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THE CAUSES AND CONSEQUENCES OF AGRICULTURAL CHANGE: A CASE STUDY OF AGRICULTURAL COMMERCIALIZATION IN THE COMMUNAL AREAS OF SOUTH AFRICA

G. D. Stacey, J. Van Zyl and JF Kirsten

Department of Agricultural Economics, Extension and Rural Development, University of Pretoria, Pretoria.

This paper analyses the causes and consequences of agricultural change in two regions of the former Bophuthatswana homeland of South Africa. The paper identifies a number of circumstances which provided the set of comprehensive support services which are essential for the development of commercial agriculture, namely the availability of capital; appropriate biological and mechanical technology and the experience to use it; suitable pricing policies and marketing opportunities. The changing rural-urban wage differential; and the demise of traditional institutions as well as the drought of the early 1980s were important factors in the changes described. An important conclusion is that no single factor caused the development of a commercial agriculture, but that a package of prime movers was necessary. The broad consequences of the transformation in agriculture has significance for both those with agricultural resources, as well as those without. One of the most important consequences of the change is the creation of a commercial farming class, and conversely, the creation of two other groups; a group of wage labourers and a group of land right holders who lease out their land.

1. Introduction

This paper analyses the causes and consequences of agricultural change in two regions of the former Bophuthatswana homeland of South Africa. The focus is primarily on the role of crop farming in the process of change, although livestock play an important role as a means of accumulation for farmers.

The historical literature on change within the South African agricultural economy, and its causes, is rich. The radical scholars have sought to explain the changes both within the white rural areas as well as the reserves (Bundy, 1979; Beinart et al, 1986; Keegan, 1986). The underlying theme in the literature is that class forces and the ultimate imperative for capital accumulation, were the essential pressures for the state to act in the interests of the white farmers. Tenurial and fiscal measures were adopted to allow white farmer to consolidate their hold on the land (Kantor and Rees, 1982). Easy access to capital, effective institutional arrangements for marketing, extension, input supply and the structuring of the labour market to accommodate some of the labour needs, resulted in favourable circumstances for white farmers (Fenyess et al, 1987). Concomitantly, black farmers were progressively discriminated against, facing ever more difficult tenurial conditions, and very limited institutional support. Thus, the change in the black areas was caused by the neglect of the needs of aspirant farmers by a state which was not representative. The very factors which were provided by the state for white farmers, such as appropriate and sophisticated technology, subsidised capital, extension, marketing channels, input supply and cheap labour were denied black farmers. Van Rooyen (1989) argues that production by black farmers was relatively good, given the environment within which they operated.

Furthermore, the Land Acts of 1913 and 1936 fundamentally undermined the ability of black farmers as a group to expand. Through time, most were obliged to seek a livelihood outside of agriculture, a consequence which the promulgators of the Acts had foreseen. The black areas thus became labour reserves for capitalist interests. The strong influence which white farmers had historically on the state slowly diminished and during the 1980s, the state started to limit the unqualified support farmers had received. These changes, coupled with natural circumstances,

were to have a profound impact on the financial viability of many commercial farms.

2. The study and study area

The study area, the Ditsobotla and Molopo regions of the Bophuthatswana homeland of South Africa, lies adjacent to the Western Transvaal and the Northern Cape. Although the areas are considered marginal for crop production, crop production is the major farming activity, followed by cattle production.

The research is based on the premise that to understand the current agricultural situation in the two areas, it is necessary to understand both the historical developments, agricultural and non-agricultural, that have played a role in shaping the area. Consequently, the fieldwork was divided into two phases to obtain both the historical and contemporary data. Firstly, interviews were conducted with various black and white people in the area: the majority were old people. This provided primary historical material and the opportunity to get acquainted with the area. Subsequently a survey was carried out to gather qualitative and quantitative data on the current situation in the two areas. Interviews were conducted over a four year period, namely 1987-1990.

3. Background

The Historical period

The Tswana, who live in the study areas, were originally agro-pastoral social groups who through access to large expanses of land, managed to survive in a marginal climate. This survival was threatened when land became scarce, due to the encroachment of the white farming population during the latter part of the nineteenth century. However, the Tswana groups responded to the increased pressure by utilising the emerging commercial opportunities to generate income, such as hunting and the sale of cattle and grain. Not all households managed to participate in the commercial opportunities. Thus, in the latter part of the century, many households had left to seek work on the mines and on white farms. Household members migrated due to both economic pressure and the attraction of potential opportunities.

Political developments in the last two decades of the nineteenth century led to specific limits being placed on

the Tswanas' access to land. These territorial limits were to be included in the boundaries specified in the Land Act of 1913 (No 27 of 1913). The Land Act did not result in significant changes within the scheduled areas forming part of the study area. However, the impact of tenurial changes on the farms under white control was to result in in-migration of many households over the next two decades. These households were most often those who stood to lose most if they had merely remained on farms as labour tenants or wage labourers. The 1936 Native Trust and Development Act led to land being added to that delineated under the 1913 Land Act. This land was settled during the 1940s. Up until the 1940s, there was a relatively stable population in the study area. However, with the implementation of stricter influx control during the 1950s under the apartheid policies, this trend was reversed. Relocation of black people from freehold land, white farms, small towns and tribally held land led to a rapid increase in population numbers. With an almost constant land supply, and the movement of households into the study area, the population pressure meant that an increasing number of households had limited or no access to agricultural resources.

For many households with access to resources, there had throughout the century been a growing involvement in agricultural markets. In the first half of the century, the white traders were the main outlet for both agricultural and pastoral products. With the increasing commercialisation of the white agricultural sector, there was an expansion in the number of co-operative depots for both the purchase of inputs, as well as the sale of produce. These opportunities were utilised by peasant households. While there was a significant differentiation of wealth, there was not a widespread expansion of commercial production. While many tenants and sharecroppers on white farms had been forced into wage labour, those with limited resources in the trust and tribal areas had alternative economic opportunities as migrant labourers. Thus, there was a labour shortage in the area. By the 1950s, there was a well established peasantry. Although there is a great deal of debate as to what constitutes a peasantry, whether it is a useful concept in the first place (Cooper, 1981; Heyden, 1986; Kasfir, 1986), one could describe much of the production in the early fifties as peasant production.

The Contemporary Situation

The period since 1950 has witnessed a major transformation in the nature and extent of production. From a divergent peasantry to commercial production, fundamental changes in the rural institutional structure have been wrought. The availability of capital was a critical variable in change in the study area. Households used a variety of mechanisms to acquire capital. In the first phase of the transformation, migrancy, the accumulation and sale of cattle, and the surplus acquired from agricultural production were the primary means. Utilising these sources of capital, peasant households invested in second hand tractors and implements, and expanded production. This allowed them to overcome the shortage of labour in the area.

The expansion in production allowed farmers to reinvest the capital and consolidate their position as commercial producers. Thus, many farmers had become entirely independent of migrancy during the 1970s. During the early 1980s, farmers were faced with a very severe

drought. This, with the institutional changes within Bophuthatswana becoming more pronounced, led to the farmers becoming dependent on external sources of financing. Coupled with the expansion in area cultivated, and the increasing use of mechanical and biological inputs, there was an increase in the employment of both permanent and temporary labour.

The land tenure system, while formally remaining the same, underwent significant change. Much of the land which was not being utilised due to the high opportunity cost of agricultural production, was brought under production. After the drought, additional land, abandoned by small farmer, was also brought under cultivation. This led to the consolidation and expansion of certain farming enterprises. The form of tenancy which developed was sharecropping. The farmers who had access to capital were in a monopsonistic position *visa-vis* those land right holders who had no capital to undertake production. Not only were farmers producing intensively for the market, they had been incorporated into the factor markets, using finance, hired labour and land.

4. The causes of agricultural change

There can be no simple lines of causality in the social and economic changes that have occurred in the study area. Pressures, both within the rural communities as well as political and economic changes in the wider society have resulted in a configuration of forces which enables certain farmers to expand production and accumulate wealth; others have been less fortunate and many have forced to find alternative sources of income and subsistence. Low (1984, 1986) has argued that the low levels of agricultural productivity in the black rural areas has been due to the high opportunity cost of agricultural production. The main argument presented in this section is that the agricultural transformation has occurred precisely because the configuration of market forces and social and natural processes, has meant that the opportunity cost of agricultural production has increased and consequently, has drawn productive resources into the sector.

The agricultural transformation consists of two elements. The commercialisation of agriculture implies that incorporation or production within a wider, market oriented framework (Sterkenburg and Hinderink, 1986). It is easier to identify the requirements for a general commercialisation of agriculture. A more difficult task is identifying the particular path that agricultural commercialisation takes. Thus, the questions are; why did this area see the commercialisation of agriculture long before similar areas in Southern Africa? More pertinently, why did the transformation so quickly result in the expansion of large farms, when land is relatively equally spread across the land right-holding community?

The availability of technology

The period after the second World War saw the intensification of commercial maize production in the white commercial areas. Thus, there was not only the availability of land-saving and labour-saving technology, but there was also the infrastructure developed which facilitated the adoption of this new technology on the farms. This led to a rapid expansion in the area cultivated, as well as an increase in the productivity of land and labour (Van Zyl *et al*, 1987). The reasons for

the rapid introduction of the mechanised technology on white farms after the second World War were the favourable price regime, as well as expanding infrastructural support for the farmers (Morris, 1977), including tax incentives and subsidies. The mechanical technology allowed farmers to overcome production bottlenecks resulting from inadequate ox traction due to grazing shortages. In addition, it allowed farmers to expand the area cultivated (Van Zyl *et al*, 1987). The increasing use of biological, mechanical and chemical technology on white farms inevitably led to these technologies being made available to black farmers in the study area. Many black farmers were able to buy equipment directly from white farmers; this is evident from the survey results. The major proportion of equipment was second hand. Thus, the initial usage of tractors in the study area would have begun once white farmers were putting equipment onto the second hand market, towards the end of the 1950s.

What is significant is that the technology used on white farms also increasingly served the needs of black farmers. Pingali *et al* (1987) note that the rate and direction of technical change is determined amongst other things by the land and labour endowments of the society and the non-agricultural demand for labour. In this situation, there was an increasingly inelastic supply of labour due to the rising opportunity cost of agricultural production. Thus, the mechanical technology available in the regional agricultural economy suited the resource endowments facing black farmers. This trend became increasingly evident over the following two decades. The technology enabled black farmers to increase their income from agriculture, while saving labour, thus drawing resources into farming. This utilisation of tractors for ploughing led to significant labour-saving (Feder, 1981), and led to rapid expansion in land cultivated per farmer, although not necessarily leading to an increase in land productivity. Labour was a constraint due to the historical development of the area. Constraints on agricultural development led to limited expansion and to out-migration of households so that land became available to farmers wishing to expand production. While land-saving technology was introduced, this was to complement the introduction of labour-saving technology.

One of the most important factors was the very close proximity of the black farming communities to the white farming areas, as well as the very similar agricultural conditions faced by the farmers; the topography, climate and soil conditions made the technology transfer relatively simple. In addition, given the similar farming conditions faced, the supply factors, such as the distribution points and the quantity of inputs (Akinola, 1986), were reasonable. These are purely technical considerations, but do create necessary conditions for the easy transfer and utilisation of technology.

The ability to use the new technology

The ready availability of appropriate technology is a necessary but not sufficient condition for its adoption. It must offer improved returns, or reduce risks or both for it to be adopted. One of the ironies of development is that so often technology is made available to farmers in circumstances which don't favour the use of the technology. Because it does not address the needs of the particular rural communities, it is not adopted. There are reports of Department of Native Affairs' extension efforts in the 1940s seeking to encourage the use of

chemical inputs by farmers. It is apparent that even then they were readily adopted; the Department could not meet the demand for the inputs by farmers in the Ditsobotla area. However, it is doubtful that over the following decades, extension efforts were the primary reasons for the increasing usage of mechanical and chemical inputs by farmers. The survey results indicate that 42 per cent of the farmers had worked permanently on white farms, with many of them then seeking to return to undertake farming on their own accord. Matsetela (1982) notes that early in the century, farmers would send out family members to work on farms to learn about new techniques, enabling them to implement them in the same farming activities.

The conclusion that can be drawn is that in the early stages, experience on white farms would have had a positive effect on the adoption of new technology in the study area. This would apply to both land and labour-saving technology. The interviews suggest that land-saving technology was adopted first, which Kleynhans (1983) found also to be the case in Natal. This would be due to the fact that households could finance such adoptions more readily with the technology being readily divisible, an attribute linked to much of the 'green revolution' technology. Feder *et al* (1981) argue that adoption behaviour varies across socio-economic groups and over time. Here, one can see that adoption behaviour differed over time with the regard to biological and then mechanical inputs.

Capital

The introduction of technology presupposes the availability of capital. The availability of capital is often raised as a constraint to the adoption of new technology (Westcott, 1977; Kleynhans, 1983; Chaudry, 1984). Thus, the various sources of capital have played a vital role in the transformation of agriculture. In this section, the role of financial rather than human capital is highlighted.

Traditionally, wealth in the form of livestock and land holdings has been skewly distributed (Shillington, 1980). While it was partially related to the access to traditional authority (Beinart, 1984), there were commoners who had accumulated large herds of cattle. This was one of the important factors in the commercialisation of agricultural production. Cattle were the means whereby households undertook agricultural production, and enabled them to invest in new agricultural technology. Thus, livestock formed an important basis for the accumulation of capital. Many of those who farmed had migrated to the area previously; it was noted that it was often precisely for the reason that they had large cattle holdings that they sought to move to an area such as the study area in the first place (Matsetela, 1981). These households had both a tradition of farming, as well as the accumulated capital to invest in new technology. Traditional holdings of cattle were important in the continued accumulation of capital. However, there were farmers who did not inherit wealth, but accumulated wealth through the expansion of livestock holdings financed from migratory labour savings. Beinart (1984) identified this process in the latter part of last century. It was clearly articulated by people interviewed in the study area that migrancy was not only a decision forced on members of households; people sought to use it as means of acquiring the initial capital with which they could purchase livestock. Migrancy was one means

whereby this process of household accumulation was initiated; participation in "mafisa," a system of livestock loan, was another.

Households that had livestock had both the capacity as well as the incentive to sell oxen and invest in the more efficient traction when it became available. However, while livestock was important as a means of accumulating and retaining capital growth, it was not the only source of initial capital. Another source of capital was migrancy on white farms. A number of respondents mentioned that the farmers provided terms of credit for them to purchase equipment and tractors from them. It is important to note that for the majority of farm households there was no single source of capital. Households utilised migrancy, farm income, livestock and other income to fund agricultural investment. However, capital was a *sine qua non* for innovative activity (Clauson, 1978). Spiegel (1981) identifies three resources as indices of economic stratification, all three of them directly related to the sources of capital many farmers used, namely migrant remittances, arable land and livestock. These were then both the source and the consequence of the accumulation process.

The above has dealt with an environment where there were no formal credit channels. Households were still able to expand their operations and reinvest surplus generated. One could argue that during the early period of accumulation, entry into the agricultural market was open and many households could adopt the new technology. However, it is difficult to assess the extent to which the inability to gain access to financial markets served as a constraint on production. Farmers who had been relocated mentioned the lack of credit as a constraint, but this may well have been due to the effect of relocation rather than to it generally being the case. One can assume that the development of formal credit channels has a positive impact on the expansion of commercial agriculture. In the early period, finance was only for production inputs. However, during the 1980s, this changed significantly and capital became increasingly available for equipment. The introduction of credit facilities had a profound impact on the agricultural economy and served to exacerbate the emergent class differences. The survey showed that farmers net worth did not increase during the 1980s, due to the drought. Aggregate investment in capital goods remained constant. Given the drought this meant that farmers' asset ratios deteriorated and their net-worth diminished. Small farmers who had acquired production credit in the late 1970s and early 1980s could not continue after the drought. This was due to the effect of the drought and the fact credit was not made available to the small farmers. The larger farmers were able to gain continued access to finance, even though they were also not in a position to service the loans. It can be seen that access to loan capital did not provide the impetus to the commercialisation process; once that process was in motion, given the particular circumstances of the early 1980s and the credit policy adopted, it served to exacerbate class differences and marginalised the small rural producer. Given the continued availability of funds, these farmers were able to utilise the sharecropping arrangements to gain access to more land. By the mid 1980s, the establishment of large farmers and the demise of small scale production was complete.

Markets

Historically, produce markets have been important in the study area. Firstly, it was the local traders who purchased the surpluses from farmers. Through time, the surpluses were channelled to the agricultural co-operatives; in particular the white owned North West Co-operative, based in Lichtenburg, with depots throughout the area. This is not to suggest that the markets were developed with the black farmers' needs in mind. It is ironic, but the changes that occurred in the rural infrastructure and which had an impact on the study area, were undertaken with no intention of facilitating the sort of development that did occur. More recently, with the development of the agricultural projects, marketing facilities and a Marketing Board have been developed in the study area. However, for many farmers, the depots located in the white areas are still closer. The co-operative depots have not only marketed the farmers' surpluses, but have also served as agents for the distribution of production inputs. Although no detailed evidence was gathered from observations within the study area, it appears that the areas close to the white co-operatives were the first to experience an expansion in production.

Pricing

An important element underpinning the capital accumulation of farmers was the favourable maize pricing policy adopted in the white grain producing areas (Van Zyl, 1990). This also served as an incentive for the black farmers. One could argue that this was crucial in allowing the expansion in the production of maize. It meant the adoption of a particular pattern of production, rather than being the cause of the accumulation itself.

The breakdown of tribal structures

The break down in tribal structures was both cause and consequence of the transformation of the area. By the 1950s, "mafisa," the loan of cattle had already been limited by the fact that cattle could be sold so easily without trace. "Letsema", or work parties were still a common feature of seasonal work; however, this was to be reduced over time due to the fact that increasing wealth disparities meant that reciprocity was no longer feasible and hired labour became more important. The emergence of entrepreneurial activity meant a reduction in the reliance on chiefly control over land in the tribal areas and less involvement of the tribal authorities in the areas of trust tenure. Van Rooyen (1984), for the Ciskei shows that progressive farmers had less respect for the chief than other farmers; a reflection of the general perception of traditional values. This same attitude towards the tribal authorities was apparent in the study area, where only a minority of farmers accepted the limited involvement of the chief attesting the share-cropping contracts. This has two main aspects; the first is the control that the chief had over various operations undertaken in the field. From the evidence in the interviews, this was limited even by the 1950s. The second was the allocation of land; however, in a situation where nearly all arable land had been allocated, there was less involvement by the chiefs in the allocation and re-allocation of land. An important fact in the dilution of traditional control over

land would also have been the influx of new households into the areas; with no traditional ties, and the households having the capacity to start farming, this would have added to the limited involvement of the chiefs in the control over land and agriculture in general.

Change in rural-urban wage differentials

The last three decades have seen an increase in the rural-urban wage differentials (Simkins, 1981). This has been due to the increasing capital intensity of industrial development, the recent increase in the bargaining power of the unions, and the limitations on people's ability to move to the cities. This has had contradictory effects on the rural communities; on the one hand, there has been a higher income for migrants, which could have been invested in agriculture. The corollary was that there was a decrease in the use of arable land by households who had members with a high opportunity cost attached to their time (Low, 1984).

This raised the prospects for those who had resources in the rural areas and whose objective was to invest in agricultural production. They were in a position to increase production. Thus, the end result was an expansion in share-cropping as tenants leased more land from land-right holders who did not wish to utilise their land. It is important that this trend towards share-cropping be noted as a fundamental shift away from what many have argued is the security value of access to land. Thus, the land right-holders felt that there was little chance that action would be taken against them for renting out the land. This goes against Low's (1984) thesis that people utilise their land to retain their right to other goods to be gained in the rural areas. The structures and the threat of sanction had declined to such an extent that households either did not utilise the available goods, or felt that their access to these goods was not threatened. Either way, it signifies a fundamental shift away from traditional social custom.

Widening recession

The South African economy has experienced an increasing level of unemployment since the mid-1970s. This has meant that many people in the rural areas who previously sought and found work in the urban areas, were unable to do so. In addition, many blacks were moved off white farmers due to increasing mechanisation (De Klerk, 1984). These households settled in the study area. Given the limited number of job opportunities available in the study area, and the low opportunity cost of their time, the labour supply in the rural areas increased and this enabled farmers to employ more labour. Thus, whereas in the 1950s there was a limited supply of labour, in the 1980s this was not the case and there was more labour available.

Agricultural policy

It has been argued that a variety of factors were responsible for the emergence of the commercial farmers. Most of the factors were either internal to the rural communities or were factors within the wider political economy. As Comaroff (1978) argues for the Barolong, an argument should not be based only on contextual evidence. In the latter case, it seemed that the changes were a consequence of the new Land Tenure Act. However, it had very limited impact on

the area. The same can be said of the agricultural policy adopted within the study area. The major policy initiatives entailed the development of agricultural projects. These projects constituted direct intervention in the farming communities. The objectives of these projects was to raise production in these areas, but the projects did little or nothing to improve the productivity of existing resources.

The 1970s saw limited agricultural policy intervention which affected the independent farmers. One of the important ones was the provision of limited credit. This credit enabled farmers to purchase production inputs. The development of the marketing infrastructure in the late 1970s had some effect; although the planning for the depots was based primarily on the development of the projects rather than the independent farmers. As was noted above, the provision of credit in the 1980s had a significant impact on the transformation. However, it would be wrong to argue that it caused it; rather the provision of credit had an impact on the pace of the transformation. It could be said that it served to consolidate the control over resources by the larger commercial farmers. During the 1980s there was a marked reorientation towards the independent commercial farmers by the agricultural authorities in Bophuthatswana. This was a general trend in southern Africa. It can also be seen as an example of induced institutional innovation whereby the farmers, through the pressure that they bring to bear on the authorities, bring about a redirection of policy.

5. The consequences of agricultural transformation

The broad consequences of the transformation in agriculture has significance for both those with agricultural resources, as well as those without. One of the most important consequences of the change is the creation of a commercial farming class, and conversely, the creation of two other groups; a group of wage labourers and a group of land right holders who lease out their land.

The commercial farming class presents an important factor in the social structure of the region. Many of the farmers have developed their enterprises through the investment and reinvestment of farm and other income. Thus, they do not necessarily have links with either the traditional tribal structures or the current political structures which would have enabled them to monopolise the resources. However, it is apparent that the structures have been created for the farmers to be able to exert a large measure of political influence. Most importantly, there has been a policy followed which has ensured that larger farmers are able to gain access to a greater share of resources than smaller farmers. In addition, there is evidence that in the allocation of land in the newly consolidated trust land, larger farmers and particularly those with political links, have been able to gain access to the land.

The specific consequences which have resulted are the following. Firstly, there is a marked deterioration in the equitable distribution of assets in the communities. It is difficult to present a picture of the resource distribution before the emergence of the commercial farmers. However, given the fact that many farmers were forced out of farming after the drought, one can argue that the distribution of land is more skewed than before. A further consequence of this process of

commercialisation is a weakening of the links of households to the land. While this has happened over a long period of time, the current trend is for the large majority of households to be leasing out their land. This will have a significant impact on the perceptions of households towards land and will lead to a more general alienation from the land. In the long term, as the land tight holders do not exercise their right to plough, it will lead to permanent lease and ultimately, the possibility of the sale of the long term right to cultivate the land by the sharecropper. The expansion of the commercial farmers has led to a rapid increase in the debt levels of farmers. This is due to a combination of the drought as well as the fact during the drought the farmers were incorporated into the factor markets and finance became more readily available.

6. Conclusion

The process of agricultural change is extremely complex, with a large variety of factors being important. The proximity of the reserves to a developed infrastructure and agricultural economy was important. Initially, cheap equipment being sold on the second hand market had a positive impact. The employment opportunities on white farms with the possibility of gaining insight into the new technology was also important.

The introduction of new mechanical and biological technology had a profound impact on the income generating potential of black farmers. As the opportunity cost of agricultural production changed, so resources were drawn into agriculture and the transition to a commercial agricultural economy was reinforced. With the recession and increasing unemployment, labour was more readily available and this allowed commercial farmers to increase the use of hired workers.

The drought consolidated the hold of commercial farmers on the land. As the importance of purchased inputs increased, so the farmers reliance on capital increased. With the onset of the drought, farmers were faced with a shortage of capital. For many small farmers, they had few assets and they were unable to withstand the financial difficulties they faced. Larger farmers were in better position to continue borrowing money. They not only were able to continue farming but could also expand their operations on land unutilised by small farmers unable to continue farming. This increased the wealth differences in the communities. The irony is that just as they were able to consolidate their hold on the land, natural and economic forces threatened their very survival.

The transformation of agricultural production in the study area is a fore-runner of what many other developing areas face in South Africa. Apart from the effort to fashion policies which will provide the agricultural support services to allow for the development of agriculture, a major effort will have to focus on the many households who have homes in areas but have little or no economic links with the communities within which they live. Policies will have to be fashioned to ensure that all people have the opportunities for advancement either within or away from the rural areas.

The research indicates a number of circumstances which provide the set of comprehensive support services which

are essential for the development of commercial agriculture, namely the availability of capital; appropriate biological and mechanical technology and the experience to use it; suitable pricing policies and marketing opportunities. The changing rural-urban wage differential, the drought of the 1980s and the demise of tribal institutions also had an impact. An important conclusion thus is that no single factor caused the development of a commercial agriculture, but that a 'package of prime movers' was necessary.

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