

SECOND CARNEGIE INQUIRY INTO POVERTY  
AND DEVELOPMENT IN SOUTHERN AFRICA

Aspects of agriculture and  
rural poverty in Transkei

by

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# ASPECTS OF AGRICULTURE AND RURAL POVERTY IN TRANSKEI

by

T J Bembridge\*

## 1. INTRODUCTION

This paper describes the major constraints to agricultural development in Transkei, and focuses on selected aspects of rural poverty. Data was obtained from a comprehensive micro-level study of three areas, including an irrigation scheme, considered fairly representative of intensive and semi-intensive farming areas of Transkei<sup>1</sup>.

It can be concluded from the literature on rural development in Southern Africa, that knowledge of how to bring about any development of the subsistence level sector is still very limited. The question of what approaches would be effective in any efforts or schemes to help the Independent and National States to break the vicious cycle of poverty has become a matter of great urgency.

The purposes of rural development are too important merely to continue with fragmentary, unco-ordinated thrusts into the total complex of problems. What is important is to apply the array of theoretical and practical knowledge in the context of solving problems. It follows that the research approach should follow a systems model which synthesizes separate elements into a whole. It is generally accepted that separate studies do not lead to an understanding of the whole system<sup>2</sup>.

## 2. APPROACH TO THE STUDY

Briefly, the approach adopted in the study identifies three interacting forces which, in combination, determine the type of farming system being practised in a given agro-ecological area. Collectively, these individual farming systems represent the total land-use pattern of the area, its

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1 Bembridge, T J 1984. A systems approach study of agricultural development problems in Transkei. Ph D thesis, University of Stellenbosch.

2 Spedding, C R W 1975. The study of agricultural systems. In: Ed. Dalton G E. A study of agricultural systems. Applied Science Publishers, London.

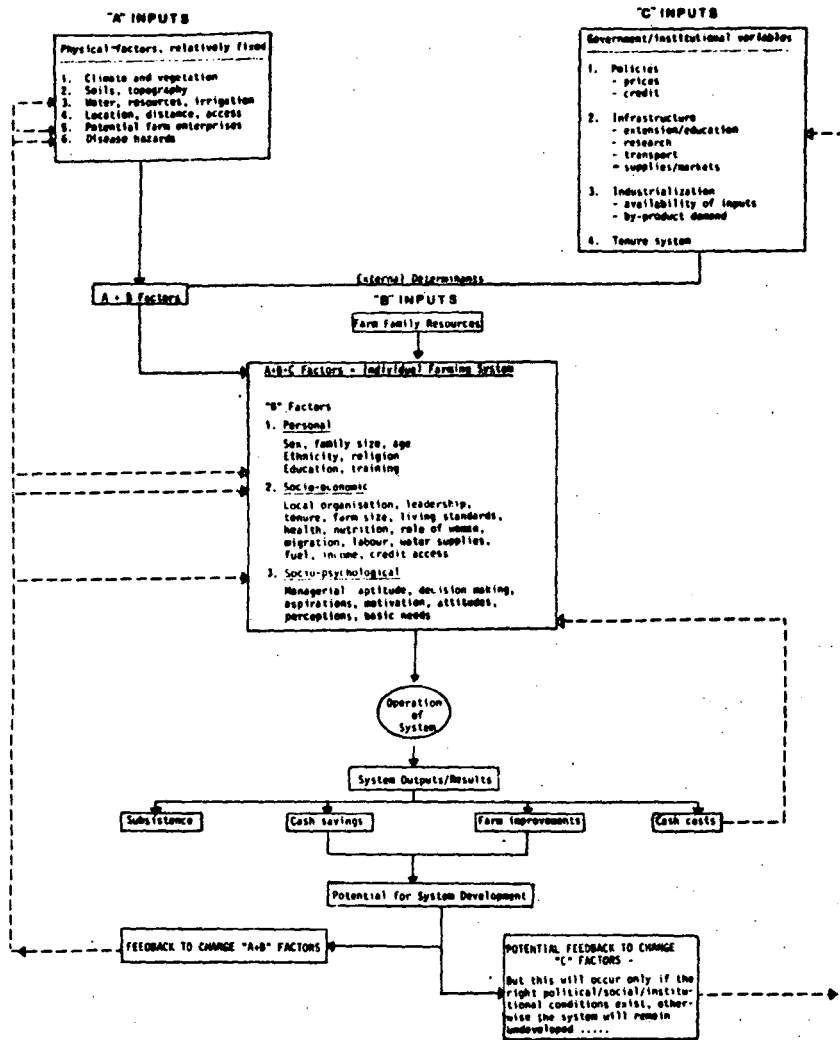


Fig. 1 Determinants of a farming system.

productivity and potential, as well as its stability in terms of use of resources and conservation (Fig. 1).

The A factors represent the physical resources and the environment which determine the type of agriculture which can be practised, the potential of an area and the optimum use of natural resources. Generally, ecological factors and their effect on farming systems have been well researched and documented.

The farm family is the central figure in the production process. The B factors represent the individual farming families in a specific area. It identifies personal, socio-economic, socio-psychological and communication factors which may be acting as constraints to agricultural and rural development.

There is also a need for accurate knowledge of how the institutional framework of the agricultural economy works, and also a need for reliable quantification of key relationships within the system. The C factors, which include agricultural policy, prices, marketing, research, education, extension, availability of inputs and other important institutional aspects such as land tenure, all influence the farming system in terms of results and outputs (Fig. 1).

In interpreting the findings of this study the reader should be aware of the fact that any system is time dependent and dynamic in the sense that it is in a constant state of change and evolution.

### 3. RESULTS OF THE STUDY

Table 1 summarises the more important problems and constraints identified in the study, as well as suggested solutions to the problems which need to be tackled on a planned priority basis.

#### 3.1 Physical factors

Relative to other parts of Southern Africa, Transkei is fortunate in having

a favourable climate, soils, vegetation and water resources. Over 50 per cent of the country has a potential for intensive and semi-intensive agriculture.<sup>3</sup>

Unfortunately these vast resources are being utilised at only a fraction of the potential because of various institutional, technological, socio-psychological and socio-economic factors discussed elsewhere in this paper. Of even greater concern is the fact that already part of the arable potential is being damaged to the extent that its cropping potential has declined, and progressive deterioration is taking place on a large proportion of the remainder of cultivated land. Much of the grazing area is in varying stages of deterioration.

A general conclusion was that the traditional development model, together with the growing deterioration of the biophysical environment as a result of it, emphasizes the need for alternative planning strategies.

### 3.2 Institutional factors

It is not within the scope of this paper to discuss the institutional constraints highlighted in Table 1 in detail.

From evidence on Ministerial policy statements and other documents, it was concluded that an operational policy and strategy for the development of agriculture and rural areas in Transkei has, by and large, still to be formulated. Policy statements are drawn up in very general terms without any stipulation of production and income targets or modus operandi.

Provision of adequate credit to agricultural production, coupled with recognition of savings potential by small farmers through co-operatives or other organisations, was found to be singularly lacking in Transkei.

Because there is a considerable shortfall in production of commercial food crops for internal use, it might be argued that the present lack of suitable marketing channels does not present a problem. However, there is sufficient evidence from other countries to suggest that marketing must be a pre-requisite and not a result of production. Agricultural

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<sup>3</sup> Hawkins Associates, 1980. The Physical and Spatial Basis for Transkei's First Five Year Plan. Harare, Zimbabwe.

innovations are more likely to be accepted for products with a suitable market outlet.

Although marketing channels do exist for cattle, there is evidence suggesting formal marketing of cattle in terms of turnover and facilities is unsatisfactory. The same situation applies to wool marketing. Sheep, goats and poultry are marketed almost entirely through private treaty arrangements.

This almost complete lack of an effective delivery system in Transkei to provide inputs for production at an acceptable price at the right time, as well as outlets for production surpluses, is particularly serious in a strategy which has advocated modern technology and purchased inputs.

Because extension education has a vital role to play in the development of agriculture in Transkei, the study has placed considerable emphasis on this important aspect. Evidence showed that the results of extension education have been disappointing.

It was concluded that the extension service has operated haphazardly with neither priorities nor plans, with the result that its objectives have not been achieved. The investigation showed considerable deficiencies in technical support and administrative control at all levels.

The Department of Agriculture is unfortunate in having no research institute of its own; it has, therefore, to rely on technical information from research stations in the Republic of South Africa.

The evidence is overwhelming that, because the relative production factors and commodity values and prices differ so greatly in small-scale peasant agriculture, optimal technology in the commercial farming sense is not necessarily optimal in less developed agriculture. Furthermore, adoption of technology will accelerate only if innovations are appropriate to the local agro-climate environment.

Evidence from the study on agricultural production showed that there is a need for continuous production-orientated development research, and this should come out with improved practices which are inexpensive, labour-saving, dependable and predictable to small-scale farmers.



The problem of non-viable farming units, and lack of agrarian reform policies to overcome this problem and attract bona fide farmers to the agricultural industry is a serious constraint to the development of a viable agricultural industry.

Evidence from the study showed that the necessary infra-structure and services such as roads, water supplies, health and social services, are generally inadequate to meet the needs of rural development.

It was clear from the study that none of the institutional requirements and supporting services necessary for successful agricultural development have been adequately fulfilled. Supporting services should be provided in accordance with the capacity to use them and to concentrate on highest priority supporting services.

### 3.3 The human potential

Special emphasis of the study was on the characteristics of the rural population, which included personal, socio-psychological and socio-economic factors. This section briefly reviews the characteristics of rural families and highlights a number of socio-economic factors which influence rural poverty.

The study showed that the human factors which affect agricultural development are definitely a multi-variant, cause-effect phenomenon. All the variables which correlated with farming progressiveness were in turn related to some of the others in varying degrees.

#### 3.3.1 Personal characteristics

Personal characteristics such as low education levels, illiteracy and lack of vocational training were all found to have an influence on levels of agricultural production. These characteristics were further aggravated by the preponderance of women de facto heads of households and single parent households.

#### 3.3.2 Socio-psychological factors

Present formal leadership and lack of suitable organisations with and through which to plan agricultural and rural development is a major

constraint to advancement of the rural areas. Local leaders and organisations at village level can become effective extension agents if trained and supported by the extension service. The large membership and powerful influence of church organisations in rural areas suggest that churches should become a focus of attention for development agencies.

Small farming units are an undoubted constraint to achieving a viable smallholder class of farmer. Any land reform programme to break down the barriers to economic allocation of arable land needs to be accompanied by a vigorous education campaign at all levels. There is also a need to re-assess the present communal grazing system with a view to implementing co-operative control and management systems.

An important consideration is that most of the important socio-psychological factors such as managerial aptitude, aspirations, motivation, various attitudes, perception and decision-making (Table 1) which were found to influence farming progressiveness are easily amenable to manipulation and can be considerably influenced by rural development agencies. Provision of basic needs should be the focus of rural development programmes.

### 3.3.3 Socio-economic factors

#### 3.3.3.1 Labour migration

One of the clearest results of labour migration is the preponderance of women as de facto heads of households. Three in five effective heads of households were found to be women.

The female heads of households are often in an unenviable position. Women not only supply the major sources of labour, but are the prime decision-makers in agriculture. The importance of women in agricultural development has been noted on numerous occasions in recent years, but very little has been done to ease their burden or improve their lot.

Individuals and households differ, in terms of the effects of migration, as well as in attitudes to migration. Fig. 2 shows some of the general effects of migration on the economy of the rural areas of Transkei.

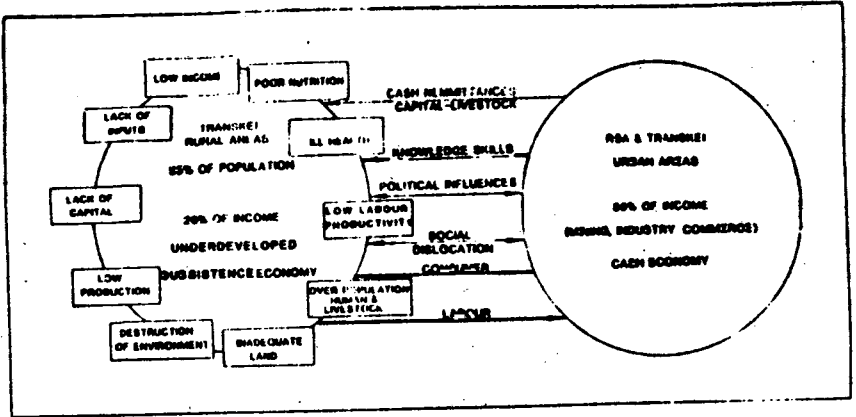


Fig. 2 The effects of urban migration on the rural economy of Transkei.

Migration of heads of households was found to have a negative effect on crop yields and food production.

The decision to migrate is clearly influenced by many factors, both 'push' and 'pull', but is probably related mainly to relative levels of income in agricultural and outside employment and to the distribution of income in these areas. It is a very complex problem, which requires policy changes and the provision of incentives and infrastructure which will attract people to remain in the rural areas. The drift to urban areas cannot be reversed, but life in the rural areas can be made more rewarding for those who wish to stay.

## 3.3.3.2 Nutritional status

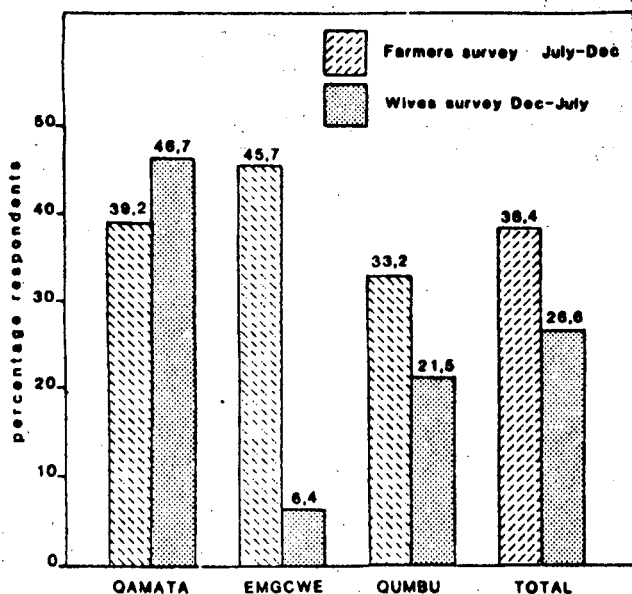


Fig. 3 Percentage of families with below minimum calorie intake according to area and season, 1979.

Fig. 3 shows significant differences in calorie deficiencies between areas and between seasons. It was found that, on average, the time when serious nutrition deficiencies are experienced is mainly during the winter and early rainy season, which is also a time of high demand for agricultural work.

Calorie 'adequacy' of a diet does not guarantee an adequate supply of vitamins and minerals. An analysis of the composition of the diet showed that approximately 70 per cent of the calorific and protein content of the diet was derived from cereals, mainly maize. Excessive dependence on maize is associated with most dietary deficiencies.<sup>4</sup> Between 50 and 60 per cent of respondents did not consume meat, milk, eggs or fish. Legumes (beans/peas) were added to only 32 per cent of meals, and vegetables to 23 per cent.

4. Langenhoven, M L (1982). A dietary survey in Ciskei. Paper presented at TACRESOC Conference, University of Transkei.

It was concluded from the survey that approximately 33 per cent of families have below minimum calorie intake, and the majority have a diet deficient in quality of protein and intake of certain minerals and vitamins, which is a constraint to agricultural development in terms of energy and motivation.

### 3.3.3.3 Health situation

The disease spectrum in Transkei shows a predominance of poverty related diseases, which in order of importance are diseases of the respiratory system (22%), mainly tuberculosis, diseases of the digestive system (20%), such as gastro enteritis, and various communicable diseases.<sup>5</sup>

The number of illnesses per household showed significant (negative) correlations with crop and livestock production, living standards, income aspirations and motivation. Large families also tended to have more illnesses, as well as those families where the husband was away. These findings confirm that health and nutrition are part of a vicious cycle of socio-economic problems.

A general conclusion from available data and evidence from the study was that the majority of diseases which afflict rural areas are those which are due to poor nutrition and sanitation and unhygienic living conditions in general.

### 3.3.3.4 Farm labour inputs

An approximation of distribution of seasonal labour requirements for dryland maize is shown in Fig. 4.

Weeding, neglect of which is undoubtedly a major cause of low yields has the greatest peak labour demand. Harvesting of maize usually takes place from the "green mealie" stage onwards.

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5. Rose, E, Daynes, W G and Kloppers, P J (1980). A survey of Disease Patterns in Transkei and Ciskei. mimeo

Table 10.1 Summary of physical, institutional and human problems and constraints, system outputs and suggested solutions.

Factor/Variable	Problem/Constraint	Suggested Solution
<b>1. PHYSICAL</b>		
1.1 Soils	Depletion of soil fertility	Improved cropping practices. Integrated farming.
1.2 Vegetation	Veld deterioration and degradation. Fuel wood deprivation.	Grazing control and management. Establishment of wood lots.
1.3 Water resources	Under-developed primary and secondary water resources.	Planned conservation and development of primary and irrigation water resources.
1.4 Pests and diseases	Crop wastage. Low animal production and high mortality.	Adoption of modern biological and chemical control.
1.5 Land-use	Lack of detailed resource planning.	Detailed resource surveys. Adapted economic farming systems.
<b>2. INSTITUTIONAL/POLICY</b>		
2.1 Policy	Lack of operational policy and specific objectives.	Balanced operational policy with realistic targets.
2.2 Planning	Lack of central agricultural planning organisation.	Establish Central Agricultural Planning Authority directly responsible to Cabinet.
2.3 Rural-infrastructure	Poor water distribution, roads, communication, schools etc.	Planned piped water schemes, roads, education centres according to area plan.
2.4 Inputs/services	Lack of readily available inputs/services.	Establish rural service centres in districts.
2.5 Marketing/prices	Lack of organised marketing and price incentives.	Marketing and pricing policy for major products.
2.6 Credit	Lack of credit facilities.	Provide selective controlled credit.
2.7 Research	Lack of local agricultural research.	Develop suitable applied research structure.
2.8 Extension	Ineffective and inefficient extension.	Reorganise in time-bound Training and Visit system. Balanced use of communication channels.
2.9 Land tenure	Lack of security and negotiability of land rights. Uncontrolled communal grazing.	Registration and negotiability of arable land rights. Cooperative grazing schemes.
2.10 Development co-ordination	Uncoordinated rural development approach.	Decentralised control and coordination policy at District, Regional and National level.
<b>3. HUMAN RESOURCES</b>		
<u>Personal characteristics.</u>		
3.1 Age/sex ratio. Migration	Insufficient males in productive age groups.	Institutional and agrarian reform to encourage bona fide farmers. Rural employment.
3.2 Education and training	Illiteracy. Low education levels. Urban oriented education.	Functional literacy and numeracy. Adult education, home

3.3	Local organisations	Lack of suitable local organisations.	Institution of multi-purpose farmer organisations at District and Regional level.
3.4	Leadership	Lack of dynamic local leadership.	Leadership development and training.
3.5	Land tenure/farm size	Non-viable farm holdings.	Land reform programme (see 2.8). Alternative rural employment.
3.6	Labour	Labour shortages at peak periods.	Co-operation, contracting and land reform.
3.7	Living standards	Low living standards.	Policies for improved incomes, health, nutrition etc.
3.8	Nutrition	Inadequate nutrition (40%)	Increased food production - vegetables. Nutrition education.
3.9	Health	Nutrition related diseases.	Increased food production, clean water supplies, health education.
3.10	Water supplies	Inadequate clean water.	Participatory piped water schemes.
3.11	Fuel	Inadequate and expensive fuel.	Establish woodlots. Improved fuel technology.
3.12	Role of women	Large labour burden. Neglect in development.	Technology to ease workload. Greater involvement of women in development programmes.
3.13	Rural youth	Poor image of agriculture. Urban oriented education.	Rural youth education programmes. Teacher training.
3.14	Farm income	Low farm incomes.	Increase farm and non-farm income. Rural employment opportunities.
<u>Socio-psychological</u>			
3.15	Managerial aptitude	Low management levels.	Intensive farm management extension.
3.16	Decision making	Lack of decision making information.	Extension information to assist in individual decision making.
3.17	Aspirations/motivation	Low income and farming aspirations. Lack of motivation.	Provide educational and institutional incentives.
3.18	Attitudes	Negative attitudes to development.	Effective persuasive communication through extension.
3.19	Perceptions	Over optimistic perceptions of resource use.	Intensive extension and demonstrations.
3.20	Basic needs	Need for improved diet, health, water supplies, education, consumer goods etc.	Target based rural development programme.
4. SYSTEM OUTPUTS			
4.1	Crop production	Below subsistence production. Low yields and adoption of technology. Inappropriate technology. Lack of draught power.	Intensive extension. Appropriate technology. Intensified and diversified production. Co-operative and contract ploughing and services.
4.2	Irrigation	Uncontrolled and inefficient irrigation.	Centralised management and control. Improved irrigation techniques. Close supervision.
4.3	Livestock production	Land degradation. Low offtake and reproduction. High mortality.	Improved water supplies and fencing. Grazing control and management (see 2.8). Improve basic nutrition, management and disease control.
4.4	Integrated farming system	Little integration of crops and livestock.	Devise integrated farming systems through applied research.
4.5	Gross margin	Low gross margin and farm income.	Strategy based on intensive extension with the necessary institutional support. (See 2 and 3 above).

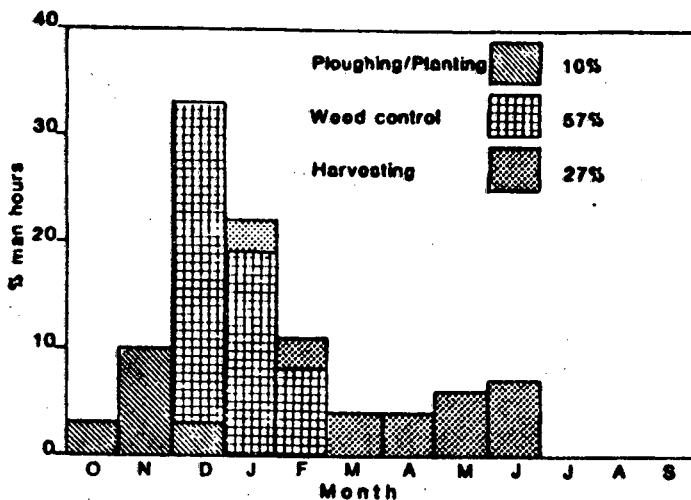


Fig. 4 Approximate seasonal distribution of labour requirements for dryland maize production.

Taking cognisance of the number of female *de facto* heads of households, who also have to maintain the household, cart water and fuel, etc., it can be concluded that in at least 60 per cent of cases, seasonal labour shortages are a constraint to crop production. In particular, failure to ensure timeliness of farming operations can affect yields detrimentally.

On the other hand, it is also clear that, despite labour intensive agriculture and peak seasonal labour requirements, the average peasant holding in Transkei cannot, under present circumstances, provide full-time employment nor incentives for able-bodied males.

It was concluded from the study that female labour carries a substantial responsibility for the maintenance of rural life, including, roughly speaking, 80 per cent of the total farm work-load. Cultivation, hoeing and harvesting of crops are done by the women. Only in about 20 per cent of cases are ploughing and harrowing carried out by male labour.



### 3.3.3.5 Rural water supplies

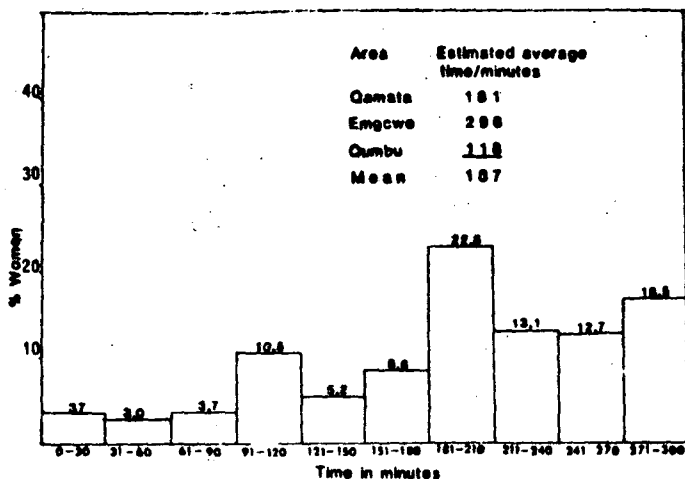


Fig. 5 Distribution according to time taken in carting domestic water, 1979 (N = 538).

From Fig. 5 it can be concluded that the average family spends over 3 hours (187 minutes) per day, or 25 per cent of the day, collecting water. Whatever the distribution between individuals, the time taken in collecting water imposes a large inroad into available working time of women as well as a physical burden.

The benefits of improving water supplies, in terms of value to agricultural production or other economic activities, will greatly depend on the extent to which other constraints on such activity could be overcome. In addition, there are other benefits to be derived from improved water supplies, such as increased leisure time<sup>6</sup>.

### 3.3.3.6 Fuel

Throughout the Independent and National States, women and children spend a considerable proportion of their time and energy gathering firewood, animal dung and crop residues to have the fuel they need for cooking and providing heat and lighting.

6. Feachen, R, Burns, E, Cairncross, S, Cronin, A, Cross, P, Curtis, D, Khalid Kan, M, Lamb, D and Southall, H (1978). Water, Health and development. Tri-med, London.

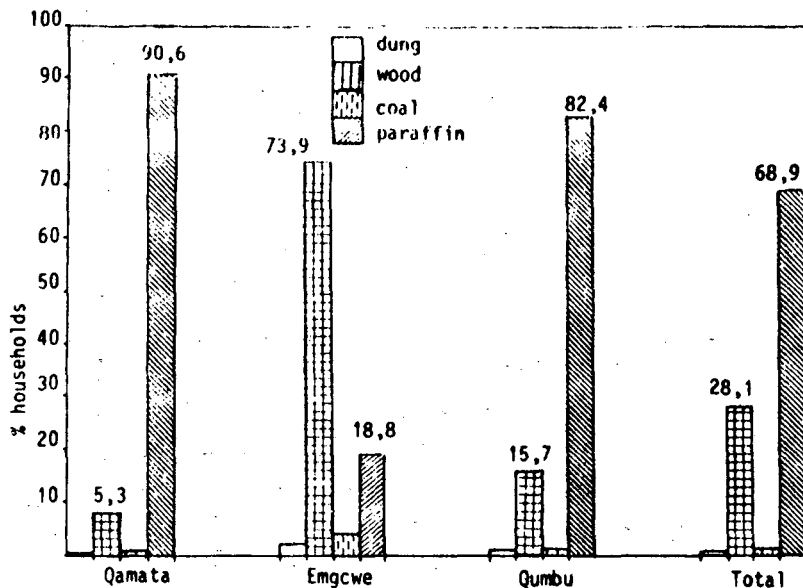


Fig. 6 Distribution of households according to the type of fuel used for cooking, 1979 (N = 267).

The types of fuel used for cooking, which uses the most fuel in rural households is shown in Fig. 6. Because of the shortage of wood, paraffin is today the most frequently used fuel for cooking.

On average it was found that households spend R10,18 on fuel per month, but there was a wide variation. In all areas wood and dung are used for heating; these are usually gathered at no direct financial cost to the household. The amount spent on fuel was found to be disproportionately high in relation to family income.

### 3.3.3.7 Household income

Table 2 Total household income from farming and wages according to area, 1979 (N = 538).

Category	Income and per capita income by area						Total (N=538)	
	Qamata (n=210)		Emgwe (n=121)		Qumbu (n=207)		R	%
Farming income	R 182,77	20,2	R 195,99	11,6	R 16,10	1,4	121,61	19,4
Wage income	722,92	79,8	1490,88	88,4	1128,22	98,6	1057,58	89,6
Av. total income	905,68	100,0	1686,86	100,0	1144,32	100,0	1173,19	100,0
Av. per capita income	150,94	-	251,39	-	202,18	-	194,88	-

Table 2 gives the average family incomes and per head incomes for the study areas. The average household income of R1 173 corresponded very closely to that recorded in the 1979 household survey which included rural areas of Transkei.<sup>7</sup> The high proportion of non-agricultural 'cash' income (90%) suggests that the average Transkei farmer is a consumer of agricultural produce, and not a producer. Expenditure on food was found to be five and a half times that of net farming income shown in Table 2.

From the data on the distribution in annual family income it would appear that approximately 69 per cent of families are living below the poverty datum line according to the standards of the Institute of Planning Research.<sup>8</sup> Because of the low proportion of farm income relative to household income, inequality of household income is due primarily to differential access to off-farm income.

However, the evidence on family nutrition, together with the complicated system of communal family and kinship obligations which tend to cushion the effect of poverty, suggests that in practice the figure may not be as high as 69 per cent, but available evidence showed that at least 40 per cent of rural households are living in a state of poverty.

From an agricultural point of view, in the absence of external resources for farming inputs, the household is likely to become a victim of a cycle of declining productivity, because of inability to adopt sound agricultural practices.

At the same time it is clear that in the absence of credit facilities, off-farm employment appears to offer to most farmers the only hope for capital accumulation to improve their farming output.

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7. Steenekamp, J J A and Loubser, M (1980). Income and Expenditure of black households in Transkei 1979. Bureau of Market Research, University of South Africa.
  8. Potgeiter, J F (1980). The household subsistence level in the major urban centres of the Republic of South Africa, April 1980. Institute for Planning Research, University of Port Elizabeth. Fact Paper. NO. 36.

### 3.4 Conclusion on human potential

The human characteristics discussed suggest that approximately 60 per cent of farmers are likely to be responsive to efforts in improving agriculture. Special programmes need to be devised for the remaining disadvantaged 40 per cent.

Both felt and unfelt basic needs which require to be met in order to break the poverty cycle and provide a sound basis for rural development, include quantity and quality of diet, clean drinking water, improved housing, household consumer goods, health services, education, adult education, appropriate technology, improved infrastructure and participation in decision making.

## 4. AGRICULTURAL PRODUCTION

Today, increasing numbers of people are living in the rural areas, soil fertility is being depleted and there is little capital formation. Non-farm employment is the only recognised possibility of escaping from a low level equilibrium trap. Evidence from the study showed that the average Transkeian is principally a consumer and not a producer of food.

The information obtained on crop and livestock production clearly indicated a tendency towards a farming system at a 'low level equilibrium', with little integration of crop and livestock production in the farming system.

### 4.1 Crop Production

A general lack of draught power, suitable implements and tools was found to be a constraint to improved crop production by individual farmers.

Active erosion and severe depletion of soil is taking place in many instances, owing to poor methods of crop culture. Data showed low rates of adoption of recommended practices contributed to the appallingly low maize yields.

The fact that 92 per cent of crop-growing farmers were found to have non-viable farming units in terms of subsistence level requirements is bound to act as a disincentive to full-time farming.

#### 4.1.1 Irrigated crops

The large Qamata irrigation scheme in Transkei, which is run by the Government, entails high fixed costs which, according to the findings, are disproportionate to the low levels of production being achieved.

Findings suggest that many farmers tend to regard irrigation only as an insurance against drought. Because water costs are low there is little inducement for more intensive farming. The farmers on Qamata, because of lack of selection, had little or no experience of modern irrigation farming, and have obviously not been given the knowledge and skills to realise the production potential of the scheme.

Any solution to the production problems on Qamata must of necessity involve close supervision and selective pressure on those farmers interested in irrigation.

Since Qamata irrigation scheme involves a high capital and fixed costs, serious and urgent consideration needs to be given to re-organisation and reforms on this project.

#### 4.1.2 Crop yields

The extremely low gross value and gross margin from crop production were a direct reflection of low yields and the low rate of adoption of technology. Almost half of the farmers showed a loss from crop production, which poses the question why rural families grow maize at all. One reason is possibly that in order to retain their land rights, farmers are obliged to cultivate their land. Another may be that maize is regarded more in the nature of a readily available vegetable crop, since it is consumed from the green mealie stage onwards, and not necessarily as a grain crop. Whatever the reasons, it is clear that, at present yields, the return on labour expended on crop production is abysmally low.

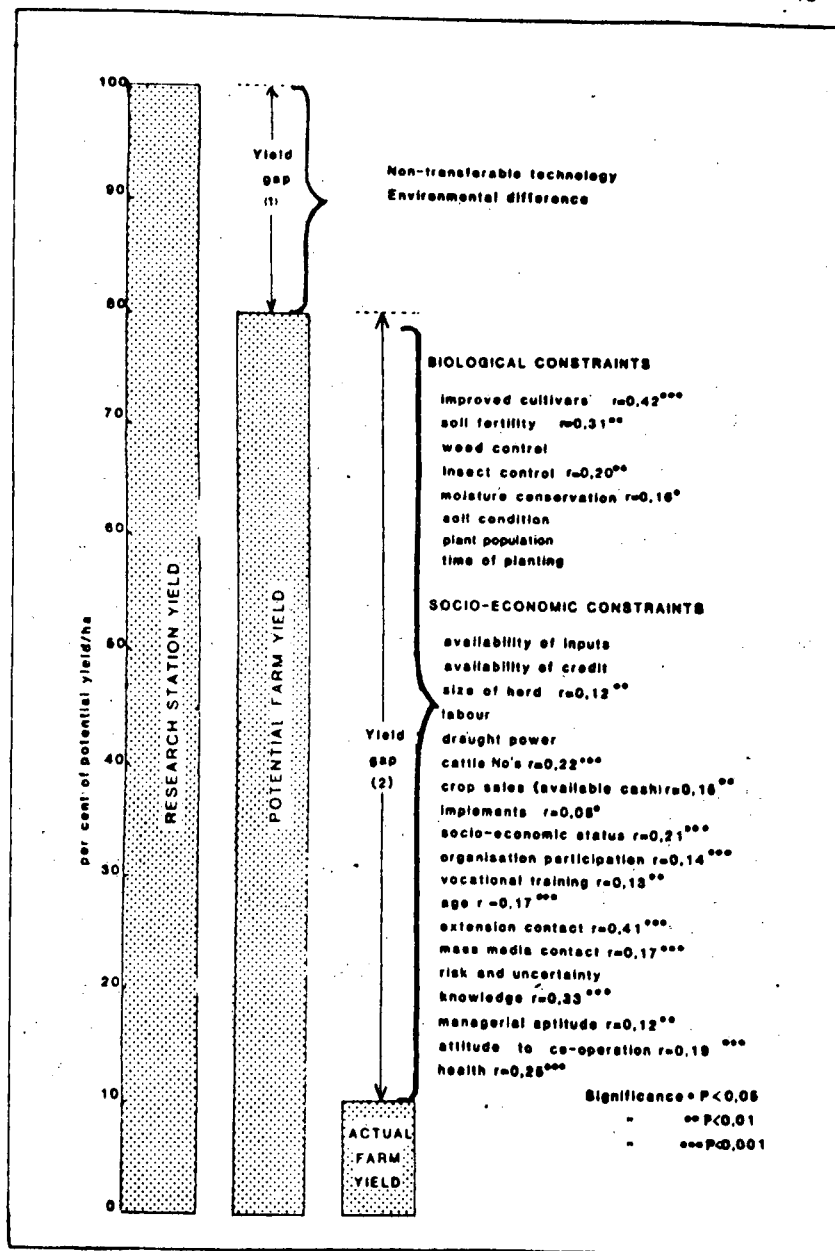


Fig. 7 Conceptual model explaining the gap between potential and actual farm yields of maize.

#### 4.1.3 Maize yield constraints

The constraints to maize yields are conceptualised in Fig. 7.

This model recognises that due to non-transferable technology and environmental differences, there will always be differences in yield between research stations and best farmer yields (Yield Gap 1), and that the existing gap (Yield Gap 2) between farmer yields and best potential yields is caused by both biological constraints, in the sense of non-application or poor application of technology, and by socio-economic constraints which prevent farmers from using the recommended technology.

#### 4.2 Livestock production

Traditionally owned cattle, sheep and goats may be regarded as amongst the largest resources in the rural areas of Transkei, yet according to the findings of the study make a relatively small economic contribution to the economy.

An analysis of cattle-herd ownership revealed that most farmers (78%) owned fewer than eight livestock units, which is the minimum number considered necessary for the primary needs of survival and subsistence, as well as for sociological needs. This meagre individual ownership by so large a percentage is one of the major reasons for low off-take from the national herd.

Efficiency data on cattle, sheep and goats showed an appallingly high mortality rate, low reproduction rates, low milk production, and low off-take. Such rates are largely the result of low levels of management and deterioration of the environment.

A vicious cycle of land and livestock degradation has been initiated in Transkei by the expansion of arable areas and a rapid increase in human population. The net result has been a reduction in carrying capacity and low levels of livestock production. Each stock owner perceives that a net gain will accrue to him if he maximises the number of his animals on the communal grazing. This benefit occurs, he believes, even though the result is to destroy the resource base. As communal grazing land becomes degraded, the whole community loses an important collective benefit.

As with crops, livestock owners in Transkei are more in the nature of consumers of livestock products rather than producers.

It is clear that if livestock production systems in Transkei are to survive and develop, new methods will have to be devised and new organisations created to integrate cattle more effectively and profitably into the farming system.

#### 4.3 Impact of betterment planning on agriculture

Evidence on the physical environment, adoption of technology and levels of crop production, showed overwhelmingly that physical planning and provision of extension services have had little impact on the original aim of stabilising the land and increasing agricultural production by encouraging bona fide farmers. Poor farming practices have resulted in deteriorating land resources. Evidence on incomes and nutrition showed that a poverty situation still persists.

Table 3 A comparison of gross output of crops and livestock per farmer in medium and high potential areas of Transkei between the Tomlinson Report (1951/52) survey and the 1978/79 survey.

Crops and Livestock	Value Home use		Value Sold		Total Value		Increase/Decrease R
	1951/52 R	1978/79 R	1951/52 R	1978/79 R	1951/52 R	1978/79 R	
Maize	56,22	40,42	0,70	3,13	56,92	43,55	- 13,37
Other (wheat)	24,43	34,41	1,55	17,52	25,98	51,93	+ 25,95
Total	80,65	74,83	2,25	20,65	82,90	95,48	+ 12,58
Cattle	13,90	8,21	16,24	6,97	30,14	15,18	- 14,96
Smallstock	11,21	24,79	2,39	7,33	13,60	32,12	+ 18,52
Pigs	4,64	11,31	0,46	5,32	5,10	16,63	+ 11,53
Poultry	10,67	76,40	1,43	4,32	12,10	80,72	+ 68,59
Total	40,42	120,71	20,52	23,94	60,94	144,65	+ 83,68
Total crops and livestock	121,07	195,54	22,77	44,59	143,84	240,13	+ 96,29
Percentage	84,20	81,40	15,80	18,60	100,00	100,00	-



A comparison of data from the Tomlinson Commission report<sup>9</sup> compared with results of this study (1978/79) adjusted by the consumer price index, showed a marginally lower value of the major enterprises of maize production and cattle farming than was the case 27 years ago (Table 3). The substantial increase in gross value of production (96%) is misleading in the sense that it is accounted for mainly by the increased value of poultry production. In both instances more than 80 per cent of agricultural production was used for home consumption. The comparative data confirmed that there has been little, if any, significant improvement in agricultural production in the past 27 years.

From the evidence provided on attitudinal impact, farmers and their wives were generally favourably disposed towards betterment planning. However, the evidence suggested that rural communities did not fully comprehend the original aim of betterment, which was to develop an efficient and self-supporting 'peasant farmer class'.

On the positive side, even though it is inadequate, a great deal of infra-structural development has taken place in the rural areas of Transkei, in the form of roads, fencing, water supplies, schools and clinics. Previous planning efforts to re-allocate residential areas on a village basis provides a useful starting point for desperately needed new strategies for agricultural and rural development. The village has many dynamic and valuable features. Villages, both small and large, need to be developed to provide the social, religious, educational and commercial services and necessities for everyday life in the rural areas.

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9. Tomlinson Commission Report 1951/52 (1952). Report of the Commission for the socio-economic development of the Bantu areas, within the Union of South Africa. Government Printer, Pretoria.

## 5. CONCLUSION

The data from the study suggest that it is relatively easy to analyse the physical, human and institutional constraints which determine the functioning of a farming system, and even to suggest solutions to individual problems. It is much more difficult, however, to formulate an alternative rural development strategy.

The question may be asked; why should states such as Transkei be concerned with a rural development strategy? The study showed clearly that the present system is unable to sustain the present population and is destroying the resource base. The below subsistence farming system is simply not viable in the situation pertaining today. The study also showed indisputably that food production and consumption are two of the largest socio-economic problems facing Transkei.

Because of the wide range of complex problems highlighted in the study, (refer Table 1), it is clear that there is a need for co-ordination of policies for agriculture, infra-structural development, education, health and welfare. What is most important is the need for leadership development and involvement of local communities in their own development. An attempt to continue with piecemeal solutions is doomed to failure.

Rural development should be viewed as a comprehensive, co-ordinated, inclusive effort towards stimulating agricultural and non-agricultural productivity on the basis of connected and mutually supportive control and local activities. Rural development is likely to come about only as a result of agricultural development. Strategies for increasing agricultural productivity must be specific to local conditions. It is important also to identify what activities can be undertaken by the household unit and what activities are best developed on a community basis.

It is clear from the evidence in the study that national level planning must be total and must embrace the end relationship between urban and rural areas in order to bring about balanced development in Transkei. If both are tackled simultaneously, the problem may be solved. To continue with the emphasis on urban-based development will result in an escalation of rural poverty.

Any national development plan must take cognizance of the fact that Transkei is part of the Southern African economic and political system. This has a particular bearing on any agricultural development programme which is based on surplus production.

This study has shown clearly that strategies to achieve development objectives can be derived only from consideration, on a systematic basis, of the complex and inter-related nature of the problems. It seems essential to have an appropriate balance between purely 'humanistic' projects to fulfil basic needs, and those designed to generate wealth.

Priority should be given to providing institutional support and incentives such as an operational policy for agricultural development, land reform, extension, research, local organisations and leadership, farm inputs and marketing in order to get agricultural development moving in Transkei.