the Commission also recommends that a subsidy on a farm accounting scheme should be instituted, as is being done in Britain.⁵⁸

This proposal should **not** be accepted. Proper accounting is the cornerstone of any management. A first or basic requirement for good management should not be subsidisable. Economic forces will, over time, force out any producer who fails to keep proper accounts — as it will force out a maize producer who does not plant hybrid seed. In addition, such a subsidy will be difficult to handle administratively.

2. Uneconomic units

As previously stated, the Commission is rightly opposed to financial support given to producers on uneconomic units in order to improve their financial position.

3. Ill-adjusted farming systems

The Commission proposes that if it can be proved by research results that the farming system followed by a producer is ill-adjusted to the natural environment, financial support should not be accorded him by the State — a proposal worthy of strong support.

4. Drought and flood relief

As far as drought and flood relief are concerned, the Commission deals with various measures which were historically instituted, and makes recommendations regarding amendments, termination and continuance of individual schemes.

These proposals should be accepted as they are. Two reservations should, however, be made:

- (i) The Commission supports the Stock Reduction Scheme, provided that conditions for participation are made more strict. But this scheme has brought about such enormous costs, that it should be reflected whether there are not other alternative ways of achieving the same result.
- (ii) The Commission supports **ad hoc** aid to subsidies in cases of emergency. A time limit is not proposed here.

The principle of **ad hoc** aid should be supported, but a time limit should, however, be instituted. An annual evaluation can be made in such cases.

⁵⁸) Third Report, pp. 118 — 119.

5. Crop insurance⁵⁹

The Commission devotes a whole chapter to the possibilities of crop insurance and possible State aid in this respect. In the light thereof that a research project on this aspect is expected to be completed early in 1974, no comments on this aspect will now be given.

XII. PROPOSED INSTITUTIONAL FRAMEWORK

The Commission basically concludes that the problems of South African agriculture were largely — if not exclusively — caused by maladjustments to the natural and economic environment.

All aspects covered in the reports — land tenure and ownership, farm sizes, climatologically and biologically maladjusted farming systems, land and water usage, socio-demographic aspects, labour and capital use, finance, State support, marketing and, eventually the financial position of farmers are reduced thereto, and largely integrated into one whole. The Commission goes further and makes recommendations on how the problems can be bridged, and agriculture be aided to adjust.

A problem which will occur is the shortage of professional agricultural manpower in South Africa. Everything will have to be done to:

- (i) utilise the available manpower optimally, and
- (ii) encourage prospective science students to qualify in the agricultural sciences.

In order to obtain agricultural adjustment, the Commission proposes a certain institutional framework. The most important proposals in this respect consist of the formation of three national advisory boards, viz. an advisory board for the planning of agricultural production⁶⁰, an advisory board regarding agricultural credit⁶¹ and an advisory board for agricultural marketing and price policy⁶².

Although an advisory board is very desirable seen particularly in the light of the wide field which must be covered, the institution of three separate advisory boards is not to be recommended. The motivation for the author's opposition comes out of the reports themselves. The Commission succeeded excellently to show convincingly that physical and financial agricultural planning, finance, marketing and price policy are so

⁵⁹) Third Report, Chapter 8.

⁶⁰) Second Report, Par. 12.9.2.2.

⁶¹) Third Report, Par. 10.4.2.38 (Already instituted).

⁶²) Third Report, Par. 10.6.2.1.

narrowly interwoven that the institution of separate advisory boards is not desirable. It can only lead to problems in liaison and eventually to confusion in advice and/or recommendations concerning the agricultural sector.

It will therefore be better to institute only one agricultural advisory board which will give integrated advice concerning production planning, finance, marketing and price policy. If necessary, such an advisory board should be empowered to form and/or appoint sub-committees. The advisory board should consist of persons appointed by the Minister of Agriculture for a specific period on the basis of their expertise. The advisory board should then resort directly under the Minister of Agriculture, with his policy advisor as chairman. A possible composition of a board of 15 persons may be as follows.⁶³:

1. The Policy Advisor to the Minister of Agriculture (Chairman).
2. An official of one of the Departments of Agriculture (Secretary).
3. The President, South African Agricultural Union (*ex officio*).
4. A member of the Economic Advisory Council.
5. A member of the Scientific Advisory Council.
6. A member of the Planning Advisory Council.

63) The deliberations concerning the possible composition of such an advisory board was jointly done by Prof. F.R. Tomlinson and the author.

- 7,8. Two experts on marketing, at least one of whom from the private sector.
- 9,10. Two persons appointed on the strength of their thorough knowledge of agricultural ecology.
11. An agricultural production economist.
- 12,13. Two experts on finance, at least one of whom from the private sector.
- 14,15. Two farmers.

Another aspect not dealt with by the Commission, centres around the Departments of Agriculture. The same reasoning which causes the author to be in favour of only one advisory board, causes a plea for the consolidation of the presently existing Departments of Agricultural Technical Services, Agricultural Economics and Marketing, Agricultural Credit and Land Tenure and also Forestry, into one Department of Agriculture.

XIII. CONCLUSION

In the reports produced, the Commission proposed, based upon its analyses, action on a wide front. It is clear that such action is necessary.

As shown also in this paper, some of the existing problems were caused or aggravated thereby that at earlier stages, although knowledge was available, adequate action did not take place. A repetition of such non-action must be avoided.

The adjustment of agriculture and action in this regard is one of the biggest challenges facing every person involved with this sector.