AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

281.8
Ag835

5

Vol. 26 No. 3
OCTOBER 1987

Price R2,OO
(+ GST)

Agrekon

FOUR-MONTHLY JOURNAL ON AGRICULTURAL ECONOMICS

USDA
NAT'L AGRIC. LIBRARY
RECEIVED
JUN 16 '88

Issued by the Department of Agricultural Economics and Marketing

THE IMPACT OF DOMINANT SOCIETAL FORCES ON SOUTH AFRICAN AGRICULTURE

by P.H. SPIES*

INTRODUCTION

In this paper "agriculture" refers to those activities concerned with the production of primary products from the soil and the conversion of feedstuffs into livestock products (Breimyer, 1962). The purpose and role of agriculture in society are defined in terms of its occupational value, its investment value and in terms of its value as a sector of the national economy. Societal forces are defined as long-term changes in the general conditions under which agriculture must operate. This paper focuses on four categories of societal forces, namely modernisation, demographic forces, economic development and political processes.

It is important to note that there are close causal interrelationships between the various classifications. For example, occupational value is not independent of investment value and neither value is independent of sectoral considerations. Moreover, the impact of societal forces on agriculture is not seen only in terms of the *reaction* to societal change. It is assumed that at least a part of agricultural transformation processes will be in the manner of a response (not just a reaction) to a changing environment - i.e. these transformations will be initiated from within the sector itself. Therefore, in most circumstances the societal forces will *initiate* a snowballing effect of creative adaptations and transformations inside agriculture, which in itself can change the assumptions of what agriculture is all about and what it takes to be successful in agriculture.

THE NATURE AND PURPOSE OF AGRICULTURE

The nature of agricultural practice is characterised by its relative dependence on natural resources (land, water and climate) and by its dependence on the manipulation of biological processes.

Agricultural development is characterised by a transformation from an agrarian agriculture with a very high dependence on the quality and quantity of natural resources, to commercial agriculture, which is more dependent on technology, the quality of agriculturists and the availability of capital.

The occupational purpose of agriculture is to provide agriculturists (i.e. farmers and labourers) with opportunities to earn a living in a manner that is rewarding in terms of personal and occupational requirements. The income from agriculture is seen to be only a part, albeit a very important part, of that reward. But, as in the case of other occupations, being an agriculturist is also a way of life. The personal needs of agriculturists may vary from person to person, and may also change during economic development and modernisation. At lower levels of development (in agrarian agriculture) the objective of agriculturists may simply be survival. At higher levels of development, personal esteem and social status may become additional determinants (Maslow, 1954). Moreover, the occupational requirements of agriculturists are also influenced by what is happening outside agriculture. For example, higher urban standards of living may ultimately change the perceptions of agriculturists in respect of the standards that are acceptable to them. Positive perceptions of the occupational benefits of agriculture will influence the flow of qualified manpower to agriculture.

The investment value of agriculture is measured in terms of returns on agricultural investment. The investment value of agriculture is generally a function of main line production economics and the market for products. However, other factors may also play a role. In an agriculture which is dominated by a large number of relatively small farming enterprises (such as is the case in South Africa) investment decisions will be closely linked to occupational perceptions and the actions of farmer entrepreneurs - i.e. the farmer is the investor. The perceptions of the farmer, his available capital, his debt equity situation and his capacity to pay interest on loans, are important factors here. In corporate farming other factors such as portfolio management and vertical and horizontal integration may prove more important. The method by which agriculture is financed may therefore influence the general pattern of agricultural development and the management culture in agricultural enterprises, including the rural culture in general - i.e. depending on whether it is being dominated by farmer investors or corporate investors. Moreover, the structure of investments is also important. The structure is defined as the ratio between investment in land, *productive* capital, *productive* livestock and other types of "agricultural" investments, such as "weekend farms". Inflation and

*Institute for Futures Research, University of Stellenbosch

tax policy may stimulate investments in land and other real assets that are often aimed rather at capital gains and/or inflation hedging than at production. This pattern of investment may ultimately stunt agricultural development should such practices become widespread.

Agriculture's contributions to the economy are in the form of food for a growing population, raw materials for industry, agricultural exports (foreign exchange earnings), investment transfers to industry (especially during the early development stages), transfers of "embodied capital" (transfer of trained people), and in the form of a home and basic livelihood for those people who cannot be accommodated in industry - people for whom the Government would otherwise have had to provide live support and social services.

Population growth specifically, and rising standards of living in general, are the two most important direction-setting forces for agricultural development. The *potential* for agriculture to develop effectively and efficiently is dependent on Government policy, the available natural resources, the rate of technological innovation in agriculture, the agriculturists' perceptions of the economic viability of agriculture and the rate and quality of agricultural investment. In other words, the general performance of the agricultural sector is highly dependent on conditions in the operating environment.

MODERNISATION

The concept "modernisation" is preferred to "industrialisation" in order to highlight the holistic nature of industrial development. Technological progress and industrialisation go hand-in-hand with socio-cultural transformations, institutional transformations, economic transformations and also political transformations.

A stark comparison of the socio-cultural implications of an agrarian-industrial transformation is provided by Tonnies in his *Gemeinschaft/Gesellschaft* dichotomy (Dobriner, 1969: 144-147). *Gemeinschaft* is characterised, *inter alia*, by a dominance of "natural will", a community orientation where interpersonal relationships are viewed not as (useful) instrumentalities, but as ends in themselves, and in terms of the recognition of man's dependence on God and the natural order of things - including the acceptance of historical hierarchies in society. *Gesellschaft*, in contrast, is characterised by "rational will" - by a contractual orientation where interpersonal interactions are useful in terms of their contribution to a "final purpose" (such as the relationship between seller and buyer) and by the implicit acceptance that man has the ability to restructure the conditions of life and the order of things. It is clear that, according to his definition, the cultural, social, technological, institutional, economic and political conditions in a traditional (*Gemeinschaft*) society are seen to differ fundamentally from those in a modern (*Gesellschaft*) society.

Kahn and Wiener (1967) discussed some other characteristics of modernisation during the later stages of socio-economic transformation. According to them the values of modern societies are becoming increasingly empirical, secular humanistic, pragmatic, utilitarian, contractual and hedonistic. The political organisation of such societies is becoming increasingly "meritocratic" and democratic. There is also an emphasis on literacy and higher education. Technological innovation becomes institutionalised and there is an accumulation of scientific and technological knowledge. Modern societies experience a decline in the importance of primary and secondary occupations, growing urbanisation and a growth in super cities - so-called "megalopolises".

Most of the characteristics of modernisation are present in South African society. However, there is the additional characteristic of socio-economic "dualism" (or "core-periphery") which is associated with unequal rates of modernisation within the country. The result is that the South African socio-cultural situation encapsulates the broader world development *problematique*. Modernisation over the next two decades in South Africa will in all likelihood be more of the nature of Tonnies' *Gemeinschaft/Gesellschaft* dichotomy than of the type described by Kahn and Wiener. The rate of national economic development in South Africa is constrained by the rate of economic development in the so-called "periphery" (the subsistence sector) of South African society. Therefore, a major effort to transform the periphery is to be expected in the years to come. Public policy is likely to emphasise education, training, the provisions of the social infrastructure and the creation of occupational opportunities for the poorly-educated and technologically ill-adapted masses. Some of the socio-political implications of these changes for agriculture will be discussed later.

DEMOGRAPHIC FORCES

In 1910 the population of the Union numbered approximately 5,8 million people. The current population of South Africa (including the TBVC countries) is approximately 33 million and is expected to increase to approximately 45 million by the year 2000 and approximately 54 million by 2010 (Spies, 1986: 53). During the first two decades of this century, the South African population increased by approximately 100 000 people per annum. Between the years 1920 and 1940, the increase was approximately 177 000 people per annum. During the 1940s the increase was approximately 200 000 people per annum, during the 1950s it was 370 000 per annum, the 1960s 580 000 per annum, and the 1970s 680 000 per annum. The current increase per annum is approximately 780 000 people, the increase during the 1990s is ecpected to be 870 000 per annum, and during the first decade of the next

century the annual increase is expected to be approximately 1 million people.

The pressure on the agricultural sector to provide food and fibre for a growing population is evident from the above statistics. The South African population is expected to increase by 36 per cent within the next thirteen years and by 66 per cent within twenty-three years. Broadly speaking, food production should therefore increase at an annual compound rate of 2,4 per cent per annum over the next thirteen years compared to the rate of increase of 1,76 per cent per annum over the past 13 years (i.e. during the period 1973-1986).

One of the reasons for agriculture's poor production performance, especially over the past six years, is clearly the drought in the summer rainfall areas. For example, agricultural production increased at an annual compound rate of 3,5 per cent during the 1970s. Nevertheless, it is well known that there is a characteristic ten-year drought cycle in the summer rainfall areas of South Africa (Dostal, 1979). Moreover, the land and water resources available to agriculture are at best a constant, and will in all likelihood experience increased competition from other users in years to come. The area under cultivated agriculture in South Africa (including the TBVC countries) amounts to 123 953 km^2, which represents 0,38 hectares per person. The same ratio for the United States is 0,9 hectares. With current population growth in South Africa, this ratio is expected to decline to 0,28 hectares by 2000 and 0,23 hectares by 2010. The total potential supply of water in Southern Africa, i.e. including the TBVC and BLS countries, amounts to approximately 40 000 million m^3 per annum on average. If current trends in water consumption are to continue, then total demand will exceed the total long-run average by about 2025. However, it is more likely that a build-up in stress in the water supply and demand situation will push water prices upward, thus forcing urban consumers and irrigation farmers to save water and/or install improved water application technologies.

Future growth in agricultural production in South Africa is therefore highly dependent on agricultural entrepreneurship, technological innovation and capital investment.

Urbanisation is another population force that is set to transform the South African socio-economic and political scene from top to bottom over the next 20 years. The social and cultural implications of urbanisation are as fundamental as Tonnies' *Gemeinschaft/Gesellschaft* transformation since future urbanisation will essentially be Black urbanisation. South Africa's urban population is expected to increase from 15,2 million in 1980 to at least 29,5 million by the year 2000 and at least 39 million by 2010. In other words, South Africa's urban populations are currently growing by *at least* 750 000 people per annum - *at least* 600 000 of this increase will be attributable to Black urbanisation. By the year 2000, the Black urban population is expected to grow by at least 900 000 people per annum.

The high rate of urbanisation will extend South Africa's ability to provide sufficient social infrastructure and social services in and around urban concentrations. For example, at least 140 000 housing units will have to be added to the existing housing stock in order to keep the current housing backlog in South Africa of about 500 thousand housing units in check. The historical best rate of housing construction was approximately 70 000 housing units per annum during the 1970s. The need for new innovative strategies for urban development is therefore clear. Nevertheless, it is likely that the South African urbanisation process over the next two decades will have some resemblance to that of other Third World countries.

Apart from the social and political implications, urbanisation will also influence the market for and marketing pattern of agricultural products. For example, changes in eating habits and new types of "informal sector" marketing patterns may require some rethinking with regard to product standards and marketing strategy.

Another important factor that is associated with high population growth rates is the explosion in South Africa's potential labour force. The South African labour force is increasing at a current rate of approximately 320 000 per annum. By the end of this century, this figure is expected to be more than 400 000 per annum. In other words, an additional one thousand *potential* job-seekers are entering the labour market daily, 93 per cent of them being other-than-Whites and 82 per cent being Blacks. Consequently, the South African economy will have to absorb large numbers of potential job-seekers although the *ability* of the economy to create jobs has decreased significantly over the past 13 years. Employment growth in the *modern* economic sector decreased from an average of 2,5 per cent per annum during the period 1946-1975, to 1,4 per cent per annum during the period 1976-1982 and nil per cent per annum during the period 1982-1986. The current growth in the labour force is approximately 2,7 per cent per annum. The consequence of a continuation of the patterns in economic development which South Africa experienced over the past decade is that only 33 per cent of the Black labour force will be able to find employment in what is commonly understood by "the South African economy" by the year 2000. It must be noted that if this should happen, then by far the largest proportion of the "unemployed" will subsist in urban areas. It is clear that efforts to promote an alternative pattern of economic development that is based on the promotion of informal sector activities, small business development and local market development is not a policy fad but a socio-economic necessity.

The high rate of increase in the Black labour force is due to the size of the Black population, the rate of Black population growth and the relatively young age-structure of the Blacks - i.e. approximately 40 per cent of the Blacks are under the age of 15 compared with only 23 per cent of the Whites. The result is that the number of young Whites will decrease in number during the period

1987-2000, while the number of young Blacks will increase rapidly over this period. These statistics are reflected in forecasts of the number of schoolchildren. Black educational institutions are expected to experience continuous pressure, with the number of Black schoolchildren increasing from the current 6,5 million (including the TBVC countries) to approximately 9,6 million by the year 2000 - i.e. an *increase* of 3 million within thirteen years. The number of White schoolchildren is expected to *decrease* from the current 980 000 to approximately 914 000 by the year 2000. The number of White matriculation (or equivalent) passes is expected to decrease from the current figure of approximately 63 000 to approximately 53 000 by the year 2000. Other-than-White matriculants are expected to increase from the current figure of around 64 000 to approximately 220 000 by the year 2000.

These statistics and forecasts of the South African population outline some of the most important facets of the modernisation process in South Africa.

ECONOMIC FORCES

South Africa's economy has experienced one of its most painful recessions of the century during the past five years. An analysis of the long-term growth performance of the South African economy indicates that the country's economic growth rate levelled off from the early 1970s. This downturn in economic performance is especially alarming when we consider that the present ability of the South African economy to create jobs out of economic growth is equivalent to approximately a 0,5 per cent increase in the number of jobs for every 1,0 per cent increase in the GDP. In other words, in order for the South African economy to provide sufficient jobs for the annual additions to the labour force, it will have to grow *on average* by at least 5,4 per cent per annum over the long term. This compares most unfavourably with recent estimates of the *potential* long term growth rate of the South African economy (i.e. in terms of its present structural specification) of approximately 3,6 per cent per annum (De Jager and Smal, 1984). The need to restructure economic development in South Africa is therefore also clear from these statistics.

Apart from a shortage of highly skilled manpower, one of the most important limitations on economic growth in South Africa is limited (especially foreign) capital. The problem is currently being compounded by this country's debt problems and the forced repayment of foreign loans. In recent decades the development of South Africa's economy has become progressively more dependent on capital. For example, the average annual rate of growth in capital stock per employee increased from 2,83 per cent per annum during the 1960s to 4,58 per cent per annum during the 1970s.

South Africa's rate of inflation as measured by the consumer price index is currently more than twice that of its most important trading partners. The structural problems in the South African economy, together with socio-political factors, make it unlikely that South African policy-makers will be able to keep the average annual rate of inflation below (say) 18 per cent per annum over the coming years. This forecast, seen against the background of the likelihood that the rates of inflation of South Africa's main trading partners will remain low, suggests that the exchange rate value of the rand will remain under pressure in years to come. This holds positive long-term consequences for exporters of agricultural commodities and negative consequences for industries that are highly dependent on imported inputs.

POLITICAL FORCES

Trends in the most important parameters of modernisation in South Africa suggest that South Africa's political arithmetic has changed fundamentally since 1960. A selection of trends affecting the basis of political and economic power in South Africa is presented in Table 1. It is clear from this table that the political and economic importance of the other-than-White population groups of South Africa has increased systematically over the past twenty-seven years - and is expected to increase in the decades to come. The future welfare of the various population groups is becoming more interdependent through high rates of urbanisation and a growing participation of all groups in the industrialisation process.

It is therefore clear that notwithstanding group biases, party-political arguments or radical-revolutionary demands, the general process of modernisation requires a more democratic and more meritocratic governmental form than the one at present in force in this country. It is highly doubtful whether this country can ever reach its full economic potential without such broadbased political participation.

Whether it is still possible for South Africa to turn the current revolutionary activity in the country around effectively will depend on the effectiveness with which an acceptable alternative is implemented. In recent years the quality of the organisation behind the radical-revolutionary process in South Africa has increased significantly in terms of its sophistication, in terms of its pervasiveness and in terms of its action potential (Dostal, 1986). Inside South Africa there is already an interlinking network of educational, religious, community, worker and political organisations that is set to promote and support a radical transformation of this country.

At present agricultural communities in border areas especially (but not exclusively) seem to be a prime target for terrorist attacks. This presents the South African agriculturist with an additional challenge to his existence.

Some other political developments that may impact on agricultural policy in years to come are:

- The land reallocation question,
- the politics of the worker movement,

TABLE 1 - Selected trends affecting the basis of political and economic power in South Africa, 1960-2000

INDICATOR	WHITES				OTHER-THAN-WHITES			
	1960	1970	1985	2000	1960	1970	1985	2000
	PERCENTAGE OF TOTAL							
Political power								
Overt								
Control over election of Chief Executive*	100	100	57	?	0	0	43	?
Covert								
Population	19	17	15	12	81	83	85	88
Urban population	34	31	24	17	66	69	76	83
Economic power, share of								
Personal income**	74	74	60	55	26	26	40	45
Economically active population	20	18	17	14	80	82	83	86
Matriculation passes	94	88	50	20	6	12	50	80
Occupations								
Executive	97	97	93	64	3	3	7	36
Highly skilled	69	66	55	32	31	34	46	68
Artisans and less skilled white collar	78	73	57	42	22	27	43	58
Semi-skilled and unskilled	11	8	7	4	89	92	93	96

Sources: Adapted from Nattrass, J. (1981). *The South African economy: its growth and change* Cape Town: Oxford University Press
Sadie, J.L. (1981). *The quantitative dimensions of the labour problem in South Africa* Pretoria: Paper delivered at the 'Manpower 2000' conference

*For 1985, the number of votes in Electoral College
**An economic growth scenario of about 4,0 per cent per annum was assumed for 1985-2000

- the decreasing political importance of farming communities, which may redirect agricultural policy measures towards serving non-agricultural interests,
- the current public policy emphasis on privatisation, which may have a significant negative impact on those with vested interests in agricultural control measures.

CONCLUSION

This paper reviewed four dominant societal forces with important implications for the pattern of developments in South Africa over the next two decades, namely modernisation, demographic changes, economic transformation and political processes. It was suggested that the impact of these forces on agriculture should be judged in terms of the sector's nature and its purpose.

It is likely that interaction of the forces of modernisation, urbanisation, economic transformation and political change will eventually erode the divisions between commercial and traditional agriculture in South Africa. The need to utilise scarce natural resources in an optimal manner, the bias of modern technologies towards highly developed societies, the social demand for improved living conditions, and the migration of "surplus" people to the cities, will redirect the focus of development planning in the years to come. The likely emphasis will be towards the commercialisation of "traditional" farming practices, the consolidation of land and towards entrepreneurship in farming enterprises. It is therefore also logical that South Africa's agricultural research, extension, marketing and credit facilities will gradually be extended to, and be integrated with, the emerging Black commercial agricultural enterprises.

The requirements for *effective* technology transfer in South African agriculture will increase in years to come. This will be affected not only by the standards of agricultural research and extension, but also by the quality of agricultural entrepreneurs and farm labour. An effective and efficient agricultural industry will become more human resource orientated. The development level of farm labour, including labour relations in general, will become a major issue over the coming decade. The process of modernisation implies that the true wealth and the real resources of a community are embodied in its people. In other words, during the process of development, the *growth basis* for wealth shifted from land to capital and then to human resources.

South African agriculture will have to become more effective in terms of its *choice and application* of technologies and financially more efficient if it is to stay viable over the long term. We shall have to consider "local options" in technological development. An erosion in the exchange rate value of the rand will make imported technologies more expensive over the coming years, and unless South Africans succeed in adapting these technologies to

local requirements *and* also manufacture most of the production factors inside the country, we may find that the international terms of trade will continuously turn against the cost competitiveness of South African agricultural exports.

The present agricultural problems in South Africa are best summarised by turning our attention to the terms of trade of agriculture and its debt problems. The terms of trade are measured by dividing the index of agricultural product prices by that of agricultural inputs. Up to 1975 the long-term trend in the terms of trade were slightly in favour of farmers. However, it has decreased by 23 per cent since 1975. What is most remarkable is that the terms of trade worsened during the 1980s even though the growth in the supply of agricultural products lagged behind *potential* market growth, as measured in terms of population growth. These trends seen together with the drought of the last few years, have resulted in the average debt ratio of South African agriculture more than doubling since 1975, i.e. it increased from 11,8 per cent during 1975 to 25,8 per cent during 1985. A debt ratio of 25,8 per cent places a severe strain on farm practices and with some farmers being considerably more in debt than the average, it is clear that commercial agriculture in South Africa faces a major restructuring within the medium-term future.

One of the likely outcomes of the current structural problems in South African agriculture is that the number of farms will continue to decrease if current trends should continue. It is likely that the number of commercial farms will decrease to below 40 000 by the year 2000. Moreover, it is likely that, in line with Western experience, South African farming will experience a growth in the number of part-time farmers.

Long-term agricultural production growth is therefore dependent on the implementation of sound long-term strategies which can stimulate entrepreneurship and (appropriate) technological innovation. "Agriculture" is not a machine but a living, throbbing socio-economic system. Its future success cannot be *constructed* with the help of formal plans. Success is the probable end-product of committed agriculturists who are supported by a favourable operating environment.

BIBLIOGRAPHY

BREIMYER, H.F. (1962). The three economies of agriculture. *Journal of Farm Economics* XLIV (3): 679-699

DE JAGER, B.L. & SMAL, M.M. (1984). The potential gross domestic product of South Africa. *The South African Reserve Bank Quarterly Bulletin* (154): 21-27

DIRECTORATE OF AGRICULTURAL ECONOMIC TRENDS. (1987). *Abstract of Agricultural Statistics* Pretoria: Department of Agricultural Economics and Marketing

DOBRINER, W.M. (1969). *Social structures and systems* Pacific Palisades, California: Goodyear Publishing Co. Inc.

DOSTAL, E. (1979). *Climate change to the year 2000* Stellenbosch: Institute for Futures Research, University of Stellenbosch. Bulletin 2.3

DOSTAL, E. (1986). *Revolutionary strategy in South Africa* Stellenbosch: Institute for Futures Research, University of Stellenbosch. Sopomo No. 2

KAHN, H. & WIENER, A.J. (1967). *The year 2000: a framework for speculation on the next thirty-three years* New York: Macmillan

MASLOW, A.H. (1954). *Motivation and personality* New York: Harper

SPIES, P.H. (1986). *Business Futures 1986* Stellenbosch: Institute for Futures Research, University of Stellenbosch