NATIONAL ACCOUNTING STATISTICS FOR THE LESS DEVELOPED ECONOMIES (WITH SPECIAL REFERENCE TO TRANSKEI)

by

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INTRODUCTION

Macroeconomics is that part of economics which studies the overall averages and aggregates of the economic system. It seeks to explain the causes and consequences of fluctuation in the general level of output, or prosperity and depression, the general price level, or inflation and deflation, the general level of employment, which moves with the level of output, and the general level of interest rates, which is to some degree related to the phenomena above.

It is evident therefore that macroeconomic analysis involves the measurement of macroeconomic activity. That branch of macroeconomics which is concerned with the measurement of macroeconomic activity is called national accounting, or national income accounting. Like all other branches of economics national accounting has evolved considerably over the past three centuries. Initially, different countries developed their own national accounting systems, depending mainly on the structure of their economies and the possibilities for data collection. Examples of developments in this direction are the French system of national accounts and the British system of national accounts.(1)

Later on, for the sake of international comparability, attempts were made to develop a standard pattern which would be employed by all countries. The results of these attempts were the 1953 and 1968 systems of National Accounts introduced by the United Nations (U.N.), referred to as the U.N. System of National Accounts.

This thesis studies the underlying concepts and the general applicability of these two systems, the latter being a revised version of the former.

The thesis has two distinct parts. In Part I, the chronology of the evolution of national accounting is reviewed.

Chapters I and II deal with an evaluation of the concepts and theoretical complexities of the subject of national accounting.

Chapter III illustrates the U.N. system of national accounts and its uses. This chapter advocates that the U.N. system is best suited to the Western

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(1) For a comparison of various national accounting systems, see Yanovsky, M. Anatomy of Social Accounting Systems, 1969, Chapman and Hall, U.K.

developed economies. To make it suitable for the developing economies, certain changes in definitions and some alterations in aggregates are suggested as necessary.

Chapter IV discusses these definitions and alterations.

Part II seeks to apply the revised system of national accounts to the economy of Transkei. Transkei, whether regarded as a country or a region lacks data on its macroeconomic aggregates, especially for recent years. This in turn severely impairs any attempt for accurate formulation of economic planning. However, this part is an exercise in compiling certain data in order to examine the quantitative functioning of Transkei economy.
The collection of statistics in Transkei is fraught with formidable difficulties. These problems are manifold. Chapter V discusses the major statistical problems in Transkei. In the same chapter, the available macroeconomic statistics, as provided by various institutions, are critically studied. These estimates are made for the period 1954-77, though unsequentially.

Chapter VI summarizes the results of my research for the estimation of the national accounting statistics of Transkei for 1980. This research commenced in 1981 and involved a number of surveys of which the business survey was the biggest, involving over a thousand interviews of various business enterprises.
In Chapter VII the 1980 estimates together with the 1954-77 estimates are used to construct a time series for the economy of Transkei for the period 1954-80.

The quantification of the economy and the interpretation of its resultant estimates are two different things. The latter requires a great deal of auxiliary socio-economic data. A comprehensive qualification of the trends of various macroeconomic aggregates of Transkei is clearly beyond the scope of this study. Chapter VIII therefore provides a brief interpretation of the primary connotations of the estimates.

Chapter VIII embodies the conclusions derived from the study. In order to avoid repetition, the concluding section summarizes the thesis and suggests the areas in which further research is required.

The Annexure on 'Methodology and Sources of Data' illustrates the method of calculation of the 1980 estimates in Chapter VI.

CHAPTER I

ECONOMIC THEORY AND THE DEVELOPMENT OF NATIONAL ACCOUNTS

I.1 CHRONOLOGICAL REVIEW

National accounting, as a set of quantified economic measures, has its conceptual origins in macroeconomics. Since macro-economics conceives of the economy as a national unit, national accounting, measuring the aggregate relationships established in macroeconomics, has received attention at periods in history favourable to government involvement in economic affairs.

Prior to the era of *laissez-faire* doctrine, there were no philosophical or theoretical justifications to restrict the government's participation in economic activity, although lack of technical and administrative, as well as time barrier for communication and data collection imposed severe limitations on this participation. Nevertheless, economists from Aristotle (384-322 BC) to W. Petty (1623-87) reserved a right, though implicitly, for the State to intervene in economic activity.

The emergence of the mercantilist school, with its emphasis on national and international trade, favoured a careful record keeping in the 17th and early 18th centuries. In England, W. Petty, using the double-entry income and expenditure approach, estimated the national income in order to assess the taxable capacity of the nation as well as its disposable income.

Using the data produced by the English taxation system, George King (1648-1712) estimated income and expenditure of the country. His method was an advance on Petty's in that he included saving as a balancing item.

The Physiocratic economists (1756-1778), with their strong support for agriculture as the only "productive" sector, paved the way for a different approach. They were concerned with production and its distribution. Agriculture, to them, is the only sector capable of producing a surplus which must be used to support the other sectors. Dr Quesnay (1694-1774), the prominent Physiocrat, in his *Tableau Économique* (1758), developed a distribution pattern of national products. This elaborate table has been regarded, by many, as the ancestor of the modern input-output table of W. Leontief. Whilst France and England continued to improve their statistical estimations, other European countries lacked the proper data for any similar exercise. Mention should, however, be made of F. Galiani (1728-1787), an Italian economist, whose criticism of the physiocratic analysis laid the foundatíon for Pareto's subsequent contribution. The absence of an implicit value theory, Galiani remarked, was the main shortcoming of the physiocratic calculation.

The belief that some economic activities were productive and some non-productive, found an echo amongst the English economists of the classical school. Also the school advocated the *laissez-faire* doctrine in which non-intervention by the State was ideal. The ramifications of this doctrine for the evolution of national accounting was inhibitive. In other words, if the state was to maintain law and order and defence without involvement in any further socio-economic objectives, why then should the state be concerned with the level of the national income?

In brief, the classical school confined itself to a narrow production approach i.e. it excluded some economic functions from productive activities. Karl Marx, later on (1818-1883), adhering to a special version of this doctrine, stated that only the workers were productive and all other factors' services were unproductive. The non-wage compensation, he regarded as "surplus value", created by labour and reaped by the owner of the capital. He refused, thus, to recognise the service rendered by the owner of the capital. As such, capital replacement was included in gross value but not as a part of the "newly produced value" which could be called value added.

The "material product system" of national accounts, used in the USSR and other Eastern Bloc countries, is, to a large extent, based on the Marxian concept (discussed later).

In Western thought, however, the emergence of the marginal school initiated a new framework of relationships between theoretical and empirical economics. The identification of production with the creation of utility opened up a new path to a more comprehensive production approach. Contributions made by V. Pareto (1848-1923), M.E.L. Walras (1834-1910), and N.W. Senior (1790-1864) helped the evolution of the new methodological approach. In his book, Principles of Economics (1890), A. Marshall (1842-1924) explained the new developments as indicated in the following passage:

> "The labour capital of the country, acting on its national resources, produce annually a certain net aggregate of commodities, material and immaterial, including services of all kinds. The limiting word "net" is needed to provide for using up of raw and half-finished commodities, and for the wearing out and depreciation of plant which is involved in production: all such waste must of course be deducted from the gross produce before the true or net income can be found. And net income due on account of foreign investment must be added in. This is the true net annual income, or revenue, of the country, or, the national dividend; we may, of course, estimate it for a year or for any other period." (1)

For the actual estimation of national income, further developments were required. Pigou, for instance, defined national income as the composition of goods and services that "can be brought directly or indirectly into relation with the measuring-rod of money" (2)

Accepted by the official estimators, Pigou's criterion confined national income (or product) to final goods entering the market and imputations of value for non-market exchanges with important market counterparts from which values could be derived.

Diring the 1930's the Polish economists, M. Kalecki and L. Landau, and the Hungarians M. Matolcsy and S. Varga, advocated an estimation of national income which was restricted to the market transactions only. Their method did not receive any support and,instead, there has been a grwoing propensity to increase imputations.

The theoretical and conceptual developments in economics during the 1930's had an unprecedented effect on the further expansion and completion of national accounts statistics. Keynesian economics, as the mainstream, required reliable statistics on investment, income, consumption and government expenditure as well as

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(1) Alfred Marshall; Principles of Economics; 1948, 8th Ed. The Macmillan Company New York, p.523.

(2) A.C. Pigou: The Economics of Welfare, 1932, 4th Ed. Macmillan & Co. Ltd. London pp 11 & 32

foreign sector transactions. More important, attempts to apply and test the Keynesian economic theories necessitated the estimation of these aggregates. In fact, J.M. Keynes himself was involved in the statistical implementation of this approach during the War in Britain.

Keynes, as well as other cycle theorists, placed a remarkable emphasis on the role of money and credit and this, in turn, called for the estimation of yet another set of accounts such as financing or flow-of-fund accounts in order to show the changes in assets and liabilities over time. This, in turn, led to the emergence of a growing theoretical emphasis on the influence of asset holdings on expenditure patterns. (The Chicago School). Although wealth and its significance for economic growth had been appreciated since the time of Petty, it was after the Second World War that efforts were made to identify and measure real capital stock more accurately. According to the new definition, any assets which returned a yield over a number of accounting periods, were regarded as investment and capital. This view of investment is broader than original Keynesian definition.

In spite of the considerable methodological modification and conceptual refinement in economics, various systems of national accounts follow closely the Keynesian description of the main aggregates, i.e. $Y = C + I + G + X - M$ or $Y = C + S$ and so on. This has ensured that, as C. O'Loughlin remarked, "in this branch of economics at least the developments in theoretical thought could benefit the framework of analysis ... (and) has also ensured that the needs of the administrator and policy-maker could influence the direction of theoretical studies."(1)

Contemporary economics, more than ever, requires precise national accounts statistics. Moreover, due to the unprecedented sophistication and expansion of institutions and functions in economics, only a more interrelated and comprehensive body of estimations would satisfy the statistical requirements of the economist. Thus

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(1) C. O'Loughlin, National Economic Accounting, 1971, Pergamon Press, Oxford, U.K.

individual, as well as collective, attempts have been made to provide a satisfactory framework for the compilation of macro-economic estimates.

After World War II, in 1947 the League of Nations Committee of Statistical Experts prepared a report on "Measurement of National Income and the Construction of Social Accounts". This report and its appendix by R. Stone laid the foundation for an internationally comparable accounting method. The emergence of the United Nations (U.N.) and its Economic and Social Council, provided material and technical assistance to the member countries for the establishment of their economic accounts. This in return encouraged the development and revision of the system of National Accounts. (Discussion in the following section).

A parallel development in the Organization for European Economic Cooperation (OEEC) resulted in a standardized system in 1953 of national accounts in the member countries. The U.N. and OEEC systems are very much alike and it may be attributed to the role played by R. Stone who was the leading engineer of them both.

Formulation and standardization of national accounts estimations have eased the task of the U.N. and other international or regional organisations in their evaluation and project preparation for economic development.

Economic accounts are now almost standardized and continuously prepared in most countries.(1) Attention now is given in improving the quality of estimates as well as classification of aggregate measures in useful directions.

Apart from the system of National Accounts, prepared by the U.N., there have been various individual attempts to construct other types of economic accounts, i.e. "input-output matrices" of W. Leontief, the "flow-of-funds" of M. Copeland and "balance sheets and wealth estimates" of R. Goldsmith. It should nevertheless be mentioned that these various accounts are not independent of each

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(1) National accounts estimates are compiled in 143 countries. (See International Financial Statistics, IMF Quarterly Publication, Jan. 1982, Vol. XXXV, No. 1).

other. To the contrary there is a great deal of interdependence amongst them. In fact any successful interpretation of national accounts has to take cognizance of this interdependence.

The 1968 U.N. revised System of National Accounts is an important step towards a fully integrated method.

I.2 METHODS OF ESTIMATION AND DATA COLLECTION

1 - Estimating Methods:

To measure different macroeconomic aggregates three methods can be used, i.e. output, income, and expenditure.
Since the three methods are, in fact, the study of the same magnitude(s) in different phases of, production, distribution and expenditure, they should arrive at the same value. In other words total value of output creates income, and expenditure emanates from income. This is obvious in the case of a primitive economic activity. For instance the total value of a brick-maker's output, using a primitive technique, is tantamount to his income and his expenditure equalises his revenue. (The intermediate goods, clay and water, are free in this production). The same principle is true in advanced productions, except that here accounts should be taken of intermediate goods in order to avoid double counting. That is, in a production where outputs of other industries are used, the value of total output includes some of another industry's income. The value of a loaf of bread, for example, includes some income of the chemical industry, agriculture, milling industry and baking industry. To eliminate double-counting one has to measure either the value of the final product or to add the "value added" of various industries. Whichever approach is employed the end result is the same. The above example can be used to illustrate this point.

Industry	Product	Value of Output	Value added by Industry	Income Generated
Chemical Industry	Fertilizer, seed, etc.	5c	5c	5c
Agriculture	Wheat	11c	6c	6c
Milling Industry	Flour	19c	8c	8c
Baking Industry	Bread	29c	10c	10c
			29c	29c

From the table it is clear that:

a) the value of the final product (a loaf of bread) is equal to the sum of all values added from different industries.

b) income generated in each industry (in the form of wages, profit, interest, rent, etc.) is equal to the industry's value added.

An estimation, therefore, could apply to any of the three methods to arrive at GNP or any other aggregate. The use of a method, however, is dependent as much on the objective of the investigation as on the availability of statistical data. If the investigator intends to analyse the structure of economic activity, an output method must be employed, and if the distribution of national income among the factors of production is to be studied, an income approach may be applied.

Also the structure of the economy may restrain the use of a method. For example, in an agricultural economy, data on personal income, social security schemes and the like are not available and the estimation of national aggregates has to use the output method. In industrially and financially developed countries, elaborate records of individual income, corporate income and other similar monetary and fiscal values are available and the income method is easily employed. In addition to the structure of the economy, the nature of economic activity also affects the choice of the method. In agriculture, for instance, the factor shares are not clearly differentiated and also many intermediate materials of agriculture production originate from the sector itself. The same is true for forestry and fishing.

In these sectors the value added or net-output method should be used. In sectors such as mining and manufacturing, trade and communication, the income method and net output method can as an alternative be used. Whilst in finance (insurance, banks, etc.), it is convenient to obtain data about factors' income, the determination of its true value added is an intricate problem.

For services like professional and domestic, the income approach is used exclusively. A similar approach is used for government services. As a result of these practical technicalities, any estimation of national accounts has to utilize a combination of methods. And whenever possible, application of one method may be used to check the accuracy of another. Each of these methods, however, has its own statistical shortcomings. A true identification of intermediate materials and a thorough elimination of double-counting possibilities are not easily attainable. More reliable estimates may, nevertheless, be obtained by using a method appropriate to the structure of the economy under study. In general the expenditure method is the least reliable of the three methods(1). Theoretically, and to some extent practically, the net output method is less reliable than the income method(2). Yet it promises the best result in an underdeveloped country. In terms of the output method, economic activities are divided as follows:

1 - Agriculture
   a) Agriculture
   b) Forestry, hunting
   c) Fishing
2 - Mining and quarrying
3 - Manufacturing (including all industries)

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(1) This was also ascertained by the French estimates which used all three methods after Second World War. (See Studensky, P. The Income of Nations, 1958, Chapter 27, II-3)

(2) The income method has two distinct variants which could be alternatively used, depending on data availability, i.e. Income-Paid-Out Variant, and Income-Received Variant. Similarly the expenditure (or final Product) method has three different variants: Commodity Flow Variant, Final Sales Variant, and Family Budget Variant.

4 - Construction

5 - Electricity, gas and water works

6 - Transport and communication

7 - Wholesale and retail trade services

8 - Financial services, i.e. banking, insurance

9 - Community, social and personal services

   a) Public services

   b) Education and Health services

   c) Professional services

   d) Other services, i.e. churches.

The value added of each sector is then estimated in order to arrive at the total output value, i.e. the GDP. If another item for "Net income payments to factors of production from the rest of world" is added to the above classification(1), the resultant aggregate will equal the GNP.
For the advanced countries, with more articulated income flows, an income method provides better results.

2. Data collections; General Methods

The accuracy and reliability of any national accounting estimates depend, largely, on the sources and methods used in their computation procedure. So as to increase validity of the estimates, different relevant data are, usually, cross-checked. Therefore, the more the diversity of statistical information in an area, the higher the precision of its respective estimate(s). The variety of statistical sources enjoyed by the industrially advanced countries, thus, provides the necessary data for the preparation of estimates of dependable precision. The socio-economic structure of these countries embodies different agencies that collect data for their own purposes. Although these agencies' surveys differ in purposes, periodicity and reliability, they nevertheless provide the groundwork for the national accounts estimates. Particularly

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(1) This classification, used by the U.N., is referred to as the "International Standard Industrial Classification" (ISIC).

The major drawback of this compilation is its inapplicability to the Less Developed Countries (LDC's), though understandably. The presence of economic 'dualism' in the LDC's makes any generalization almost impossible. The fact that these countries are at varying stages of transitionary development, further impairs any generalization attempt. Even general methods such as extrapolation for these countries should be applied very carefully. Because in changing circumstances, as that of the developing countries, the assumption of fixed coefficients embodied in extrapolating from bench-mark data, loses much of its validity. The lack of up-to-date bench-mark data itself is an additional restrictive factor. As a result, data collection in these countries has limited sources from which it can be obtained. Consequently the quality of the estimates in the LDC's is considerably impaired.

CHAPTER II

MAIN CONCEPTS, COMPONENTS AND THEIR WEAKNESSES

II.1 Concepts:

The theorization and computation of national accounts are based on a number of concepts and definitions, of which some have still remained controversial.

1.1 Production:

Historically, three concepts of production have emerged. The first one is a comprehensive production concept, according to which the national product is a total of both goods and services. Whatever is capable of satisfying human wants and has a determinable price is regarded as production. The creation of utility is, thus, the criterion for classifying an activity as production. With the emergence of the Marginal School, this concept of production gained increasing support. Using this concept, the national income includes all goods and services that:

a) are produced by human labour and capital;
b) need to be economized due to their relative scarcity;
c) either have a monetary price or could be assigned to one by imputation;
d) either directly or indirectly can satisfy human wants.

According to the comprehensive production concept, national income includes: (a) all goods and services produced for the market by the private and public establishments; (b) all services produced for collective use, i.e. that of the armed forces; (c) all goods and services produced by non-profit institutions, and (d) some goods and services produced by members of the family for self consumption.

The inclusion and identification of the fourth category of goods and services have created some disagreement amongst the advocates of the comprehensive production approach. The main areas of disagreement are the inclusion or otherwise of

a) self consumption of farmers from farm production;
b) unpaid services of the housewife and other members of the family;
c) unpaid services of tangible wealth and durable goods;
d) services of owner-occupied houses.

In spite of these unresolved issues, the comprehensive production concept has been employed by all non-communist countries. Also the system of National Accounts of the U.N. is based on this concept of production.

The second concept is *the Material Production Concept*, according to which national production is the sum of material goods only. Adam Smith was the first to introduce this concept by distinguishing between "productive" and "non-productive" labour. According to him labour is productive if:

(a) its output is a marketable material product
(b) the price of its output is worth a quantity of labour equal to the labour required to produce it, and
(c) it added the value of its own maintenance plus the entrepreneur's profit to the value of raw materials.

Smith maintained that all other labour was "unproductive" and in fact, supported by the former.
National product, according to Smith, consisted only of saleable material goods. All services, thus, unable to fulfill these requirements were excluded from national product.
Smith's distinction between material goods and services, based on their relative utility, was erroneous. He failed, as Professor Studenski remarked, "to see that the production of services as well as of commodities gives rise to the creation of profits and to the circulation of entrepreneurial capital". (1)
To Smith durability seems to have been the main criterion for measuring utility and hence excluding services owing to their perishability. Whilst durability is not the main measure of utility, it could be argued that durability of the effects of some services is much higher than that of many material goods. Thus Smith's distinction is incorrect and ignores the reciprocity between services and material goods, where one imparts utility to the other.
The material production concept as suggested by Smith, may be only used in an extremely, primitive economy with no, or very little, services. Otherwise its application in an economy with a large, and growing service sector, results in an obvious underestimation of economic production and welfare.

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(1) Studenski, P.: The Income of Nations, p. 182

After Smith, the material production approach was accepted by Karl Marx, though in a modified form. Marx maintained that only labour is productive, whilst according to Smith labour and entrepreneurship are productive if they partake in material production. Further Marx postulated that only hired workers have a productive role and all values are his contribution. The entrepreneur, or proprietor, having no production role, exploits the "surplus value" created by labour, through the control of the means of production. Thus, to Marx the value of goods can be divided into two distinct parts:

(a) the part consisting of the cost of wages, raw material and the use of fixed capital in the course of production;

(b) the part including the "surplus value" generated by labour and appropriated to the capitalist to form his current income and to add to his capital stock.

By so analysing, Marx differed from Smith by splitting the value of national output into:

(a) the cost of raw material, auxiliary supplies, maintenance and the like;
(b) the cost of using fixed capital, i.e. depreciation;
(c) the newly produced value, to cover consumption and investment, e.g. net national income in modern language.(1)

As regards the scope of the material production concept, Marx did not make much alteration. Like Smith he regards services as unproductive including the government services. One exception, however, is the kind of services which help the material goods to realize their value. Transport of material goods, for instance for Marx, is a productive activity because it changes the location of goods and their use value.

The Marxian concept of production is employed in the estimation of national income of the USSR. The Russian national income therefore excludes:

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(1) Marx used his own terminology. For example "gross value of output" is "gross product" or "net value of the output" is "gross income".

(a) civil and military services of the government
(b) the services of social insurance institutions
(c) the services of passenger transportation
(d) the services of independent physicians, dentists, teachers, artists and the like(1)
(e) services of domestics, and
(f) services of dwellings.(2)

The other mentioned criticisms of the Smith concept are equally applied to Marx's concept. Any estimate, using the material production concept is at the best, a partial measure of true production and welfare of the economy.

The third concept, *the Restricted Market Production Concept*, is in fact, a compromise between the previous two concepts. According to this concept, anyting controlled by the market forces is "production". Since marketability is the main criterion, the services of the government are excluded. Similarly any other collectives to which market force is not applied.
The restricted market production concept has been used, by Landau and Kalecki, in 1929 in estimating the national income of Poland. Also, Matolesy and Varga used the same approach for the estimation of the national product of Hungary for 1924-25 and 1936-37.

Using this concept of production, national income includes:

(a) all goods and services presented at the market, and
(b) all goods and services that have an identical market counterpart, i.e. farmer's earning in kind, public education and public investment as they increase national wealth just as much as do private investments.

The major drawback of this concept is its exclusion of government services. It contends that government decisions are not as "cost-conscious" as the private sector's and their inclusion may distort the true picture of production of the economy.

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(1) If these services are provided within the production units, i.e. factories, then they are included in the national product.

(2) These exclusions and some other technicalities make the national accounts data of the USSR debatable for comparative purposes.

Whilst there is some truth in this contention, the government's economic decisions are not so irrational and subjective to justify the total exclusion of government services. Particularly in a democratic society government decisions have to be as objective as that of the private sector, though it has to have a longer time horizon. The provision of public roads and infrastructure, hygiene and sanitation, education and the like, is as productive for the society as the erection of dams and factories.(1)

From the foregoing discussion of the three concepts, it is obvious that the first one is the most coherent and objective, though as mentioned before, it has some unsolved problems.

1.2 Imputation:

The adoption of a comprehensive production approach, calls for the concept of imputation. Imputation is the technique of estimating the value of produced services and goods that are not presented at the market. The rent for houses occupied by their owners or the food consumed by farmer's own production are examples of where imputation is applied. In the underdeveloped countries, there is a wider range of services and production which need imputation. In other words an objective measurement of national product has to impute the value of "home garden production", "self-constructed buildings" or the services of the housewife in providing fuel and water for the family.

A more accurate study of imputation requires a classification of "activities" into "economic" and "non-economic" activities. Only economic activities, whether services or material production, should be imputed. A non-economic activity may be defined as the activity of a recreational character. This, in turn, depends largely on the structure of the economy. To work in the home garden, for instance, is a leisure time activity in a developed country and cannot be regarded as an economic activity whilst the same is not true in an undeveloped country. One exception, however, is the conventional services of housewives. Although these services are, by any definition, of economic nature, no estimation of national

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(1) One exception, however, is government expenditure on war evaluation of which is open to debate.

product has, so far, included them.
The identification and imputation of non-marketed economic activities are useful for the study of economic structural changes.

The extent of imputation varies in different national accounting systems. The rent of owner-occupied houses, and the contribution of the financial institutions are the main imputations in the advanced countries. Generally the estimator, depending upon the economy under study, has to identify activities for which imputation is necessary.

1.3 Final and Intermediate Goods

The estimation of major components of national accounts, i.e. GNP, GDP, as the total value of final products, calls for clarity of definition. A distinction between "final"(1) and "intermediate" goods is necessary.
Many criteria have been suggested for the classification of goods into the two categories. In a market economy, for instance, if a commodity is bought for resale it is regarded as "intermediate" and otherwise as a final good. This is an erroneious definition because it regards government and non-profit institutions' purchases as "final goods" whereas they are not clearly so. Or if an institution provides uniforms for its employees, it is assumed to be a final good whilst it is not. And the same is true of the decorative arrangements of offices and stores.
Irving Fisher suggests that *currently consumable* goods are final goods. This means the exclusion of savings and the addition to the present stock of wealth from national product. Obviously, savings as part of the current production (income) cannot be omitted from national product.
Carl Sharp proposes a classification of goods into "pure" and "mixed", the former being used solely for personal gratification and the latter not only being consumed but also "serve to increase the production of other things".(2)

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(1) Final goods should not be confused with "finished goods". A finished good may be an input for another product.

(2) Studenski, P., The Income of Nations, 1958, p. 191.

There have been many other proposals, like that of Professor C. Gini, A. Lowe, S. Kuzenete. But each has its own theoretical and methodological difficulties.[1]

In practice, however, an intermediate good is a product bought and charged to cost by another producer at the same period, "whereas a product purchased and not charged to cost is a final product".[2]

Another major controversial issue in this sphere is the treatment of government services. Should the government services be regarded as final or intermediate goods? There are three answers to the question.

a) All government services are intermediate:
Matolcsy and Varga, who adopted this concept in their estimation of the Hungarian national product, present the following reasoning:

> "... Our reason being that the machinery required for keeping order and securing safety, as well as the whole civil service do not produce values in addition to the flow of consumer's goods, but ensure only the maintenance of the present economic and social order and the present level of production".[3]

As mentioned in the discussion of "production", this treatment of government services is unrealistic on the ground that if goods purchased by the government are regarded as final products, their supplementary government services should, by the same token, be regarded as final.

b) All government services are final products; this viewpoint was first introduced by J.R. Hicks in England and later supported by G. Colm who justifies his point of view as follows:

> "I have come to the conclusion that such classification of government services into intermediate and final would introduce sources of error which may be larger than the errors resulting from leaving the intermediate services of government in the national product or national income totals". (4)

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(1) See Ibid., pp. 177-179.

(2) Yanovsky, M.: Anatomy of Social Accounting Systems, 1969, p.18.

(3) Studenski, P.: The Income of Nations, 1958, p. 196.

(4) Ibid., p. 197.

It is obvious that this treatment views the government as the provider of services which add new values to the products of businesses. The cost of these services (or these values) are taxes and are reflected in the prices of final goods.

c) The third viewpoint emanates from the criticisms of the second approach. Professor Kuznets, the prominent critique of the second approach, contends that:

> "Most government activities are designed to preserve and maintain the basic social framework and are thus a species of repair and maintenance which cannot in and of itself produce net economic returns". (1)

In terms of Professor Kuznets' classification, only

a) direct services of the government to ultimate consumers, and

b) addition by government to capital stocks can be included in final goods.

Thus public defence services and public socio-economic regulations are intermediate. The inclusion or otherwise of government services in final products depends, largely, upon the socio-philosophical basis of the concept of "goals of economic activity". If the satisfaction of *individual* consumer's wants is the criterion, then only a limited number of government activities can be classified as final products. But the adoption of a less restrictive definition of the goals of economic activity includes almost all public activities as final. In recent practices of national accounting estimations, the second method is usually employed.

1.4 Stocks and Flows

In the competition of national product, two variables should be clearly distinguished, e.g. stocks and flows. A *stock* is a magnitude measurable at a point in time whereas a *flow* is only measurable over a specified period of time. For instance, inventories are stocks and annual changes in inventories are flows.

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(1) Studenski, P.: The Income of Nations, 1958, p. 198.

Whatever enters the national accounts tables is a flow, unless a national balance sheet is presented. Those flows are of two types:

a) flow variable with a counterpart stock variable, and

b) flow variable without any stock variable.

To avoid any miscalculation, care should be taken in the case of the former type, i.e. to distinguish between flows like the annual saving of an agent and its stock of savings, or addition to capital stock and capital stock itself. Needless to mention that the stock variables in these examples affect the flow variables, though over a relatively long period. There are, however, certain stocks, i.e. stocks of money and stocks of capital whose magnitudes prove to be critical for the major flows of income, expenditure and production.

Apart from the concepts discussed above, there are a few issues, a detailed study of which would make this section undly long. They do not have a critical impact on the computation process of national accounts. For instance, the concept of "value", as the product of total volume of goods and their market prices, has been the object of a long controversy, yet unsolved. Or the concepts of "gross" and "net", the latter equalling the final production after taking accounts of capital allowances for the using up of the fixed capital assets. Or another example is the difference between "market price" and "factor cost" which is assumed to be "indirect taxes".

II.2 Components

The core of national accounts statistics is the GDP. The GDP at factor cost is the sum of all income received by the factors of production in the form of wages and salaries, rent, profit and interest in the geographical area during the accounting period. The geographical area implies "domestic" which differentiates it from the notion of "national" with its connotation of resident. The GNP is therefore the sum of all income received by the residents of a country during one year. In other words whatever is remitted to residents abroad or received by national residents from abroad should be subtracted from and added respectively to the GDP, e.g.

$$GNP = GDP + \text{Earnings of residents from abroad less remittances accrued to foreign economies} \quad (1)$$

As mentioned in the second section, three methods could be employed to measure the aggregates of national accounts. Depending on the method used the resulting aggregate will correspond to either GNO or GNI or GNE. The three should, as mentioned before, arrive at the same value known as the GNP.

The GNP (or GDP) could be expressed either at 'factor cost' or at 'market price'. The difference is that the latter includes all indirect taxes, business and consumer excises, and excludes subsidies, e.g.:

$$GNP_{MP} = GNP_{FC} + \text{Indirect taxes} - \text{subsidies} \quad (2)$$

Net National Product: the concept of 'net' refers to allowances for the use of capital stock during the period. This is, in practice, equal to the depreciation envisaged for capital goods. Thus

$$NNP_{MP} = GNP_{MP} - \text{Capital Consumption allowances} \quad (3)$$

The difference between NNP_{MP} and NNP_{FC} is as follows:

Net National Product (at market price)

Less: - Indirect Taxes

- Business Transfer payments
- Statistical Discrepancies

Plus: - Subsidies less current surplus of government enterprises is equal to Net National Product at factor cost.

The NNP is the same as national income, e.g.

$$NNP_{MP} = NI_{MP} \quad \text{and} \quad NNP_{FC} = NI_{FC} \quad (4)$$

In welare economics, national income at market price is, as suggested by J.R. Hicks, a measure of economic welfare. Hicks also suggests that national income at factor cost is suitable for the measurement of economic productivity.(1)

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(1) Hicks, J.R.: "The Valuation of Social Income", Economica, 1940.

To show the distribution and disposition of national income, certain adjustments are necessary. These adjustments vary from one economy to another. In general, to derive Personal Income (PI) from national income at factor cost the following alterations are suggested:(1)

National Income at factor cost (5)

Less: - Contribution to social schemes (pension fund, employees' fund)
- Undistributed corporate profit
- Capital consumption adjustments
- Corporate profit taxes
- Profits of government enterprises and from government property

Plus: - Business transfer payments
- Government transfer payments
- Net interest paid by government to people

Personal Income, as defined above, is a current income which is not a measure of current production. There are some items for which there is no corresponding current output, i.e. transfers.
To arrive at Disposable Personal Income, personal taxes should be deducted from the Personal Income, e.g.

Personal Income - (Personal Taxes + Employee's contribution to Social Schemes) = Disposable Personal Income (DPI) (6)

DPI determines the purchasing power of consumers and its magnitude implies a potential demand for private and public goods and services. For DPI to be an effective demand, certain amounts must be subtracted, e.g.

Disposable Personal Income (7)

Less: - Personal Saving
- Interest paid by consumers
- Personal transfer payments to foreigners

is equal to Personal Consumption Expenditure on goods and services.

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(1) Professor Studenski, in his book The Income of Nations, derives three aggregates in which he distinguishes between *private income, personal income, variant one* and *personal income, variant two*. This is done by adjusting the NI in three, instead of one, stage. This seems to have very little, if any, practical use and no theoretical justification. See The Income of Nations, p. 208.

II.3 Weaknesses

As discussed, various aggregate of national accounts are used to represent different economic performances. For instance, GNP is indispensably regarded as the indicator of the performance of the economy. Yet it has several weaknesses of which the following are worth considering:

a) GNP is not comprehensive in its coverage. In other words, it does not cover services and goods that are not produced or exchanged through the market, i.e. the services of housewives and other members of the family, self-consumed production and the like.

b) GNP does not reflect any distributive aspect of the total production. The economic well-being of a country depends on both its total production and the way in which the production is distributed. GNP as an indicator lacks any content for the latter issue. With the growing interest on economic development, the income distribution pattern of a society has come to the fore and GNP fails to serve any purpose in this sphere.

c) GNP is a quality-free concept:
With the constant application of new technology the quality of goods and services is improving. This change is not reflected by the GNP. It may be argued that an improvement in quality is associated with a higher market price and as market prices are used in the calculation of GNP, this aspect is incorporated in total value. This is only partly true. With the prevalence of inflation, a price increase may not be attributable to quality improvement.

d) GNP is a money value and embodies inflation:
Whilst this weakness is critical, specially for the study of trends, it could be to a large extent alleviated. This is done by adjusting "money" GNP in order to arrive at "real" GNP. (See Section II.4)

e) GNP does not connote the purpose of production:
It is not the total value of production *per se,* but the purpose of production which matters. If the bulk of a country's production originates from military weapons, transport, agriculture or otherwise, it is not reflected by GNP.

These weaknesses of GNP have raised an interest amongst the welfare economists to introduce other social indicators as measures of socio-economic well-being. "Property crimes", "violent crimes", "life expectancy at birth", "substandard housing units", "days of disability" and "jobs satisfaction" are examples of these indicators. In practice, however, these indicators suffer from two drawbacks:

a) Many of these aspects are not quantifiable, and
b) There is no common denominator for their aggregation.

As a result, the GNP and other components of national accounting system, in spite of their weaknesses, remain the only set of reasonably quantifiable indicators of socio-economic performance.

II.4 Real Versus Money Income

With the emergencé, extension and persistence of inflation, it is now common knowledge that it is the purchasing power of income that counts and not the monetary value of products or income. Thus nominal values of economic aggregates are of little use. To be more meaningful, they should be converted from current to real values. In the wake of inflation, for instance, they should be deflated.

The Statistical Procedure

To eliminate the influence of price variations, a *base period* is chosen with which all other years (or the year in question) will be expressed, e.g.

$$RVGY = (VGY/PIGY)\ (100) \qquad (1)$$

or

$$(100/PIGY)\ (VGY) = RVGY \qquad (2)$$

where:

R : Real, V : Value, G : Given, Y : Year, P : Price, I : Index
And *value* is price (P) times quantity (Q).

The abovementioned expression (2) gets the following form:

$$(Po/Pn)\ (Pn\ Qn) = \text{Real Value of Given Year} \qquad (3)$$

where:

Po : Price of Base Period
Pn : Price of Given Period
Qn : Quantity of Given Period

Equation (3) indeed demonstrates the value of the given year quantity (Qn) by using the base period price (Po), e.g.

$$(Po/Pn)\ (Pn\ Qn) = PoQn \qquad (4)$$

PoQn is the value of the given year products in terms of constant price, i.e. real value. This is known as the Paasche-Price Index. Alternatively, the real value could be expressed as the product of the base period quantity (Qo) and Pn, e.g.

$$(Qo/Qn)\ (PnQn) = QoPn$$

QoPn is, in fact, the value of the base period goods in terms of the given year prices. This price index is known as the Laspeyres Index.

Neither of the two methods, the "Paasche-type price index" or the "Laspeyres-type quantity aggregate" is perfect as an index of cost of living.

The Evaluation of Price Indexes

Whilst an evaluation of the mathematical properties of the Laspeyres and Paasche indexes is not to be discussed here, a mention of their major economic properties is necessary. It is a well-established micro-economic theory that the consumer adjusts his expenditure pattern, i.e. quantity consumed, in the wake of a relative price change. The Laspeyres method by using constant (base year) quantities, does not allow for the quantity adjustment in response to a relative price change. Thus this method tends to overweight those commodities whose relative prices have increased and also it underweights those goods whose relative prices have decreased. As a result, the Laspeyres index tends to have an upward bias, i.e. to over-state price increases.

The Paasche index applies current period relative quantities for which the consumer has presumably allowed for relative price changes. Consequently, the Paasche index tends to underweight goods whose prices have increased the most and as such it may imply a smaller change in prices than in fact occurred. Thus it can be said that this index has a downward bias, that is, to understate price changes.

Although neither price index method is a perfect index of cost of living, the Laspeyres and Paasche indexes are upper and lower limits, respectively, of a true index.

Converting the current money value of various aggregates into real terms is known as the Process of Statistical Deflation. To ease the PSD, Po is conventionally assumed to be equal to 100. It is, therefore, apparent that if prices (in any period) rose above 100, the PSD would result in a lower real than current value. The opposite would occur if prices fell below 100. The heart of the PSD is the "converting factors", i.e. $Po/_{Pn}$ or $Qo/_{Qn}$ known as the "deflator",(1) which as an index suffers from the ubiquitous deficiency known as the aggregation problem, or the index number problem.

In spite of the widespread use made of index numbers - whether of prices, production, or anything else, there is no all-convincing methodology with which an index number can be computed. Of course, many - amongst them Irving Fisher - have attempted to solve the conceptual problems of arriving at a principle for the calculation of an index number. Many formulas have been proposed but no single one has been recognised as convincingly appropriate. For instance, Fisher suggests "the square root of the product of the Laspeyres and Paasche indexes as an ideal price index", however, its economic justification is not clear.

In practice, however, a number of indexes are calculated of which the Consumer Price Index (CPI), the cost-of-living index and the Wholesale Price Index (WPI) are the most widely used. In calculating these indexes, the aggregation problem is somehow alleviated by the availability of modern sampling techniques. Existing studies are utilised to choose the sample whereby "to ensure that included items properly reflect the preference of the consumer". And, as S. Rosen suggests, "variations from city to city are accounted for by assigning relative weights according to poulation".(2) Or, as it is practised by the Bureau of Ecnomic Analysis of U.S. Department of Commerce, a chain-link-Index could supplement the CPI as the deflator. The chain price index is calculated as follows:

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(1) Wykoff, F.C.: Macroeconomics, 1981, p. 23
(2) Rosen, S.: National Accounts and Other Social Accounts.

In each period a new Laspeyres index is constructed, the previous period's quantities being used as weights. The rate of price change in each period is calculated on the basis of these fixed previous period quantities as weights. Thus in essence a new set of weights is used in each period, but the rate of change calculated for each period is based on a fixed set of weights. Because the rates of change are calculated by using fixed weights while new weights are employed in each subsequent period's rate of change calculation, the index number is called the *chain-link-price-index*.

Although the chain-link-price-indexes compensate for some of the shortcomings, it obscures the meaning of accumulated price changes over several periods.

These techniques, of course, compensate for some of the difficulties. The question still remains as to which price index should be used as the deflator, i.e. CPI or QPI or what?

Strictly speaking, for the purpose of national accounting, the index must be an all-inclusive one, though no such a measure exists in reality. Furthermore, no matter how meticulously a deflator is computed, it may be applied only for a limited period. As Professor Studenski remarks, 'the longer the series covered by a given deflator, the less reliable are the deflation results. All such deflations to the prices of a base year are founded on the assumption that the general conditions during the other years in the series are not much different from those that prevailed during the base year . This assumption loses its validity if technological and structural changes alter the nature, quality and production costs of the products of the subsequent years. That is, then, the price of the base year is no longer applicable to the transactions of the other years. It is nowadays common that within a relatively short period of time new products are introduced and their old substitutes are phased out. A price index including the old products, clearly, would have little applicability. This would be further complicated if the quality of products were to be taken into account.[1]

(1) This drawback could be partly alleviated by using chain-link-indexes which are developed in a period not very distant in time from the period under consideration.

Thus the base period has to change frequently. And the faster the rate of technological change, the more frequently the base period must be substituted by a more applicable year. This, in turn, adds to the complexities. Since there is no unanimously accepted criterion for choosing "a more applicable year", the investigator has a great amount of freedom in selecting a base year. An unscrupulous and politically oriented person, thus, can choose a year best suited to his aims and goals. "These are, of course", O. Morgenston remarks, "standard tricks, used, undoubtedly, ever since index numbers were invented."(1)

To summarise the discussion, in order to minimise the margin of error, the considerations may be condensed into two features:

(a) the base period should be reasonably representative of cyclical change, and

(b) it must be changed from time to time. Moreoever, the base period need not be one year, it could be a period of several years.

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(1) Morgenstern, O.: <u>On the Accuracy of Economic Observation,</u> 1963, p. 296.

CHAPTER III

THE UNITED NATIONS SYSTEMS OF NATIONAL ACCOUNTS
AND
THE MAJOR USES OF NATIONAL ACCOUNTING STATISTICS

III.1 U N System of National Accounts

Attempts to formulate a meaningful system of national accounting has resulted in the development of a number of systems, employed in various countries. Endeavours to assist in the comparability of these systems as mentioned before, led to the development of the 1953 U N System of National Accounts (SNA). This system "was to provide a uniform basis for reporting national income statistics." The SNA divides the economy into four sectors, e.g. production, households, government and foreign sector, and by employing an income approach constructs the following accounts:

ACCOUNT 1: PRODUCTION ACCOUNT

Payments	Receipts
1.1) GDP at factor cost (2.9) (Yfc)	1.3) Private Consumption Expenditure (4.1) (C)
1.2) Indirect taxes less subsidies (5.7) (Ti)	1.4) Government consumption Expenditure (5.1) (G)
	1.5) Gross Domestic fixed capital formation (3.1) (I)
	1.6) Changes in stocks (3.2) (Is)
	1.7) Exports of goods and services (6.1) (E)
	1.8) Less Imports of goods and services (6.4) (M)
GDP at market price	Expenditure on GDP at market price

As the six accounts are interrelated, each item may appear in two or more accounts. The figures in brackets indicate the position of the item in the other accounts.

To arrive at National Income, by allowing for depreciation, the second account in fact adds factor payments earned during the production process of the GDP plus net factor income from the rest of the world.

ACCOUNT 2: NATIONAL INCOME ACCOUNT

Payments	Receipts
2.1) Wages and Salaries of Employees (4.5) Nw	2.9) GDP at factor cost (1.1) (Yfc)
2.2) Profits (non-incorporated business) (4.6) (Np)	2.10) Less Depreciation (3.5) (D)
2.3) Income from property (4.7) (Nil)	2.11) Net factor income paid to rest of world (6.2) (R)
2.4) Savings of corporations (3.3) (Sc)	
2.5) Direct Taxes on corporations (5.8) (Tc)	
2.6) General government income from property (5.5) (Ng)	
2.7) Less: Interest on government debt (5.6) (tr)	
2.8) Interest on consumption debt (4.10) (tr)	
National Income	Net National product at factor cost

The third account derives the total capital formation in the economy from its various sources.

ACCOUNT 3: INVESTMENT ACCOUNT

Payments	Receipts
3.1) Gross domestic capital formation (1.5) (I)	3.3) Savings of corporations (2.4) (Sc)
3.2) Changes in stocks (1.6) (Is)	3.4) Savings of households (4.4) (Sh)
	3.5) Depreciation (2.10) (D)
	3.6) Savings of government (5.4) (Sg)
	3.7) Deficit of nation on current account (6.6) (F)
Domestic capital formation	Finance of gross domestic capital formation

ACCOUNT 4: HOUSEHOLD ACCOUNT

Payments	Receipts
4.1) Private consumption expenditure (1.3) (C)	4.5) Wages & Salaries (2.1) (Nw)
4.2) Direct Taxes (5.9) (Th)	4.6) Profits, etc. (2.2) (Np)
4.3) Current transfers to government (5.10) (tr)	4.7) Income from property (2.3) (Ni)
4.4) Savings to households (3.4) (Sh)	4.8) Current Transfers from government (5.2) (tr)
	4.9) Net transfers from rest of world (6.3)
	4.10) Less Interest on consumption debt (2.8) (tr)
Disposal of Income	Income of household

ACCOUNT 5: GOVERNMENT ACCOUNT

Payments	Receipts
5.1) Government consumption expenditure (1.4) (G)	5.5) Government income from property (2.6) (Ng)
5.2) Transfers to households (4.8) (tr)	5.6) Less: Interest on government debt (2.7)
5.3) Net transfers to rest of world (6.5) (tr)	5.7) Indirect taxes less subsidies (1.2) (Ti)
5.4) Government savings (3.6) (Sg)	5.8) Direct taxes on corporations (2.5) (Tc)
	5.9) Direct taxes on households (4.2) (Th)
	5.10) Transfers from households (4.3) (tr)
Disposal of Government Revenue	Current Government Revenue

ACCOUNT 6: REST OF THE WORLD ACCOUNT

Payments	Receipts
6.1) Exports of goods and services (E)	6.4) Imports of goods & services (1.8) (M)
6.2) Net factor income from rest of world (R)	6.6) Less: Deficit of nation on current account (F) (3.7)
6.3) (and 6.5) Net current transfers (tr) (5.3, 4.9)	
Current receipts	Disposal of Current Receipts

These six accounts cover all interrelated aggregates and could be further summarized in a matrix of 6 by 6. Using the abbreviations, placed for each item, such a matrix could be constructed as follows:

	GDP at market Price & Imports	National Income	Net Domestic Capital formation	Disposal Household Income	Disposal Government Income	Current Receipts
Expenditure on GDP & Imports			I Is	C	G	E
Net National Product	Yfc		-D*			R
Finance of Net Domestic Capital formation		Sc		Sh	Sg	F
Income of Household		Nw Np Ni			tr	tr
Current Government Revenue	Ti	Ng Tc		Th tr		
Disposal of Receipts	M					

* D could be put, with a positive sign, in square 3-2, in which case capital formation would be gross. Also the sum of the second now would not be national income .

This matrix provides a static model in which rows and columns represent "receipts" and "payments" respectively.
The 1953 System of National Accounts, as a result of considerable works in this field, underwent a great deal of modification. The outcome was "A System of National Accounts", 1968. In the new System, the economy is divided into four areas for which accounts are envisaged, i.e. production, consumption, accumulation, and the rest of the world. The production account of the new system is the same as Account 1 in the old system except that the expenditure side of the account is more detailed, e.g.

1 - DOMESTIC PRODUCT AND EXPENDITURE

Outgoings	Incomings
1 - Compensation of employees (17)	5 - General Government final consumption expenditure (12)
2 - Operating surplus* (19)	6 - Less: Direct purchases abroad by government services (-39)
3 - Compensation of fixed capital (26)	7 - Private final consumption expenditure in the domestic market (13)
4 - Indirect Taxes, net (20)	8 - Increase in stocks (23)
	9 - Gross fixed capital formation (24)
	10 - Exports of commodities (32)
	11 - Less Imports of commodities (-38)
Gross domestic product (Value added) at purchaser's values	Gross domestic expenditure at purchaser's value

*Operating surplus is 'gross output' at producer's values less the sum of intermediate consumption, compensation of employees, consumption of fixed capital and indirect taxes reduced by subsidies. (See 'A System of National Accounts, p. 235)

The consumption account in this system represents the appropriation of national disposable income - instead of national income of the old system, e.g.

II - NATIONAL DISPOSABLE INCOME AND OUTLAY

Outgoings	Incomings
12 - General government final consumption expenditure (5)	17 - Compensation of employees for domestic activities (1)
13 - Private final consumption expenditure in the domestic market (7)	18 - Compensation of employees received from the rest of the world, net (34-41)
14 - Direct expenditure abroad by resident households (40)	19 - Operating surplus (2)
15 - Less: Direct expenditure in the domestic market by non-resident households (-33)	20 - Indirect tax, net (4)
16 - Saving (27)	21 - Property income from the rest of the world, net (35-42)
	22 - Direct taxes on income and other current transfers from the rest of the world, net (36-43)
National Outlay	National Disposable Income

The third account, accumulation or capital transaction account, is similar to its counterpart in the old system but it requires additional data on acquisition of financial assets from within and outside the economy, e.g.

III - CAPITAL FINANCE

Outgoings	Incomings
23 - Increase in stocks (8)	26 - Consumption of fixed capital (3)
24 - Gross fixed capital formation (9)	27 - Saving (16)
25 - Net lending to the rest of the world (30)	28 - Capital transfers from the rest of the world, net (-46)
Gross accumulation	Finance of gross accumulation
29 - Net acquisition of financial assets (47)	30 - Net lending to the rest of the world (25)
	31 - Net issue of liabilities (44)
Capital Outgoings	Capital Incomings

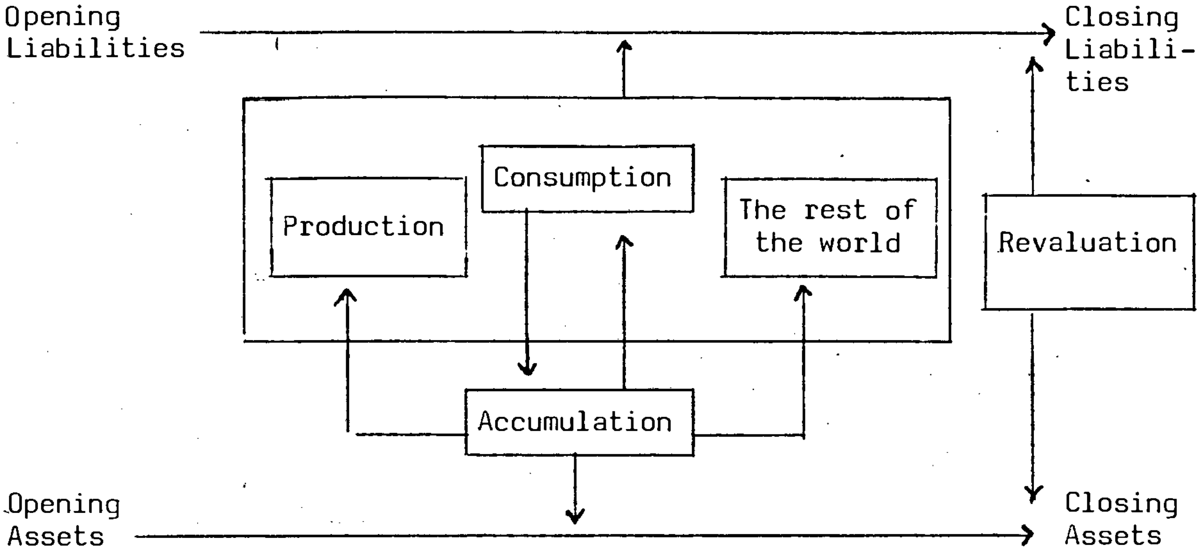
The fourth account, like the old system, is the balance of payments account, though it is more detailed in the new system, e.g.

IV - THE REST OF THE WORLD

Outgoings	Incomings
32 - Exports of commodities (10) 33 - Direct expenditure in the domestic market by non-resident households (-15) 34 - Compensation of employees (18 + 41) 35 - Property income (21 + 42) 36 - Direct taxes on income and other current transfers (22 + 43) 37 - Surplus on current transaction (45)	38 - Imports of commodities (-11) 39 - Direct expenditure abroad, general government services (-6) 40 - Direct expenditure abroad by resident households (14) 41 - Compensation of employees (34 - 18) 42 - Property income (35 - 21) 43 - Direct taxes on income and other transfers (36 - 22)
Current Outgoings	Current Incomings
44 - Net acquisition of financial assets (31)	45 - Surplus on current transactions (37) 46 - Capital Transfers, net (-28) 47 - Net issue of liabilities (29)
Capital Outgoings	Capital Incomings

Whilst the 1953 System of National Accounts is based on (and structured for) the "flows" of economic activities the new system covers changes in stocks as well.

The connection between opening and closing assets and liabilities is best presented by the following diagram:



Source = A System of National Accounts, United Nations, 1968, p.8

The fact that the new system has four, instead of six accounts, does not mean that the new system requires less detail. On the contrary, covering national balances, monetary flows and details of various aggregates require a fairly sophisticated financial infrastructure*. To illustrate the new system in its complete form, a matrix of 88 x 88 is required.(1) This could, however, be summarized in a matrix of 4 x 4 to depict the basic relationships of the bigger matrix.

	GDP at Market Price and	National Outlay	Gross accumulation and Capital Outgoing	Current Outgoings*
Expenditure on GDP at Market Price & Imports		C	I	E
National Disposable Income	Ymp		-D	R
Finance of Gross Accumulation & Capital Incoming		Sd**		F
Current* Incomings	M	tr		

* These items include transfers of capital as well.
** Sd is domestic saving.

(1) See a System of National Accounts, 1968, p.19.

Each account, in either system, needs few tables to illustrate its deconsolidation. For the purposes of economic analysis, these explanatory tables are very important. The 1953 system was accompanied by 12 tables and the number of tables for 1968 system depends on the stage of financial structure of the economy. Both systems of National Accounts are, quite expectedly, basically engineered for the market economies with a certain degree of financial advancement. Particularly the 1968 system is calculable only in very advanced industrial countries.

III.2 The Major Uses of National Accounting Statistics

An interest in national accounting has developed amongst the public authorities, economists, entrepreneurs, and labour organisations. This is parimarily attributable to the properties of national accounting statistics which serve to:

a) facilitate the theoretical analysis of macroeconomic relationships;

b) provide means for the formulation and implementation of economic policies.

The national accounts, for instance, render measures by which the state can choose the direction and magnitude of its involvement in the economy.

Labour organisations take great interest in the income part of the accounts. Their relative share in the distribution of income is of prime importance for them.
Business firms are concerned about their share of the aggregate output. Equally important for them, they need to adapt the direction of their production in terms of aggregate expenditure, i.e. expanding and contracting markets.
Therefore they share a great interest in national accounts.
International organisations wish to use national accounts for the comparative study of the performance of different economies. In spite of its numerous drawbacks, National Accounting statistics remain the most widely used indicators for comparative studies in international economics. National Accounting statistics have paved the way for the application of quantitative models to forecast economic trends more accurately. The nature of most of the quantitative

models, however, requires a series of national accounts over a long period of time. National Accounting statistics, if compiled, prepare a wide range of data on numerous essential aggregates, i.e. production, consumption, capital accumulation, etc., which could be used to (a) construct periodic national balance sheets and (b) to uncover and amend any miscalculations or biases in statistics compiled by other institutions, private or public.
In so far as economic pedagogical methods are concerned, the national account system has constituted a framework within which economic concepts and aggregates can be more systematically analysed and their relationships be discussed.

With the emergence of increasingly growing interest in "growth" and "development", yet another use of national accounts was introduced. That is, the GNP (or GDP) became the yardstick of economic performance. Both capitalist and non-capitalist countries regarded an increase in the GNP as a sign of a healthy economy.

Depression, boom and cyclical changes are all measured and projected by using national accounting statistics.(1) Usually, in order to measure growth, variations in the GNP are compared with a *base year*, and the state of the economy is determined accordingly.(2)

Quite recently (1981) Arthur Okun, an American economist, had made a new use of the GNP, in evaluating the effectiveness of State economic policy. Okun suggests the concept of potential gross national product, against which economic performance could be evaluated. Potential GNP, Okun theorized, is achieved when the economy fully utilizes its resources. As the economy grows, its resources, particularly its technology, are increasing and its productive potential and hence its potential GNP is growing at a constant rate.(3)

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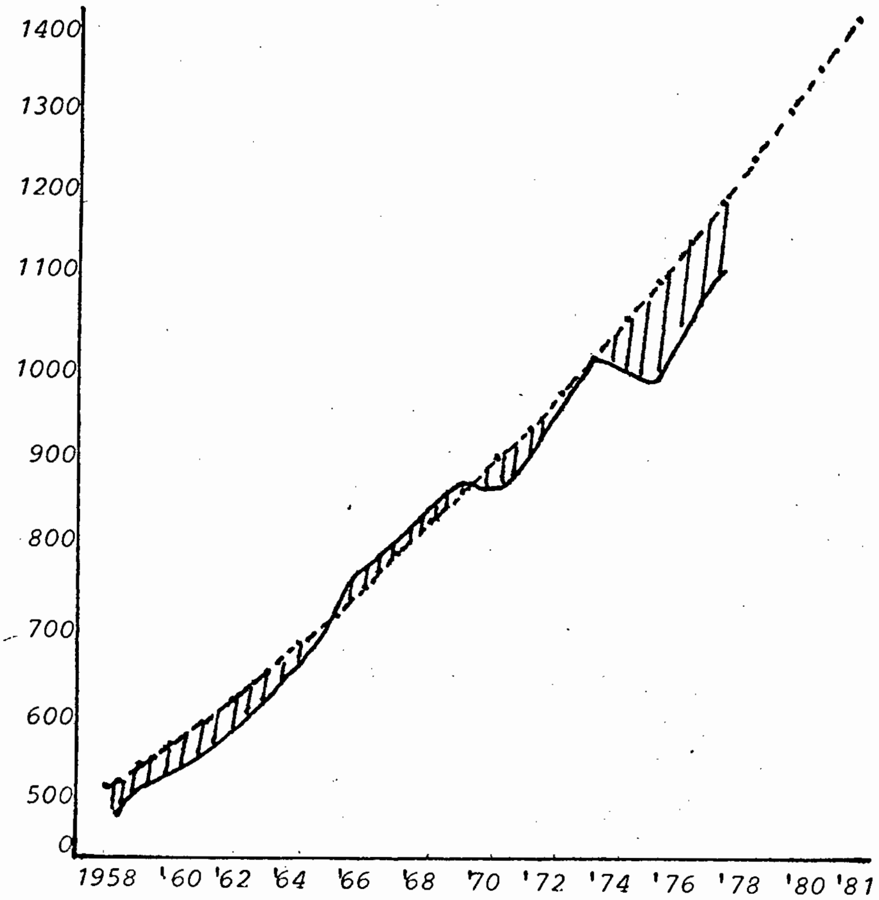
(1) There has been some dissatisfaction amongst development economists about using the GNP as an indicator of economic progress. They suggest, correctly of course, that the relative distribution of the total output is as important. This, however, does not impair the importance of national accounts statistics in this sphere of economics.

(2) For a discussion of the problems involved, refer to the section on index numbers.

(3) This assumption, as well as the computation of potential GNP, is somewhat abstract and its application in real world proves problematic.

Okun assumed a 4½% increase in the potential GNP of the United States and presented the following diagram for the period (1952 - 1981).



Source: The Okun Diagram - U.S. Economy 1952-1981. Actual and Potential Gross National Product.

The dashed area in the diagram measures the loss in output. Only one period does the economy seem to have out-performed its potential. The Okun diagram, thus identifies periods during which economic policy has failed to bring about the economy's potential. This is obviously an example of the use of national account statistics in the short run.(1) In the medium and long run, National Accounting data are extensively used for the preparation and formulation of economic planning.

(1) The formulation of government fiscal policy, as an unavoidable short run government exercise, relies on national accounts for its basic statistical data.

Economic planning is the formulation of an inter-related set of economic variables for achieving certain objectives over a defined period of time. The success or otherwise of a plan will mostly depend, amongst other things, on:

a) how objectively its targets are set,

b) how carefully the plan is formulated, i.e. causal-effect relationships are correct, and

c) how effectively it is executed.

Whilst the third issue need basically administration and managerial expertise, the other two are fundamentally of a statistical nature. Targets of an economic plan are, mostly, the future magnitudes of the existing aggregates. For example, the aggregate saving in five years to come, or the level of investment, consumer expenditure, private sector production and the like after the elapse of the plan's period.

The formulation of the plan is in turn the utilization of the existing aggregates for the projection and materialization of future values. During this phase, of course, the identification and establishment of realistic causal relationships are crucial.

In both phases, however, the existing aggregates are crucial to start with. The national accounts aggregates, as will be presented later, provide the planner with a great deal of the required data, though they must be supplemented by aggregates required for the plan and not covered by national data.

All in all, with the prevalence of quantitative economics, it has become indispensable for countries to provide national accounts statistics for which so great a demand exists.

CHAPTER IV

THE LDC's AND NATIONAL ACCOUNT STATISTICS

THE LCS's AND NATIONAL ACCOUNT STATISTICS

An examination of national accounts in the LDC's contains two main issues. One is the suitability of the SNA for these countries and the other is the problematic areas whose data estimations encounter certain structural deficiencies, impairing the quality of the estimates. These issues are discussed in this section and also the general uses of national accounting in the LCS's are reviewed.

IV.1 Suitability

In the section on the theory of national accounts, it became clear that the concept of national accounts evolved in the advanced countries of today. Thus its accordance with the structural functioning of these economies is something to be expected. In its final version, as presented in the previous sections, national accounts owes much of its theoretical foundation to the recent economic models, amongst others to the original work of J M Keynes. These models, in turn, are influenced by and formulated for, the industrial, monetized economies of those countries.

To apply this approach to the economy of the underdeveloped economies with their distinct pre-industrial, semi-monetized characteristics is justified if:

(a) either one can demonstrate an accounting system with its corresponding economic theory conforming to actual functioning of pre-industrial economies; or

(b) one can claim that the underlying economic model of the system of national accounts is of general applicability.

Neither of these propositions is necessarily true. Firstly, no suitable economic framework and its associated accounting system are known. Secondly, the generalisation of a model of an industrial economy to that of a pre-industrial one, with mostly different structural conditions, is ostensibly inappropriate. Further, at a fundamental level, there is not *a priori* reason why an accounting method will be of any use in these economies. To illustrate these points, the basic economic model of the system of national accounts can be compared with its counterparts in a non-monetized as well as a semi-monetized economy.

1) In a simple model of a monetized economy, there is no income in kind. The total saving is in the form of money and its value depends on the size of money income and the rate of interest, e.g. $S = S\ (Y,i)$

2) Investment, on the other hand, depends on the present value of the expected future returns and thus it can be regarded as a function of, amongst other things, the interest rate and money income, e.g.
$I = I\ (Y, i)$

3) The actual investment, however, in an ex-post sense, is equal to savings. The demand for money depends inter alia on the preference for cash balances and the rate of interest, e.g. $Md = M(B, i)$ where B is the preference for cash.

4) The supply of money, on the other hand, is assumed to be exogenous: $Ms = K$

5) The money wage is a function of the marginal productivity of labour. The real wage depends upon employment and there is a linear relationship between money and real wage, adjusting for the price level:
$W = W\ (MPL)$

6) $\frac{W}{P} = W$ (employment)

The demand for investment and the money wage rate are attained by maximising profit and labour input respectively.(1)

In a subsistence economy with no monetised sector, none of the above-mentioned equations would hold true, except the last one, though even this equation is obscured by the prevalance of disguised unemployment.

In such an economy, all transactions are in real terms and also the major part of them is between the accounts of the same accounting entity.

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(1) It is an over-simplified model to sketch the basic relationships. Economic models of this type have undergone tremendous modifications. Many variables are introduced in each equation and the mention of any of them here would seem redundant.

Investment and savings are identical and are contingent upon the expected need for consuming goods in future. The main decisions are, thus, focused around the anticipated rate of increase in population.(1) Because a growing population means an increasing level of income of which a portion is to be spent on real investment. Since savings are equal to investment if the expected population growth is higher than actual, more will be saved than required. This will, all things being equal, lead to a gradual rise in living standards in the future. Inversely, if the actual growth of population is more than expected it means less is saved than needed and a decline in average income will ensue.

Such a pure subsistance economy does not, however, imply that exchange of goods for goods (barter) or goods for services are non-existent. The presumption is that production is not for profit maximization. Neither is there any utility maximization of a certain amount of money income. Instead the main concern is to maintain a certain level of consumption overtime. Or maybe to keep a small amount of cash for precautionary purposes.

The third type of economic model is the one in which all the equations of the second model exist with a parallel existence of that of the first one. In such a model savings depend on not only money income and the interest rate, but also on the rate of money income and kind income. The same applies to money investment. In other words, money savings and money investments are not representative of total savings and total investment. Hence, two other functions are needed, one for non-money savings and one for non-money investment.(2) For equilibrium to occur, total investments must be equal to total savings, and further money saving and non-money saving must equal money investment and non-money investment, respectively.

It follows then, that the economy will be exposed to fluctuations if there be any difference between the propensity to consume money income and the propensity to consume kind income. For instance, even

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(1) No unemployment in this model is meaningful or possible.

(2) The construction of rural huts or houses is an example of non-money investments.

when the total investment is equal to the total savings, if the propensity to consume kind income is small, money saving will exceed money investment and this may result in a depression.

In such an economy the demand for money is functional to liquidity performance and the propensity to receive the earnings in cash rather than in kind. It is, then, conceivable that with a rising price level there may be a tendency to have a larger part of earnings in cash. As in the case of the first model, the supply of money can be assumed to be autonomous.

In the sphere of employment and wage determination, in a pre-industrial, partly monetised economy, the picture is blurred with the presence of wages in kind and the remuneration to the members of the household which in turn compounds the former. As such, the marginal productivity of labour is not necessarily the main determinant of wage rate. If this is taken into account, it may be assumed that real income will be a function of employment, employment in turn being a function of the wage rate. An equation is also required to determine the real income, i.e. to adjust the money and kind income for the price level.

This model is by no means a complete one, yet it points out the fundamental differences between a semi-monetised economy and an economy in which the non-monetised sector is relatively negligible. Put differently, it emphasises the existence of income, saving and investment flows in kind. Although it is the task of economic theorists to analyse underlying motives for these flows, their identification for the estimation of the aggregate product is critical. The segregation of the two types of flows stretches the point that the non-monetised flows do not benefit the accounting system which is built to encompass the monetised flows. This has led many to view "the system of National Accounts as a monolithic, excessively ambitious, dogmatic structure which 'requires' developing countries to produce data in which they have no analytical interest using classifications and conventions which are quite inappropriate to their circumstances, and so on.[1]

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(1) This, of course, does not imply that Pyatt & Roe agree with this point of view. See Pyatt & Roe: Social Accounting For Development Planning, 1977, p.12.

This, however, is a pungent criticism of the SNA. In spite of its unsuitability for the developing economies, the SNA has a certain flexibility which allows adjustments in the system to make it applicable to these economic systems. Further, in the absence of a more suitable system, a modified SNA remains the only solution for collecting a set of basic data for the economy of the LDC's. The modification of the system depends mainly on the structure of the economy under study. The works of Pyatt & Roe in Sri Lanka and Swaziland, and M. Mukherjee in India, are but examples of adjustments which can be made to the SNA to suit the underdeveloped economies. Moreover, modifications of this type[(1)] were necessitated by the need for economic data according to which the post-war interventionist policies could be regulated.

Devoid of any adequate expertise, the LDC's had to rely on the international organisations to aid them in their data collecting endeavours. The outcome has been an impressive flood of macroeconomic data collected (and published annually) in the UN Yearbook of National Account Statistics, covering over 150 countries. Yet, in spite of this apparent success, there is remarkable dissatisfaction and debate about the suitability and usefulness of a great deal of these statistics. This disquiet has numerous aspects of which a few are worth considering. First, it is often argued that the statistical documentation in these countries is poor and its resultant data is not reliable, actually too inaccurate to be useful.

Whilst there is little doubt that statistical data of a developing country is less accurate than that of an advanced country, it does not mean that available data can be discredited altogether. Rather, one has to adopt an attitude of making the best of the existing data. This, of course, should not be interpreted that 'any statistics are better than no statistics'. Meaningless statistics, no doubt, could be extremely harmful if used as the basis of economic policies. Generally, one has to admit that better statistics must regrettably be viewed as something of a luxury produced partly as the result of economic 'development' rather than as its precursor . Also account

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(1) See Pyatt & Roe or Mukherjee, M. "The Technique of Social Accounting in a Pre-Industrial Economy", 1953-

should be taken of the opportunity cost of improving existing data, given the scarcity of statistical resources.

Second, it is usually said that the SNA is developed by the United Nations and aims at international comparability. The experts sent by the United Nations to those countries thus try to execute the manual of the United Nations and prepare a set of standardised aggregates. These aggregates may be of no analytical use for these countries. More important, it forgoes the preparation of data on more necessary aspects such as production, population movement, distribution, and the like.

In essence, it is a criticism against the structure of the SNA which is believed to be rigid, and it is already discussed above. As regards the utilisation of foreign statisticians, it is the political-administrative body of the country to be blamed and neither the statistician nor the accounting system. If, as Mitra comments, 'fashion pushes necessity aside', it is because the foreign expert is usually pressurised to collect impressionistic macroeconomic estimates, otherwise the SNA has enough flexibility to be adjusted for the need of an average underdeveloped country. In fact this is shown in the document of "A System of National Accounts" of the UN (Ch.IX), 1968. The document further provides a set of accounts for the public sector and key kinds of economic activity. Also, since it is likely that one (or more) areas may have special economic significance for the overall development of an underdeveloped country, the document suggests a separate "accounts for selected areas".(1) This flexibility of the accounting system enables the country "to adopt the suggested priorities to its own needs and circumstances".(2)

Related to the second criticism is a more fundamental objection to the SNA stressing its aggregate approach to the household sector. This deficiency of the system is recognised by the responsible committee for the formulation of the SNA. In its 1968 document it writes:

> "The Statistical Office is engaged in preparing an integrated system of statistics of the distribution of income, consumption and wealth which, at the macro level, fits completely into the SNA (and also

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(1) See A System of National Accounts, 1968, pp. 207-229.

(2) Ibid., p.215.

> into the MPS) and, at the micro level, is complementary to the two systems."

As yet such a study has not been published and thus very little is known about the practicability of such a concept. An attempt by Pyatt & Roe for a partial integration of the concept has proven extremely difficult. One of the major problems is the invariable statistical biases normally present in distributional data. In the absence of any uniform format, every individual country must attempt to supplement its aggregated national statistics with suitable details of the distributional aspect.

IV.2 The Problematic Aggregates:

These aggregates are either on the expenditure side or in the production side of the GDP by type of economic activity.

2.1 Expenditure on GDP

a) Government's final consumption expenditure in almost all the LDC's is hard to compute because (i) government expenditure lacks an economic and functional classification; (ii) there is little differentiation between current and capital expenditure. This is further distorted by calculating depreciation according to book value instead of the replacement cost concept; (iii) there is very little data on social security schemes, showing government transfers to households or other agents; (iv) Government accounts usually refer to the central government and do not cover local governments. These problems are further compounded if the government uses a different financial year or if its actual figures are not available on time.

b) Private final consumtpion expenditure is one of the most complex aggregate estimations and is subject to a large margin of error. Factors contributing to this complexity may be listed as follows:

i) High rate of illiteracy: The majority of the population in the LDC's live in the rural areas where the housewife cannot read and/or write and hence no record of the family budget is kept. In such circumstances, a budget survey has to rely on women's memories and field experience has shown that their memory for quantities and expenditure is by no means reliable. The experimental studies of Ghana and Botswana, for instance, show that "the understatement of expenditure on food by the monthly interview method could be anything between 20 to 30% compared with the method of daily recording."(1)

ii) Different regions of an underdeveloped country have varying standards of living. This, in turn, complicates the task of household budget survey as it calls for a complete coverage of households which is impractical in terms of costs and time.

iii) The existence of self-consumption of goods and services with their concomitant valuation difficulties, is an additional problem in household budget surveys in a LDC.

iv) The derivation of private final consumption expenditure, as well as any other aggregates, from household (or other) surveys, presupposes adequate population statistics. In the LDC's the population census information, due to factors such as migration and emigration, lack of statistical facilities and so on, is rather doubtful. Thus, even if reliable per capita expenditure (or output) could be obtained, the aggregate value, derived by multiplying per capita by 'suitable factors', would be subject to wide margins of error.

Given all these potential sources of error, 'private final consumption expenditure' in the LDC's is usually measured as a residue, e.g. by subtracting the other expenditure items from the GDP or GNP.

c) Gross fixed capital formation (GFCF): The measurement of this aggregate, in the LDC's encounters problems such as (a) estimating the magnitude and value of own-account construction, especially in the rural areas, (b) the problem of tracking development expenditure, i.e. expenditure on education, health, etc., and (c) the treatment of expenditure on research and exploration, expenditure on exploration of minerals and petroleum and, finally, (d) the absence of sufficient maintenance in its strict sense, i.e. whether the repair work is likely to affect the life and/or productivity of the assets.

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(1) "Household Economic Surveys in Africa, (E/CN, 14/NAC 53) pp. 70-78.

Thus, as G.C. Billington suggests, "it might be useful for (these) countries to examine the advantages and disadvantages of adopting the gross-gross concept of capital formation."(1)

d) Changes in stock: Once again, the masurement of changes in stocks is complicated due to the lack of information on stocks in the traditional sector of the economy. Thus in many of the LDC's, the stock figures refer to certain key products, i.e. cotton, coffee, wheat, oil, and the like.

e) Balance of Payments Account: In addition to its general unsuitability of the detailed 'rest of the world account' of the SNA for the LDC's, the measurement and classification of exports and imports of goods and services in these countries face numerous problems, depending on the economic structure and geographical location of the country. The main difficulties, common in most countries, are:

1) There is no factual basis for the calculation of non-factor services, i.e. insurance and freight charges.

2) The lack of adequate documentation of physical movement of goods. This is particularly relevant to some landlocked countries with extensive borders to be policed. Obviously, thus, statistics on cattle driven across borders, fish landed, or smuggling trade and the like are at best partial.

3) The declared values are usually easily falsified in order to evade custom charges or exchange control whenever relevant.

2.2 GDP by Type of Economic Activity

a) Agriculture: The total agriculture production is one of the aggregates whose estimation is the most difficult and the least reliable in the LDC's. This is primarily owing to 1) the widespread practice of mixed cropping, 2) uncertainty of yield (expected yield) due to climatic variability show in the LDC's, and in Africa in particular, (3) the lack of information about area under cultivation which, in turn, is a result of unregistered title to land.

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(1) G.C. Billington, "A Minimum System of National Accounts for use by African Countries", African Studies in Income and Wealth, 1963, p.25.

Given these obscurities, there seems to be a very unreliable basis for the estimation of agricultural production, although annual crop estimates are invariably made in most LDC's. In some countries it is assumed that the annual growth rate of the agriculture product is slightly higher than that of population growth.[1] Whilst this may be a theoretically intelligent assumption, it cannot be justified without empirical verification.

In addition to the problems of quantification of total production, (4) there exists insufficient data concerning the cost structure of agricultural production and hence producer's prices are not easily obtainable. The estimator is, thus, left to impute the unit cost in order to place a value upon the total production.

b) Industries: With the rising interest in 'industrialisation' almost all the LDC's have prepared information about their industries in order to measure their industrial progress. Yet, statistics so provided cannot be used for national accounting purposes because it has two major drawbacks:

(i) they cover only selected (big) industries and as such their coverage is neither complete nor representative of the industrial sector.

(ii) They usually leave out small-scale and cottage industries. These industries play a significant role in many under-developed economies and thus their contribution to the total production may prove to be considerable.

c) Construction: As in the case of industries, information on construction in the LDC's is, at best, partial. In other words, available data are more likely to cover impressionistic construction schemes, though partially. Thus for national accounts data, separate supplementary surveys are necessary. These surveys are likely to encounter two difficulties. First, in most of these countries builders and contractors are not registered and, even if they are, obtaining adequate information from them proves to be difficult. Secondly, the difficulty in estimating construction

(1) Ke-chiang Wang, "Planning and the Current Availability of National Accounts Statistics in Africa", OECD Publication, 1974, p.21.

in rural areas, especially African-style housing which is basically own account construction. As a consequence of these difficulties, estimates of national aggregates either do not cover this part of construction or are based on rule-of-thumb methods for valuation.

d) Wholesale, Retail services: Like other sectors, there is very little reliable data available about the activities of wholesalers and retailers in the underdeveloped countries. This sector usually consists of numerous yet scattered, establishments for which data collection is extremely hard. This is mainly because many petty traders, artisans and farmers are illiterate and keep no records of any sort concerning their transactions. To compute the contribution of these services, the following devices might be used, depending on their applicability:

i) the use of income tax returns to impute the sector's total transactions;

ii) the use of records available at marekting boards and similar enterprises;

iii) to analyse the retail price versus producer's price in order to obtain a gross trade margin;

iv) to take a comprehensive census in order to cover main importers, exporters and wholesalers;

v) to run a sample survey of the business sector to find an 'average value added' for each establishment and then multiply it by a certain factor to arrive at the total value. To employ this method, a reliable record of the total number of establishments is required. These records are usually kept by a government department responsible for business licences.(1)

e) Transport services: Whilst air and rail transport services are usually organised and their data are obtainable, road transport remains the main snag for the estimates of this sector. Different devices are available for the estimation of the total contribution of transport services. Some of them are as follows:

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(1) This method is used for the estimation of Transkei GDP as the case study in the second part of this thesis.

i) to use income tax analysis for the imputation of the total measures;

ii) to use the records of various transport syndicates wherever available;

iii) to apply method (v) proposed for wholesale and retail services.

In most LCS's in addition to motor transport services, primitive means of transport constitute a major part. Depending on the magnitude of these services, it may be necessary to impute a value for them, though this might prove impractical.

f) Other services: This category may include real estate, business and community services, finance, insurance and the like. The estimates of contribution of these services usually lack even relative precision. As mentioned previously, an income method is used to measure the value added of this sector. Amongst the sources used are (i) business licence registers, (ii) income tax records, (iii) employment and earning surveys, (iv) government records, (v) records of non-profit organisations, (vi) special survey for the purpose of national accounting.

Given the aforementioned theoretical and practical drawbacks, the SNA must be applied to the LDC's with special care. Further, as underdeveloped economies consist of a wide variety of countries in various stages of development, the uses to which national account statistics can be put will vary in scope and complexity.

IV.3 General Uses of National Accounting

The uses of National Accounts in the LDC's may be broadly divided into two main categories: (a) their use in economic planning, including short- and long-term development programmes and (b) their indicative role as measures of improvement in levels of production as well as the pattern of distribution. Both categories include a wide range of aspects of which the most important ones are listed below:

a) National Accounts make it possible to analyse the structure of the economy, measure its progress and, rightly or wrongly, industrialisation, as a necessary background to the preparation of government economic policy;

b) to measure whether additions to capital stock of the economy have been able to diversify the structure of production in order to reduce dependence on imports;

c) also to identify the relative magnitude of private sector, public enterprises, social services, the monetised sector as well as the subsistence part of the economy. Any economic plan, either short- or long-term, requires these values for choosing its direction;

d) to provide general measures of changes in the more important economic ratios such as the change in the ratio of traded to untraded output, the propensity to consume imports, and so forth. In any development planning, special attention is to be paid to these ratios.

e) As discussed in the previous chapters, national accounts data provide some general measures of change in living standards.

This is by no means an exhaustive list of the potential uses of national account statistics. To conlude, however, as G.C. Billington remarks, national accounts "provide a method of thinking and an economic approach to problems which, although of limited application, nevertheless is likely to assist the administrator to base his decisions on a factual assessment of the overall problems so far as facts are available and to avoid the pitfalls of mutually inconsistent policies."(1) The emphasis so far placed on the aggregates of the SNA should not imply that this is the only solution to the statistical problems of the LDC's. It may well be, particularly in the short-run, that 'sectoral accounts' prove to be more economical and useful. This is particularly relevant where development plans for the underdeveloped areas have to shift their emphasis from creating wealth to creating the capacity to create wealth or "the infrastructure for wealth". Put differently, the development planning cannot confine itself to purely economic aspects, it includes projects to improve the ability of people to partake in the development process. As such the computation of an integrated set of national aggregates may not be necessary and, in fact, the allocation of scarce statistical resources to this task may be regarded as a waste. Instead, the

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(1) G.C. Billington, African Studies in Income & Wealth, 1963, p.30.

available resources could be used to establish sectoral accounts for which there is a more immediate need.

In almost all underdeveloped countries there are two strategic sectors, the government sector and the foreign sector. Both sectors account, to a large extent, for the short-run fluctuations in the level of economic activities as well as the long-run growth of the money economy. At the same time, for both sectors, basic data are already available. These data can be used as a starting point for identification of trends in other sectors. This is possible due to the role of these two sectors in the economy of the underdeveloped countries. To illustrate the point, the position of the public and foreign sectors are briefly examined:

1) <u>The Public Sector</u>

The dominating role of the government in an underdeveloped country is attributable not only to the sheer size of its involvement in economic activities, or its role in transforming the subsistence economy to a modern economy, but also to the fact that, in the absence of circumstances required for a spontaneous growth, the State has no alternative but to undertake the functions of an entrepreneur. In other words, it has to direct savings into productive investment or to assume responsibility for management. Also the government is the sole provider of socio-economic infrastructure. As such the State in an underdeveloped economy may be regarded as: (a) the major contributor to the domestic capital formation, (b) a crucially important financial intermediary. This is especially relevant to the countries whose capital market is not developed, (c) the predominant creator of employment and hence demand, and (d) the regulator of income distribution in the country.

Thus, if the sectoral accounts of the government are properly established (i) an indirect estimation of other aggregates such as capital formation, money income received by the households, total imports and aggregate expenditure on marketed goods and services, can be made; and (ii) an analysis of changes in the public sector policies is feasible.

The latter one is particularly important because it is the direction of changes in the public activities and not the activities per se which is instrumental for modifications in the structure of the economy.

2) The Foreign Sector

Most economies of the underdeveloped world rely on the production of primary products, either agricultural or mineral for export. Their export proceeds plus government expenditure form the bulk of money income which is mainly spent on imported goods. The remaining, however, forms the money investment of the economy. Export proceeds consist of various components such as the value of the raw materials, expenditure on transport, electricity, taxes, wages and salaries and also purchases from public enterprises.

On the import side of foreign transactions, included are statistics for imported capital goods and consumer goods. Similar to exports the value of imports could be divided into various parts in order to make extimates for items like transport, insurance and other services, customs duties and so forth.

To conclude, then, the government sector accounts together with the foreign sector statistics provide the necessary background for the formulation of development planning in the short run. In the medium and long run, however, these sectoral accounts can be supplemented with the accounts of the 'financial institutions sector', household sector and then these sectoral accounts could be consolidated in a national accounting format.

PART II

NATIONAL ACCOUNTS IN TRANSKEI

"It is one thing to make a few additions and substractions to a neatly tabulated column of figures. It is a very different one to pull together miscellaneous figures and other pieces of information, perhaps scattered among many files and many people's memories, and fashion them into a coherent whole."

A. R. Prest: The Investigation of National Income in British Tropical Dependencies. Institute of Commonwealth Studies, London, 1957.

CHAPTER V

STATISTICAL PROBLEMS AND A REVIEW OF EXISTING DATA IN TRANSKEI

V.1 General Remarks

The term 'National Accounting' is usually applied to economically and politically independent regions. Transkei, at present, is not economically independent and its potential for economic independence is very much in question. As such the attempt to compile a set of conventional national accounts aggregates does not presuppose either its present, or any potentiality for, economic independence. Rather it is an effort to compile a number of conventional estimates in order to examine the quantitative workings of the Transkei economy. In fact "aggregate economic estimates" would be a better term in this case, though it would disregard the macroeconomic conventions.(1)

V.2 Statistical Problems in Transkei

Transkei like most underdeveloped regions suffers from a paucity of macroeconomic quantitative data. This is particularly noticeable as regards the post-independence period (1976-81). Statistical scarcity is the result of two types of bottlenecks; administrative and structural. Administrative deficiencies include insufficient attention of authorities to the needs for a statistical framework. The ensuing lack of reliable statistics in turn results in socio-economic policies that are not based on any quantitative assessment of economic magnitudes. Such policy-making practices disguise the need for improvement of statistical information. The end result is the lack of an efficient institution, agent or a department for statistical services. In Transkei, each department either has its own 'statistics section' or its 'accounting section' which is responsible for the collection of data. In either case the quality and quantity of their data are poor, mainly due to incompetent staff. And this relates to a more intractable constraint, namely the shortage of staff with proper skills at all levels, from field enumerators to statistics analysts. The shortage of skilled staff is further exacerbated by the lack of cooperation and coordination, instead often rivalry, between the existing statistical units.

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(1) The term 'regional accounts' is also inappropriate as it implies a full political integration of the 'region' into a bigger political entity. Apparently, however, this is not the case in Transkei.

It is a serious matter when few units begin to duplicate or largely overlap in their investigations. This leads not only to the doubling of cost, time and manpower requirements, but also to individuals and institutions being required to furnish similar data to various agencies. Yet another problem arises when uncoordinated studies of these agencies lead to significantly different estimates for the same values. The obvious result, then, is a loss of creditability of the statistical services in general.

The structural constraints in Transkei are very similar to those of other underdeveloped regions. A high rate of illiteracy leads to a poor, if any at all, recording of income-expenditure items of business and individuals, especially in rural areas. Therefore any quantitative survey has to (a) interview individuals and businesses, and (b) rely on their memories. It is then quite likely that the researcher encounters the people's unfamiliarity with scales and hence inability to associate quantities with their respective time period.

Transkei consists of areas with varying production possibilities and standards of living. Thus any statistical survey for aggregate values has to include a complete coverage of various areas. In the absence of a proper infrastructure, i.e. roads, telecommunication, etc., this poses a serious constraint in terms of time and cost. Last and by no means least is the prevailing suspicious, apathetic and uncooperative attitude of the business sector and individuals towards any statistical enquiry. The underlying reasons for these conditions are best spelled out by Hudson and Allen in the following remark:

> "In circumstances where a national central government is a relatively new concept, where confidence in it on the part of the people needs to be firmly established and where government enquiries have traditionally been irregular and then confined largely to matters of <u>taxation</u> and other aspects of <u>control</u>, it is frequently difficult to elicit accurate answers to the wide variety of questions that appear in statistical surveys of all kinds, from population census to family budget enquiries". (1)

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(1) N.B. Hudson & R.M. Allen: "... The Inter-Relationships Between Planning and National Accounts in Developing Countries of The Commonwealth". <u>OECD Publication</u>, 1974.

Suspicion of government enquiries[1] is hard to eliminate and answers to certain questions on matters such as income, profit and the like need adjustments. In addition to these statistical problems, what were discussed in an earlier chapter on the LDC's is largely relevant in Transkei. For instance the lack of reliable bench mark data on population, business establishments and the like seriously confines the attempt to calculate most of the macroeconomic aggregates.

V.3 The Existing Statistics, their Sources and their Weaknesses

A: Data and their Sources

The pioneering study of the Tomlinson Commission, in 1950-51, prepared some estimates for the domestic production of the Bantu regions, amongst them Transkei. These estimates are not, however, useable as they excluded the then White populated areas of the Transkei Territories, mainly because the Commission was concerned about the production capacity of the then Black populated regions of South Africa.

The first estimates for economic aggregates of Transkei (as a whole) were made for the 1954-55 period by economic researchers of the University of Pretoria who prepared a set of data for the gross domestic product, agriculture output and capital formation of, amongst other Homelands, Transkei. This was continued until 1975.

In 1968, the Bureau for Economic Policy and Analysis (BEPA) of the University of Pretoria, at the behest of the Xhosa Development Corporation (XDC), compiled national accounts statistics for Transkei.[2] This compilation was published as the *1968 BEPA Interim Report*.

In 1975, with the growing demand for national accounts statistics, the Department of Statistics of South Africa decided to undertake and carry on the task of making national accounting estimates for the Homelands. It further began to "make special effort to improve

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(1) It must be noted that suspicion of government enquiries is a common problem encountered by statisticians in both developed and underdeveloped countries alike but the extent to which people in the latter countries are uncooperative, is much higher.

(2) This report was prepared by Professor J.A. Lombard, Professor J.J. Stadler and Mr. P.J. van der Merwe. In fact, they were involved in the study of national accounts estimates for Transkei at the University of Pretoria.

the accuracy of the (previous) estimates and to publish them."(1)

After its first report in 1976 in which the Transkei accounts were provided together with those of other Homelands, the Department of Statistics prepared two other reports specifically for Transkei, one in 1977 and one in 1978. After Transkei became independent in 1976, the Department of Statistics of South Africa discontinued compiling data for it. Thus the last official estimates are made for 1975.

On the basis of the 1975 estimates, the Bureau for Economic Research, Cooperation and Development (BENSO) made estimates for 1976 and 1977. BENSO in fact became the main source of statistical information for all the Homelands including Transkei.

Each of the above sources has made estimates for a number of aggregates. These aggregates vary from one source to another, although there are some common aggregates for which all three sources have made estimates.

The theoretical legitimacy and calculation accuracy of the estimates made by these sources will be questioned later. Meanwhile the useable statistics from each source are considered below.

(i) From the 1968 BEPA Interim Report, the following table demonstrates the GDP of Transkei by its industrial origin for the period 1954/55 and 1959/60 to 1966/67:

(1) The Department of Statistics, National Accounts of the Bantu Homelands 1969-70 to 1973-74, 1875, p.v.

Table 1: The Gross Domestic Product of the Transkei*, 1954/55 and 1959/60-66/67 (R1 000)

Industry	1954/55	59/60	60/61	61/62	62/63	63/64	64/65	65/66	66/67
1- Agriculture and Forestry	16 367	19 178	22 959	20 959	22 549	24 104	19 529	24 692	29 819
2- Mining and Quarrying	-	-	-	-	-	-	-	-	-
3- Manufacturing	2 396	2 739	2 429	2 557	2 783	2 848	2 691	3 151	3 422
4- Construction (private)	60	131	142	163	183	204	225	246	267
5- Electricity and water	55	75	71	90	68	73	82	91	101
6- Transport and Communication	770	923	990	1 162	1 374	1 536	1 692	1 877	1 931
7- Trade	4 328	5 089	5 144	4 793	5 956	6 481	6 632	6 873	8 006
8- Financial Services	182	220	222	209	261	285	293	311	395
9- Fixed property (home ownership)	806	938	967	998	1 018	1 039	1 060	1 081	1 090
10- Government Administration**	2 319	3 152	3 480	3 816	4 098	4 626	5 591	6 672	6 885
11- Other Services									
(a) Education	3 426	3 775	3 844	4 001	3 969	4 168	4 511	4 707	5 029
(b) Health	881	1 155	1 196	1 382	1 509	1 639	1 690	1 815	2 024
(c) Other	7 115	7 646	7 807	7 831	8 289	8 568	8 747	8 955	9 406
Total	38 705	45 021	49 251	47 961	52 066	55 481	52 743	60 471	68 375

* Including subsistence production and also "white areas"
** Including government construction

Source: "Interim Report on the Use of the National Accounts ..." The BEPA 1968, p.4.

Also, the Report indicates the contribution of the public sector to the GDP for the same periods, e.g.:

Table 2: The Share of the Public Sector in the GDP of Transkei - 1954/55 and 1959/60 - 1966/67

Year	R1 000	Percentage of GDP
1954/55	7 135	18.4
1959/60	8 938	19.9
1960/61	9 441	19.2
1961/62	10 078	21.0
1962/63	10 713	20.6
1963/64	11 783	21.2
1964/65	13 200	25.0
1965/66	14 766	24.4
1966/67	15 954	23.3

Source: The BEPA 1968 Interim Report, Table V, p.10.

The BEPA Report further provides data on agriculture production, national income and expenditure. These aggregates are, however, unuseable as they exclude the 'White areas' or 'White income' from the total values.

From the reports of the Department of Statistics the following statistics are useable:

Table 3: The Gross Domestic Product of Transkei 1969/70 to 1975/76 (R1 000)

	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
A - Market Production:							
1- Agriculture, hunting, forestry	2 572	2 295	4 315	6 110	6 595	8 553	11 082
2- Mining and quarrying	13	77	48	28	14	167	130
3- Manufacturing	2 399	2 660	2 888	3 334	3 695	4 555	7 048
4- Electricity, gas and water	128	145	145	186	211	338	722
5- Construction*	1 035	1 876	2 037	2 270	3 269	4 689	5 656
6- Wholesale, retail trade and catering and accommodation services	12 486	13 784	14 039	15 250	16 592	18 085	20 214
7- Transport, storage and communication	4 457	5 087	5 499	5 638	5 888	6 932	8 058
8- Financing, insurance, real estate and business services	2 562	3 121	4 260	4 639	5 384	5 956	7 280
9- Community, social & personal services							
(a) Public Administration	8 709	9 630	10 800	11 818	13 218	18 212	22 913
(b) Educational services	6 404	7 191	8 494	10 075	11 830	15 554	18 615
(c) Health services	2 410	2 821	3 958	4 512	5 779	6 960	8 337
(d) Other marketed services	2 316	2 498	2 654	2 852	3 068	3 299	3 770
Total Market Production	45 491	51 185	59 137	66 712	75 543	93 210	113 755
B - Non-market Production:							
1- Agriculture, hunting, forestry and fishing	29 076	25 335	37 808	34 896	47 166	55 188	80 081
2- Manufacturing and water	6 457	6 915	7 428	8 210	9 203	10 206	11 227
3- Construction	1 485	1 599	1 688	1 799	1 908	2 031	2 164
4- Home Ownership	2 019	2 313	2 435	2 601	2 772	2 948	3 129
Total Non-Market Production	39 037	36 163	49 359	47 506	61 049	70 373	96 601
Grand Total	84 528	87 348	108 496	114 218	136 592	163 583	210 356

Sources: a) Department of Statistics; "National Accounts of The Bantu Homelands 1969/70 - 1973/74" Report No. 09-17-01, 1976

b) Department of Statistics; "National Accounts of The Republic of Transkei, 1971 - 1975", 1978.

* This includes mainly contractors' construction.

For the same period the share of the public sector in the GDP is calculated below:

Table 4: Value Added Originating in The Public Sector 1969/70 to 1975/76

Year	R1 000	Per cent of GDP
1969/70	22 771	26,9
1970/71	26 545	30,4
1971/72	31 130	28,7
1972/73	35 123	30,8
1973/74	40 673	29,8
1974/75	55 048	33,7
1975/76	68 002	32,3

Sources: The same as Table 3.

Similarly the gross fixed investment of the public sector is as follows:

Table 5: Gross Fixed Investment of the Public Sector in Transkei 1969/70 - 1975/76 (R1 000)

Institution	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76
A. Transkei Authorities:							
- Transkei Government	3 705	5 803	4 845	6 394	10 963	11 119	19 826
- Regional, tribal and other authorities	91	101	95	121	144	177	132
- Local authorities	250	483	693	674	1 173	951	1 100
Total A	4 046	6 387	5 633	7 189	12 280	12 247	21 057
B. South African Government:							
- General Government Departments	939	393	658	962	1 195	399	73
- SABT	6 223	5 991	7 090	4 953	4 460	3 946	14 797
Total B	7 162	6 384	7 748	5 915	5 655	4 345	14 870
C. Cape Provincial Admin.	96	6	15	84	26	-	109
D. Total Government Sector (A+B+C)	11 304	12 777	13 396	13 188	17 961	16 592	36 036
E. Public Enterprises*	4 179	2 908	6 285	2 707	3 662	4 838	9 987
F. Grand Total	15 483	15 685	19 682	15 895	21 623	21 430	46 023

Sources: The same as Table 3.
*SAR and H. Posts & Telecommunications, ESCOM, SABC and XDC.

As regards the allocation of investments, no information is available for the period 1969/70-1970/71. In its 1978 report, the Department of Statistics however provides the following information concerning the distribution of the gross fixed investment for various socio-economic purposes. Also, it supplies data on the expenditure pattern of the government sector and certain public enterprises for the same period. Tables 6 and 7 illustrate these respectively.

Table 6: Gross Fixed Investment of the Public Sector By Purpose 1971 to 1975 (R1 000)

Purpose	1971	1972	1973	1974	1975
Education	848	1 014	1 324	1 377	1 949
Health	680	454	145	342	615
Housing & Community Amenities	6 081	4 264	4 079	3 755	14 087
Agriculture	2 868	3 957	7 598	6 899	10 040
Roads and Works	2 393	3 340	4 815	4 219	9 345
Electricity Supply	530	186	916	284	350
Railways	128	93	67	42	27
Communication	200	239	264	266	578
Unspecified	5 954	2 348	2 415	4 246	9 032
Total	19 682	15 895	21 623	21 430	46 023

Source: Department of Statistics; National Account of The Republic of Transkei 1971-75, p.5.

Table 7: Total Expenditure of the Government Sector and Certain Enterprises by Purpose 1971-75 (R1 000)

	1971	1972	1973	1974	1975
General Administration	4 401	5 939	7 285	8 223	10 635
Public Order and Safety	2 720	3 603	4 361	5 195	6 429
Education	8 776	10 411	12 101	16 365	20 782
Health	7 110	7 135	7 799	9 732	12 905
Social Security and Welfare Services	5 064	5 738	6 692	9 008	12 992
Housing & Community Amenities	6 100	4 301	4 130	4 420	14 720
Agriculture	7 835	9 242	11 537	13 304	19 368
Roads and Works	6 837	7 716	9 325	12 053	26 434
Electricity Supply	965	1 366	2 062	1 881	1 722
Railways	3 280	3 464	3 566	4 466	6 359
Communications	916	999	1 122	1 300	1 037
Total	54 004	59 914	69 979	85 947	133 383

Source: The same as Table6, p.4.

Apart from the abovementioned tables, the reports of the Department of Statistics have no other systematic and sequential data pertaining to the macroeconomic aggregates of Transkei. The lack of serial estimates for the GNP, gross investment of the private sector, total savings and so on is the main deficiency of these reports.

Based on the 1975 estimates, BENSO extrapolated estimates for the GDP of Transkei for 1976 and 1977. It also made estimates for the GNP of Transkei for the period 1970-77, e.g.

Table 8: GDP and GNP of Transkei 1970-77*

Year	GDP (R1 000)	Percentage Annual Growth	GNP (R1 000)	Percentage Annual Growth
1970	87 348	3.3	207 725	8.8**
1971***	108 496	24.2	233 093	12.2
1972	114 218	5.9	278 871	19.6
1973	136 592	18.9	344 819	23.6
1974	163 583	19.7	441 645	28.0
1975	210 356	28.6	582 408	31.8
1976	254 207	20.8	707 180	21.4
1977	287 705	13.2	822 276	16.2

* These estimates are compiled at factor cost.

** Because there is no estimate for the GNP of 1969, no growth rate could be calculated. 8.8% is however the average annual growth of the GNP over the period 1960-70. See BENSO Statistical Survey 1980 Table 49.

*** The BENSO estimates exclude 1971. The estimates of the Department of Statistics are used to complete the time series.

Source: -BENSO Statistical Survey of Black Development 1979 and 1980. Tables 51, 53.
-Department of Statistics: National Accounts of the Republic of Transkei, 1971-75. Table 9.

As illustrated in Table 8, a major characteristic of the Transkeian economy is the vast difference between its GNP and GDP, mainly due to the foreign factor receipts. Further this gap has been widening over the 1970-77 period. The GDP as a percentage of the GNP has declined from 42.04% in 1970 to 34.98% in 1977 which is attributable to the growth rate differential between the GDP and foreign factor receipts. The increase in the number of migrants during the first half of the 70's and the subsequent wage increases during the latter part of the period have been the main reasons for the rising foreign factor receipt.

The quantification of Transkeian foreign factor receipt requires data on the number of migrants, commuters and their earnings. None of these items is readily available and various sources provide conflicting data(1), especially for the number of migrants.(2) Similarly for the commuters there is very little and what the BENSO has compiled is at the best partly true because it *mainly* includes the Queenstown commuters whereas areas such as Umzimkulu, Herschel and Bizana where a large number of commuters reside, are omitted. However, what BENSO has estimated for this sphere is summarized in the following table.

Table 9 : Number of Migrants, Commuters and Foreign Factor Receipts and Payments of Transkei 1970-77

Year	Number of Migrants	Total Migrant Earnings (R1 000)	Number of Commuters	Total Commuters Earnings (R1 000)	Total Foreign Factor Receipt	Total Foreig Factor Payment (R1 000
1970	248 300	124 150	-	1 632	125 782	4 700
1971(1)	-	-	-	-	-	-
1972	279 700	167 820	-	2 633	170 453	5 800
1973	295 400	211 211	-	3 616	214 827	6 600
1974	311 100	279 990	-	5 272	285 262	7 200
1975	265 000(2)	372 552	-	7 700	380 252	8 200
1976	264 000(3)	453 156	7 100	9 017	462 173	9 200
1977	263 000	534 165	7 100(4)	10 476	544 641	10 070

(1) No data are provided for 1971.
(2) & (3) These are taken from the 1980 issue of BENSO Statistical Survey. Their counterparts in the 1979 issue are 326 800 and 343 300 respectively. Interestingly enough the total earnings in both issues are the same!!
(4) The number of commuters increased to 7 600 in 1978 and 8 900 in 1979.

Source: BENSO Statistical Survey 1979 and 1980, Tables 16, 39 in the 979 Survey and Tables 18 and 52 in the 1980 Survey.

Apart from the aforementioned data, BENSO calculated certain other indicators such as GDP and GNP per capita, NDP, NNI as well as their values in real terms.

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(1) Compare, for instance, the BENSO's surveys with the Transkei Development Review No. 2.

(2) Even the two BENSO Statistical Surveys differ in this regard. In its first survey (1979), for instance, the number of migrants in 1975 was 326 800 whereas in the second survey for the same year the number was 265 000, i.e. 19% discrepancy!!

Although these statistics will be quoted in the next chapters they deserve to be used with great reservation for the reasons discussed below.

B. Evaluation of the Existing Data: their Weaknesses

The BEPA, the Department of Statistics and BENSO have made a distinction between aggregates relating to economic activities of 'White' and 'Black' inhabitants of Transkei. For instance the BEPA has estimated the national income of Black Transkeians only, the Department of Statistics has distinguished between the share of 'Transkeians' and 'non-Transkeians' in the GDP and BENSO has estimated GDP, GNP and National income for 'Blacks' and 'non-Blacks' in Transkei.

This distinction has neither any theoretical justification nor does it have any practical use. For it implies two totally segregated economic networks which are functionally unrelated. Such distinction in fact implies that if a factory is owned by a 'White', the output of the factory is the result of his managerial and capital contribution. This obviously ignores the share of labour and land in the production function.
From a practical point of view, the distinction between the contribution of 'Transkeians' and 'Non-Transkeians' (Whites or Blacks) becomes so arbitrary that it makes the whole exercise meaningless. Moreover if the aim of national accounting statistics is to examine the existing producing units and their income generating capacity, the question of who (with which colour) contributes is immaterial. Indeed the emphasis on the Transkeians' contribution has further led the Department of Statistics, and its predecessors, to exclude the income of non-Transkeians in the national income. Indeed there is no estimate of 'Whites' income' and as such the estimates for the GNP(GNI) do not represent the actual current expenditure capacity of the territory. Once again if national accounts estimates are to be useable for regional (national) economic policy formulation, they need to provide a comprehensive account of existing potentials, i.e. total current income, total current saving and so forth.

It is thus hard to utilize such an incomplete set of estimates to identify economic trends or to evaluate economic potentials.

Apart from the abovementioned conceptual pitfalls, the estimates of the Department of Statistics suffer from technical inaccuracies as well. For instance the following depreciation estimates are made for the period 1971-75:

	1971	1972	1973	1974	1975
Depreciation (R1 000)	1500	1800	2100	2500	3000
Percentage of GDP	1.38	1.57	1.53	1.52	1.42
Percentage of GNP	0.64	0.68	0.64	0.58	0.53

Source: Department of Statistics, National Accounts of the Republic of Transkei 1971 to 1975, 1978, Table 1, p.2.

These estimates are neither justifiable nor consistent. Firstly the depreciation - GNP(GDP) ratio is, usually and for developed economies, approximately 10 per cent. Even if one considers the Transkei economy as having very little depreciable stock of capital, which is not in any case a realistic assumption, the depreciation-GNP ratios cannot be so low.
Secondly, and more important, one would expect that as the economy of Transkei transforms from the subsistence to the market economy, something which is suggested by the estimates of the Department of Statistics, the depreciation ratio increases and *not* decreases as shown in the above table.
Of course such excessive underestimation of depreciation by its very implication, pushes up the 'national income' of the region.

As regards BENSO which is the only source of statistics on the Homelands and 'independent states', its statistics are riddled with inconsistencies and miscalculations.[1] To scrutinize all BENSO statistics is beyond the scope of this thesis but the following examples would suffice to substantiate the point.

(1) BENSO has published 3 statistical surveys so far, i.e. 1978, 1979 and 1980. The criticisms mentioned are valid for all three surveys although the examples are drawn from the 1980 survey.

(i) BENSO, following the methodology of the Department of Statistics, has underestimated the depreciation allowances as shown in the following table:

	1976	1977
GNP (R1 000)	707180	822276
NNP (R1 000)	703580	817976
Depreciation as percentage of GNP	0.51	0.52

Source: BENSO Statistical Survey 1980, Table 53.

Underestimation of depreciation in turn implies an overestimation of the national income, national income per capita and the purchasing power of Blacks.

(ii) The population figures used by BENSO for calculating GDP per capita differ from the figures used for calculating GNP per capita and they both differ from those of the Department of Statistics as supplied by BENSO itself. The following table illustrates the point.(1)

Year	GDP (R1 000)	GDP per capita	Population estimates (I)	GNP (R1 000)	GNP per capita	Population estimates (II)
1972	114 218	61	1 872 426	278 871	132	2 112 659
1973	136 592	72	1 897 111	344 819	160	2 155 119
1974	163 583	85	1 924 506	441 645	200	2 208 225
1975	210 356	107	1 965 944	582 408	258	2 257 395
1976	254 207	120	2 118 392	707 180	290	2 438 552
1977	287 705	132	2 179 583	822 276	328	2 506 939

Source: 1980 BENSO Statistical Survey. Tables 51, 53 and 55.

Both population figures of columns I and II are not compatible with the 1970 population estimate provided in Table 9 of the 1980 BENSO Statistical Survey.

It might be argued that the difference between columns I and II represents the number of migrant labourers. Such differentiation a) does not have any theoretical grounds, and b) is not consistent with the BENSO's own migrant labour statistics.

(1) Population figures in Column I are derived by dividing GDP by GDP per capita and figures in Col. II are arrived at by dividing GNP by GNP per capita.

calculated, the BENSO estimates thus include a high margin of error.

All in all, the aforementioned examples of the unrigorous conceptualisation and the perfunctory computation of BENSO's estimates cast doubt upon the validity of other statistics provided by BENSO both for Transkei and the other Homelands.

CHAPTER VI

NATIONAL ACCOUNTING STATISTICS OF TRANSKEI FOR 1980

VI.1 Data Collection Method:[1]

National accounting estimates usually derive their information from national censuses, government records and the quantitative studies of other socio-economic institutions. Often, the statistics of one source are evaluated against that of another in order to enhance the reliability of estimates. Or, results of different investigations are used to verify certain hypotheses in the socio-economic sphere. As such, for the computation of national accounting aggregates very seldom is recourse made to the primary sources of information.

To the contrary, in Transkei there is a dearth of national censuses and other nation-wide studies. Nor are there many institutions concerned with the quantitative research from which one could draw some information. And the few existing organisations such as the Transkei Agriculture Corporation (TRACOR), Institute for Management and Development Studies (IMDS), are too new to supply any substantial information. Consequently, the bulk of data for the compilation of the GDP had to be collected from the primary sources. In other words, a number of surveys had to be carried out, in some of which the sampling method was used. In the case of the government sector, public corporations, agriculature sector and big manufacturers, a complete survey was conducted. As regards the business sector, transport, community and personal services, a Business Survey was organised in 1981. This method of data collection is costly in terms of time and labour, though the only solution in these circumstances.

Moreover, the procurement of information from the primary sources encounters all the statistical problems that have already been discussed (Section V.2). As a result the estimator has to extract every bit of information from various sources and assemble them in order to make an estimate. Further, the reliability of such estimates is by no means testable.

In such circumstances, obviously, the attestation of any socio-economic hypothesis is severely constrained.

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(1) For a detailed discussion of the methodology used in this research see annexure on "Methodology and Sources of Data".

VI.2 Classification and Sources of Data:

The classification of economic activities, for the calculation of the GDP, is in accordance with the Standard Industrial Classification as explained in the first part of this paper. A further distinction between the subsistence and market economy accords with the United Nations recommendation for the economies that are characterised by dualism "that is, the existence, side by side, of traditional and more recent modes of living, social and economic organisation and carrying on production."(1) Furthermore, it is desirable to know which portion of production is not marketed or marketed and how this pattern changes over time. With the recent attention given to development planning in Transkei, the distinction between the value added of the subsistence economy and that of the market economy is further necessitated. For the estimation of the GDP the Comprehensive Production Concept is employed.(2) The method of valuation, wherever necessary, and the source(s) of information for each sector are explained below.

VI.2.1 The Agricultural Sector

1 Crop Production

1.1 General Notes:

In measuring the contribution of agriculture, or that of any other sector, to the economy, one must firstly recognise that any sector is part of an interdependent system represented by the country's economy. What a sector does, is not fully attributable or credited to it but dependent upon what happens in other sectors, including the foreign sector. In other words, "its (a sector's) product may perhaps be more correctly described as the result of the activities of the economy whose particular locus is the given sector - rather than a contribution of the given sector fully creditable to it as if it were outside the economy and offering something to the latter".(3)

(1) A System of National Accounts, 1968, par. 9.5.

(2) See Part I, Chapter II, Main Concepts and Components and Their Weaknesses.

(3) Simon Kuznets: "Economic Growth and the Contribution of Agriculture: Notes of Measurement". Agriculture in Economic Development, p. 104.

Secondly, accounts must be taken of historical events affecting the magnitude and structure of a sector. The latter one is particularly important in the case of Transkei. Historically the inhabitants of Transkei, along with those of other "Bantu" regions, were withdrawn to work in the mines. This in turn developed a reliance upon employment beyond their borders whenever the local production was insufficient. There was, thus, less necessity to attain by themselves a higher level of development at home. The knowledge that an outside authority would, in the last resort, assume responsibility for providing them with the necessary aid and services, led to a feeling of dependence upon such authority. Also this proved to be detrimental to the innovation and improvement of the agricultural sector. That is, as Anderson notes, "<u>once manual labour became deeply associated with the loss of liberty, there was no free social rationale for invention</u>".(1) Symptoms of this historically institutionalised attitude are apparent in the Transkei agriculature sector which is stagnant in its function and inefficient in its operation. So disfavoured a sector has been further harmed by the economic policies of the post-independence period. The drive for 'industrialization', by providing cheap loans and protection, has been an effective tax on the agriculture sector. Furthermore, what has been allocated to this sector has been conducted by an improperly staffed Department which is inefficient bureaucratically and inappropriate functionally. The inevitable result of the combination of the foregoing factors is a predominatnly fragmented agricultural system. Production, in this system, is basically for own-consumption and very little is supplied to the market. As such the quantification of its value added (factor income) becomes increasingly ambiguous, and one has to rely on the permutation of the final output. To evaluate the final product which is consumed, the <u>production unit cost</u> must be used and that is the price at which producers in the region (or neighbouring areas) sell the same output. Some adjustment in the market price is, however, necessary to exclude the applicable trade and transport costs. Also provision must be made for the quality adjustment, for quite often there seems to be a quality differential between commodities supplied to the market and commodities produced for self-consumption.

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(1) Perry Anderson: <u>Passages from Antiquity to Feudalism</u>, pp. 26-27.

1.2 Sources of Agriculture Data

There are four types of agricultural production in Transkei, as follows:

a) Field production
b) Communal production
c) Home garden production
d) Commercial production

The first three types are basically for self consumption whereas the fourth one is partly marketed. The commercial production includes the State aided irrigation projects and also private farming production.

Field Production: The Department of AGriculture and Forestry (of Transkei) has assumed responsibility for production aid and crop estimation of the field production.
For this purpose, the Transkei is divided into five agricultural regions, each region including three to seven districts. Each regional office is responsible for the implementation of agricultural policy of the Department, i.e. to provide tractors and other agricultural implements, fertiliser, and so on to the farmers in the region. The estimation of crops for the field production is made by the extension officer of each district and later consolidated by the regional officer for the region. A great deal of information is thus extracted from the regional agricultural offices. It must, however, be noted, that in spite of the extensive use made of their statistics, there are numerous miscalculations and false estimations evident in their documents. These flaws are of two types. Firstly, the extension officers do not seem to put enough effort into their estimations and, secondly, the consolidation of these estimates is made perfunctorily. Moreover, there is no check back and thus the situation is further aggravated.

To decrease the margin of error, therefore, one has to extract information, as is done here, from the district officers' estimates.

Communal Gardens in Transkei are used to produce vegetables. The government, through the regional agricultural office, provides farmers with fertiliser and seed and the like. Although information about the expenditure estimates of this type of production is available, no record is kept about the output. Thus, an estimation of production has had to be made. To do so, account had to be taken of the yield differential in various districts. An estimation, thus, had to be made for each district by using the records of its District Agriculture officers.

Homestead Production is possibly the most important, and yet controversial, type of production. As a matter of convention this type of production usually excluded from the calculation of national or regional production. It is argued that homegarden production is, mostly, the output of leisure time activity of a non-market nature.

Moreoever, its volume is, in more advanced economies, not large enough to be worth considering statistically. Obviously it is not the case in Transkei. Homegarden production is a relatively substantial production. Also, this production is the result of the economic activities of women and old men in the countryside. Thus, its exclusion from total production impairs the meaningfulness of the exercise as a comparability measure. This point is noted by Gilbert & Kravis that "it is sometimes thought that it is essential to take a wider range of non-market activities into account to assure comparability in real product comparison".(1) Furthermore, it is a fact that the classification of activities into "market" and "non-market" depends to a large extent on the economic system. What is a "non-market" activity in a market economy could well be a 'market' activity in a socialist economy. A mother of a family in a non-socialist village, busy taking care of her children, is engaged in a non-market activity. But the staff of a children's home in a Kolkhoz(2), where the children are kept during the day will be performing a 'market' activity.

The inclusion of homegarden production is, thus, justifiable if not imperative. Data was, therefore, collected by sending a questionnaire to each District Agriculture Officer.(3)

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(1) Gilbert, M. & Kravis, I.B.: "An International comparison of national products and the purchasing power of currencies" 1954, OEEC, Paris.

(2) Kolkhoz is the name of government farming units in Russia.

(3) See the Annexure for a detailed explanation.

Commercial Production in Transkei is still in its embryonic phase, though it started in 1964 with the Qamata Irrigation Scheme. There are two privately run farming units, i.e. Magwa Tea Plantation and Ncora Irrigation Scheme, and a few state-administered irrigation schemes of which Qamata, Malenge and Xonxa are the biggest with 715, 280 and 330 hectares under cultivation, respectively. The others are very small schemes, i.e. 5 - 8 hectares under cultivation. The output of the small schemes is, however, included in the field output estimates.

As mentioned before, private farming output is included in the commercial production. Similar to the other types of production, private farming in Transkei has failed to develop its potential and thus has maintained its very unstable and irregular production pattern. The sporadic assistance of the Agriculture Division of the TDC (now TRACOR) to the private farmers has also proved inadequate and unsuccessful.

Insufficient, inappropriate as well as irregular support of commercial farming are factors counting for its meagre contribution to the economy.

Moreover,very little record of private farming output is available. Thus, to make an estimation, the memory and guessing ability of TRACOR officials had to be taxed wherever no data was at hand.

In the four abovementioned production systems different methods were used and value added, therefore, differs accordingly. The Development Strategy calculates the following for the value added of various produce:

Production Type	Value added as a % of gross output
Maize and other crops	60
Irrigation schemes	55
Fruit: Sub-Tropical	60
Deciduous	50
Tea : Leaf Production	65
Processing	20
Sugar: Cane production	65
Milling	20

Source: Development Strategy for the Republic of Transkei (1980-2000) p. 25.

Using the abovementioned ratios, the share of crop production is calculated below:

Table 10:The Value Added of Crop Production in Transkei* 1980-81

Produce	Subsistence Economy		Modern Economy	
	Total Quantity Produced (Ton)	Value Added (R1 000)	Total Quantity Produced (Ton)	Value Added (R1 000)
1- Maize	139 263	9 860	4 520	293
2- Sorghum	22 204	1 399	2 828	163
3- Wheat	192	21	1 169	118
4- Beans	15 336	4 408	168	44
5- Peas	113	29	724	170
6- Potatoes	73 276	8 485	1 011	107
7- Cabbages	77 969	3 462	6 157	251
8- Pumpkins	121 865	1 748	278	37
9- Onion	21	4	26	4
10- Carrot	69	5	0	0
11- Lucerne	-	-	970	32
12- Barley	-	-	154	18
13- Tea	-	-	1 709	3 877
14- Others**	110	23	2	1
TOTAL	-	29 444	-	5 115

* For details see Annexure on Methodology
** Included are tomatoes, spinach and the like

2 Livestock Farming

Livestock farming is by far the most prevalent activity of which cattle farming is predominant. A peculiar amalgamation of economic and socio-tribal elements has created what is known as the "cattle complex". Many attempts have been made to unwind the complex and find some natural justification for various aspects of it. Yet many ambiguities have remained.

These obscurities, in turn, injure the quantification of the value added of this sector. This is further aggravated by the lack of a reliable check on the movements of livestock across the border which makes the estimation of slaughtering, hides and skins and wool, increasingly difficult.

To measure the contribution of this sector, the following values should be estimated:

a) Meat
b) Hides and Skins

c) Wool and Mohair

d) Milk

e) Eggs

a) Meat: The estimation of stock offtake in Transkei has remained controversial, though many attempts have been made to arrive at a realistic figure.

The following formula, thus, is used to calculate the offtake rate:

Offtake = S_B + Birth - (S_E + Exports)

S_B: Number of stock at beginning of the year;

S_E: Number of stock at the end of the year.

Evidently dead stock are consumed by the people and thus no provision for that is needed.

The abovementioned method gives the following results:

Livestock	Offtake rate 79/80	Offtake rate 80/81	No. of Stock 1980/81
Cattle	8%	12% *	221 865
Sheep	19%	19%	503 827
Goats	18%	19%	344 480
Pigs	-	-	2 001**
Fowls	25%	12%	151 798

* The sharp increase is attributable to the death of 70 000 due to drought in 1980/81

** This includes pigs slaughtered in the abattoirs only.

To calculate the value added for 1980/81 the following prices are assumed:

Table 11 :Value Added of Livestock in Transkei 1980/81

Stock	Offtake	Value per Unit (R)	Total Value (R)
1 Cattle	221 865	306	67 890 690
2 Sheep	503 827	23	11 588 021
3 Goats	344 480	29	9 989 920
4 Pigs	6 001*	77	462 077
5 Fowls	151 798	2.60	394 675
Total Value added	-	-	90 325 383

*This includes an estimation for the pigs slaughtered in the countryside, i.e. not bought into the abattoirs

Source: a) 1980 Annual Report of the Veterinary Section of the Dept. of Agriculture and Forestry.

b) Livestock prices obtained from the Transkei Meat Industries, Umtata.

b) Hides and Skins: These are mainly purchased by the Agriculture Products Brokers (APB) and therefore a reasonable amount of statistics are available in this regard. It is notable, however, that there seems to be a considerable sale of hides and skins which are not done through the APB. This phenomenon is prevalent mostly in the Northern Transkei where 43% of the potential hides and skins in Transkei i s produced. Only 11% of this area's hides and skins is sold to the APB.

The following table shows the total weight and total net amount received by the farmers:

Table 12: Total Value Added of Hides and Skins in 1980/81

Year	Hides		Sheep skins		Goat skins		Total**
	Mass (kg)	Value (R)	Mass (kg)	Value (R)	Mass (kg)	Value (R)	
1979/80	742563	339689	247725	159251	76284	84369	583309
1980/81	851292	248822*	286811	164342	79716	36533*	449697

* During the year 80/81 the price of hide and goatskin dropped drastically.

** This is the net amount accrued to the farmers and is tantamount to the value added of these products.

Hides and skins produced in Transkei are not of good quality. This is mostly attributable to the age of the beasts, i.e. Transkeian beasts (especially cattle) are usually kept for the complete life span of the animal and the inappropriate way the farmers process the hides and skins before taking them for sale. If these two deficiencies are corrected, the value added of these products could increase considerably.

c) Wool and Mohair: Wool, like hides and skins, is purchased by the APB. The statistical data are, therefore, available in this area. Moreover, because the wool produced in Transkei, or in any region for that matter, is easily recognisable, the volume of unrecorded sales, i.e. smuggling, is marginal. In other words, the following figures are reliable estimations of the actual contribution of this product to the value added of the sector.

Table 13: Mohair and Wool Production and Income Received by Farmers 1980/81*

Year	Wool				Mohair**		Total
	Weight (kg)	Voorskot (R)	Agterskot (R)	Total (R)	Weight (kg)	Value (R)	
1979/80	3020415	2044064	733931	2777995	20000	108200	2886195
1980/81	3008489	2247340	674825	2922165	20000	108200	3030365

* According to the trade policy of the APB, the farmer receives some initial payment (voorskot) at the time of delivery and the rest (agterskot) is paid to him after the sale of the product, depending on the grade of the wool.

** Mohair is not handled by the APB and these figures are estimates made by the APB officers.

d) Milk: There are two types of milk production in Transkei. One is commercial and specialised milk production and the other is the milk consumed by the owner, mostly in the rural areas. For the farmer, statistics are available whilst for the latter an estimation must be made. Here it is assumed that 60% of cattle in Transkei are cows, of which 25% become pregnant, i.e. produce milk. Further, it is believed that due to the inadequate and poor quality feeding the actual milking ability of cows is very limited. Thus each cow, if it calves, can only provide 100 litres of milk to its owner.

The contribution of livestock in the form of milk is, thus calculated as follows:

Table 14: Value Added of Milk Production in Transkei 1980/81

Type of production	Price per litre	Total Production 79/80	Total Production 80/81	Total value added (80/81)
Commercial	35.5	939262	2392736	849 421
Self-consumption	28.4	25832000	21383000	607 277
Total	-	26632000	23775736	1 456 698

e) Eggs: As in the case of milk production, the production of eggs in Transkei suffers from incorrect feeding of the hens. This is further aggravated by the fact that due to cultural reasons the Xhosa people do not consume eggs in any large quantity.

Egg production is, however, estimated by assuming that 75% of the fowls are hens and, on average, each hen lays 50 eggs per annum. A total number of *46 855 400* is arrived at. At a price of 4 cents for each, the total contribution of this item is R1 874 216.

3 Forestry

Forests, in Transkei, are the main supplier of firewood for which no estimate is in hand, because the people obtain their firewood either illegally from the forests or from special plantations free of charge. As such no record is available. The quantifiable parts, however, are the supply of timber to the saw-mills and furniture factories as well as the revenue from various plantations and camping sites.

Whilst for the latter statistics are available at the Forestry Section of the Department of Agriculture, for the former a value shall be estimated, (see the following table).

4 Fishing

Whilst it is believed that Transkei has considerable fishing resources, no concerted effort has been made for a workable scheme to exploit these resources. The two existing fishing companies seem to operate in circumstances without any control either on their exploitation or on that of tourists and others. Clearly this situation leads to a rapid depletion of fish resources and an ultimate destruction of the fishing industry. In the meantime, the lack of an effective control on the illegal fishing discourages the operating companies which are already constrained by the lack of proper coastal and inland infrastructure. To make the fishing industry viable, close government-private sector cooperation is required in order to establish regulations with respect to the long run interest of the country and the short run viability of the private sector operation.

At present the contribution of this activity is composed of the share of the two companies for which data are obtained and that of the illegal fishing for which an estimate is made, though a conservative one.

Crop production, Livestock, Forestry, and Fishing, constitute the contribution of the Agriculture Sector to the GDP, e.g.

Table 15: Value Added of the Agriculture Sector by Type of Production 1980-81

Type of Production	Subsistence R1 000	Modern Economy R1 000	Total R1 000
1- Crop production	29 444	5 115	34 559
2- Livestock			
a) Meat	90 325	1 454	91 779
b) Hide and Skin*	-	585	585
c) Wool and Mohair	-	3 030	3 030
d) Milk	607	849	1 456
e) Eggs	1 874	-	1 874
3- Forestry	1 025	1 784	2 809
4- Fishing	56	82	138
TOTAL	123 331	12 899	136 230

* A 30% is added to the APB figures to cover the part which is not sold to the APB.

VI.2.2 Mining and Quarrying

In terms of the production resources, the Transkei region is a poor one. This is nowhere more evident than in the underground resources. In spite of extensive prospecting, undertaken by a number of South African companies, there has been no report of any economically viable underground resource. The contribution of this sector is, thus, limited to a few quarries in Transkei of which one is exclusively exploited by the Department of Works and Energy (or its contractors) for the Department's construction projects. The value added of the latter one is included in that of the Department of Works and Energy. As such its separate estimation is impractical.

As regards the rest, there remains two for which a value added of R211 562.00 is estimated.[1]

(1) There are a few companies whose side business is quarrying. But no estimation of their (quarry) activity could be made because: firstly, most of them are not registered quarries, and, secondly, their quarry business is so occasional that it could not be regarded as significant.

VI.2.3 Manufacturing

Apart from small manufacturing enterprises operating in Transkei, the bulk of big manufacturers are the agency industries which resulted from the decentralization policies of the South African Government. As these establishments are supported by the Transkei Development Corporation (TDC) it was possible to obtain a complete list of them for survey purposes. The estimates for this part are, therefore, comprehensive, with a fairly low margin of error. Estimates for the former enterprises were made by obtaining data through a business survey, particularly conducted for the present study. The business census taken by the Department of Commerce, Industries and Tourism in 1979 was used as the bench mark, though adjustments had to be made as the census was not comprehensive.

As regards the subsistence economy, it is, on principle, accepted that only the household's processing of primary products for own consumption be taken into account. Clothes and other articles made from material purchased from the market economy are not brought into estimation. The value added of making other articles, for own consumption, such as clay pots, mats, garments, wooden furniture and the like which are not manufactured from purchased materials may prove substantial, but it is, with the available information, almost impossible to estimate with reasonable accuracy. Thus no estimate for these activities is made. One exception however is the brewing of sorghum beer which is by far the most prevalent manufacturing operation in the subsistence sector. Furthermore, as asserted by the Department of Statistics, "the inclusion of this activity in the gross domestic product is desirable because, with the expansion of the market sector at the expense of the non-market sector a substantial part of sorghum beer consumption will come from factory production".(1)

In order to make an estimate for the production of sorghum beer it is assumed that only Transkeians residing in rural areas brew it and each household's production is, on average, 400 litres per year.(2) At a labour cost of 7.5 cents per litre the value added of sorghum beer production is estimated.(3)

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(1) Gross Domestic Product of Transkei, 1971-1974, The Department of Statistics. Draft Report, 1976.

(2) Sorghum beer is mainly consumed during festivities, i.e. weddings, birth parties, after ploughing celebrations and the like.

(3) For detailed calculation see the annexure on 'Methodology'.

VI.2.4 Electricity and Water

Information concerning electricity and water were obtained from the Department of Local Government for the urban areas, i.e. through the municipalities (see Annexure I). The Department of Works and Energy was also consulted in the case of its generators and pumping plants, boilers, etc. .... The Department of Works and Energy has one hundred electricity generators, operating in hospitals, police stations, schools, and so on, and 124 pumping plants, 33 boilers and 71 burners and 60 sewerage and filtration plants. The value added of this section is limited to the labour remuneration only. The Transkei Electricity Supply Corporation (TRESCOR) was also consulted in connection with its share in the supply of electricity. TRESCOR is a newly organised corporation which is to take over the activities of Escom in Transkei.

In addition to the abovementioned sources of electricity supply there are a number of private generators as well. In recent years, with the sharp increase in the fuel price, the number of generators has decreased. However, for these generators, no value added is desirable because usually the owner operates the generator and as such no remuneration is involved.

In the subsistence economy the fetching of water for the household is an inevitable activity which requires much labour, and its labour requirement varies in terms of locality. In the absence of any reliable data, a conservative estimate is made by assuming that on average a member of the family spends 1.5 hours per day for this purpose. At R1.8 per day - which is a woman's wage in the rural area - the value added of this activity is estimated.

VI.2.5 Construction

In the market economy of Transkei very little construction is financed by the private sector. This is attributable to a number of factors of which the communal land holding is the prominent.(1)

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(1) In 1981, there has been some adjustment in the law according to which foreigners, under certain conditions, could buy property in Transkei. But due to its limited scope, it is unlikely to stimulate any private sector involvement in construction.

The government sector, including the government corporations, is the major investor in this sector. The construction activities are undertaken, usually, by private contractors of which the major ones are South African companies. Up until very recently, these companies did not even have any offices in Transkei and as such they did not differentiate between their activities in the Transkei and elsewhere and hence they were unable to furnish any information about their construction activities in Transkei. Data therefore was obtained from the government departments, the TDC and supplemented by the information supplied by some of the private contractors and that of the University of Transkei Accounting Section.

To estimate the value added of the construction activities it is accepted that 40% of total expenditure accrues to the factors of production involved.

In the case of non-market construction activities, the United Nations recommendation, on the valuation of own-account construction of the traditional dwellings, is accepted that: "the value of the buildings should be estimated at actual costs of materials purchased plus an imputed value of labour used, based on the number of man hours spent and the average agricultural wages in the area. No attempt should be made to estimate the value of materials used which are usually not marketed, but the imputed value of labour used should cover the time spent in gathering these materials".(1) Based on this principle only an estimate should be made of the average number of man-hours required for the construction of the hut, because no other input is marketed by the peasants.

The construction of a hut in Transkei needs, on average, two months labour at a wage rate of R60 per month, the total value added originated from the erection of a hut amounts to R120.00.

The number of huts erected during the year is estimated by assuming that (a) the average life span of a hut is 20 years, and (b) each household has, on average, three huts. The number of households in Transkei, according to a survey conducted for the estimation of homestead production, is equal to 485 997. It follows therefore that

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(1) United Nations document ST/ESA/STAT 77. 9 May 1975. Par 4.143

72 900 huts are built during the year. The man-hours required are calculated accordingly and then the value added originated thereof.

VI.2.6 Wholesale and Retail Trade, Catering and Accommodationg Services

This sector is by far the most important activity in the market economy of Transkei. This is not only because of the sheer size of the sector but more due to its role in the transformation of the economy from subsistence to the market economy. With the exception of people living in the vicinity of towns, transactions with the local trader (village store), for the villagers, remain their major participation in the market economy. Money as an institution together with credit as a further supporting device are utilized, if not introduced, through the local store. Thus this activity, as a border operation between the two economies, could have mixed blessings for the development, and the direction, of the subsistence economy of Transkei.

In the urban areas, on the other hand, this sector involves activities in which the local entrepreneurs seek their investment opportunities. In fact in the absence of a genuine local manufacturing sector, trade remains the only activity from which factor incomes are derived. In other words, in the present circumstances of Transkei, bridging South African produces and Transkeian consumers is rewarding. More important, as the economy tends to become more and more monetised, the expansion of this sector is also more likely. An additional factor, favouring the expansion of trade, is that this sector requires less sophisticated expertise than other economic activities. Little wonder, thus, that it has been rapidly expanding in recent years.

In spite of the importance for the economy, this sector, like most other activities, is not well documented and/or properly directed. The only source of information about businesses is the Department of Commerce and Industry and Tourism 1979 business census. This census, as admitted by the officer in charge, is incomplete and requires 25 to 30 per cent adjustment.

To collect data, therefore, a business sampling survey was conducted in 1981 and the abovementioned census information was used as bench mark data, adjustments were made according to the type of business and the accuracy of data in hand. Also in some cases provisions were made for informal and unlicenced operations.

VI.2.7 Transport, Storage and Communication

Through the aforementioned business survey, information was obtained from transport companies, the Transkeian Airway Corporation and the South African Railways office. The collection of data from private taxis, unlicenced transport operations proved impossible and perforce an estimation had to be made.

The value added of the Department of Post and Telecommunication was taken as the contribution of this activity to the GDP.

VI.2.8 Financing, Insurance, Real Estate and Business Services

Similar to the other sectors, data were obtained from various institutions by way of sampling survey.

As regards home ownership, i.e. real estate, the Department of Local Government was consulted in connection with the Public properties and/or Government occupied estates. To impute rent for such properties, it is generally accepted that the rent should cover the maintenance expenditure, and interest, i.e. depreciation and interest.. The current interest rates on mortgage bonds should be used to estimate the interest on the funds invested by the government in these estates. According to this formula the rent for Government occupied properties was estimated.

In the case of private residential and business premises in the urban areas, data on the number of houses and average rent in each town were obtained from Rosmarin ELS & Taylor, Town and Regional Planners. These were supplemented by the information received from some municipalities.[1] The value added of home-ownership in the urban area is thus estimated accordingly.

The imputation of the income derived from home-ownership in the subsistence economy is based on the concept that the value added, derived

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(1) The Rosmarin ELS & Taylor, Town and Regional Planners, have been preparing urban plans for all the towns in Transkei. So far they have prepared plans for all towns except Umtata and Butterworth. Thus the municipalities of these towns were contacted in this regard.

from the traditional dwellings, must be equal to the current maintenance cost and a provision for replacement. Because there is very little, if any at all, purchased material there is no question of interest on funds invested.(1) To estimate the rent information on the erection cost of a hut and its economic life is needed. As mentioned before, under Construction, the cost of building a hut is R120 and its economic life is 20 years. As the labour spent on the maintenance of huts is tantamount to the labour spent on the erection of new huts, it is reasonable to assume a rental equivalent to the annual depreciation of the hut, that is R120 over 20 years, i.e. R6 per year.

As mentioned in connection with construction there are 485 997 households, in the rural areas, each having three huts. The total imputed rent is thus R8 747 946.

VI.2.9 Community, Social and Personal Services

The value added of this sector originates from the government (central and local), non-profit organisations and marketed services. The sheer size and involvement of the government calls for a separate account from which its value added will be derived. The non-profit organisations and marketed services will be discussed thereafter.

VI.2.9.1 The Government Sector

The compilation of a set of meaningful economic statistics, for the economy of Transkei has to recognise the significant role of the government in the economic affairs. That is, according to the formally published statistics, the share of government expenditure equals 32 per cent of the GDP of the economy in 1977.(2) This, for the purpose of the present study, means that a comprehensive and accurate calculation of government statistics can, to a great extent, increase the reliability of the final accounts.

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(1) This situation is changing slowly. Recently there has been a tendency to erect dwellings with corrugated iron roofs, bricks, etc. which require a fair amount of investment. This is not of course to any large extent but it may develop to a rapid change of taste in which case the imputation of the rent must change accordingly.

(2) See Table 45, 1980 Statistical Survey of Black Development, 1981, BENSO, Pretoria.

METHODOLOGY WITH RESPECT TO THE PAST

As a concomitant of the establishment of the Legislative Assembly and Government in Transkei, the preparation and publication of government accounts were to be done locally. The task was assigned to the Department of the Auditor General. The compilation of economic (National) accounts, however, remained to be done by the Department of Statistics of South Africa.

In 1972-73, the Department of Statistics for the first time prepared special "forms" to collect a detailed break-down of all expenditure and revenue of the Transkei Government. These forms were based on the then expenditure - revenue structure of the Government. The Department of Statistics discontinued its collection of Transkeian Government statistics after independence, i.e. 1976. Since then, the compilation and estimation of economic statistics in a national accounting format ceased, though Government expenditure-revenue statistics, in its conventional budgetary structure, were continued by the Department of the Auditor General. Today the expenditure-revenue data of the Government is computerised and a fairly detailed list of them is available. This list, however, has shortcomings in that the data often does not contain the right type of information for national accounts. For instance, salaries and wages not paid from Subhead A of the budget votes are not shown. This clearly creates problems for the estimation of value added of the sector.

To gather statistical information from the Auditor-General about the various departments, a new set of "forms" had to be designed to encompass the recent items in expenditure-revenue of the Government.[1] They are basically structured in a way to cover all items and, at the same time to follow the sequence of expenditure-revenue of government departments as they appear in the Auditor-General classification of items. This eases the tasks of filling in the forms and also prevents any misinterpretation by the person in charge. Some reclassification and adjustments have to be done subsequently in order to extract the relevant values for national accounting structure. Alternatively a coding system could be adopted to facilitate the collection of different components of an aggregate value.

After obtaining the data from the Auditor-General, a set of accounts

(1) A complete set of these forms is attached to the annexure on 'Methodology'.

for the General Government was envisaged, i.e. Table No.30 . To compute various components of this table, two sets of accounts had to be made:

A: Expenditure Accounts, Tables

B: Income Accounts, Tables

A - Expenditure Accounts

a.1) Consumption Expenditure: This category is composed of all recurrent expenditure of the government that is not of a capital nature. Included, thus, are Salaries, Wages & Allowances, i.e. Table 17, Subsistence and Transport, i.e. Table 18 , Postal Telegraph & Telephone Services, i.e. Table 19, Printing, Advertisements & Publications, i.e. Table 20 , and Miscellaneous & Recurrent Expenditure, i.e. Table 23.

a.2) Subsidies and Grants to Institutions

Table 21 shows the contribution of each Department to this account. The two main items are a grant to the University of Transkei by the Department of Education and the contribution of the Department of Commerce, Industry and Tourism to the public corporations, predominantly to the TDC.

a.3) Transfers to households from different Departments are shown in Table 22.

a.4) The last item in the Expenditure side of the account is a balancing measure which is equivalent to savings of the government after provisions for depreciation and inventory revaluation is made.

B - Income Accounts

Government revenues from various sources are summarized in Table 30 . To complete the table of Government Expenditure - Revenue, items of this table are clustered in Tables 23 to 29. Although most of the items are conventional sources of income for the government, some explanation is necessary.

General Levy

It is a lump sum of R10,00 p.a. paid by every married man. It used to be R1,00 and was changed in 1976.

General Tax

This is the same "Poll Tax" which used to be collected by the South African government.[1] Although the Transkeian government, after independence in 1976, abolished this tax, there seems to be a flow of arrear poll taxes accruing to the government. Table 24 shows the collection of this tax from various districts of Transkei. This revenue is expected to diminish every year.

Local Tax

Local Tax is paid by married men. Every Transkeian married man has to pay R10,00 per wife. Prior to 1978 it used to be R1,00 per wife.

General Stock Tax

It is a tax imposed on the ownership of livestock. The following table shows the tax rate for different types of livestock:

Table 16: Livestock Tax Schedule in Transkei 1980/81

Livestock	Tax p.a.
Cattle	R2-00
Goat, sheep, etc.	R0-50
Donkey	R5-00
Horse	R5-00

Special Tax

This is a tax imposed on unmarried Transkeian males, i.e. R10,00 p.a.

General Tax from South Africa

This amount is a transfer from the South African government to the Transkeian government. Each of the homelands receives a

(1) It was R2-50 per head.

certain percentage of the total general tax collected in the homelands from the Republic of South Africa. In the case of Transkei, for instance, it is 21% of the total.

Rand Currency circulation

As the South African Rand is the currency in circulation in Transkei, the government receives some compensation from the Reserve Bank of South Africa. The volume of the compensation is calculated by the Reserve Bank, based on the total amount of the currency in circulation in Transkei. No mutually acceptable formula has yet been developed according to which this item can be calculated. The Transkeian Authorities, therefore, have to negotiate over their share with the Reserve Bank every year.[(1)]

Budgetary Assistance from the Republic of South Africa

This is the biggest source of revenue for the Transkeian government. Prior to independence, it was called the Statutory Assistance to Transkei.[(2)]

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(1) For a detailed discussion see Chapter VIII.

(2) Ibid.

Table 17: Transkei Government Expenditure on Salaries, Wages and Allowances (80/81)*

VOTE	DEPARTMENT	EXPENDITURE
1	Prime Minister	332 917
2	Agriculture & Forestry	6 769 512
3	Auditor General	426 673
4	Defence	2 567 919
5	Education	53 275 052
6	Finance	777 182
7	Foreign Affairs	571 985
8	Health and Welfare	22 815 605
9	Interior & Social Services	2 697 685
10	Justice	1 314 820
11	Local Government & Land Tenure	681 488
12	Commerce, Industry & Tourism	600 370
13	Police	789 041
14	Post & Telecommunications	2 778 196
15	Prisons	2 566 723
16	Public Service Commission	493 153
17	Transport	687 250
18	Works & Energy	2 790 845
	TOTAL	108 936 416

* Salaries and wages paid under subheads other than (subheads) "A" are not included.

Source: Data obtained from the Auditor-General's Office, Expenditure Section.

Table 18: Transkei Government Expenditure on Subsistence and Transport 1980/81

VOTE	DEPARTMENT	EXPENDITURE
1	Prime Minister	256 828
2	Agriculture & Forestry	2 369 079
3	Auditor General	16 789
4	Defence	57 578
5	Education	455 651
6	Finance	90 615
7	Foreign Affairs	248 567
8	Health and Welfare	2 291 227
9	Interior & Social Services	315 374
10	Justice	113 044
11	Local Government and Land Tenure	113 203
12	Commerce, Industry & Tourism	107 497
13	Police	2 197 464
14	Post & Telecommunications	446 174
15	Prisons	266 087
16	Public Service Commission	7 574
17	Transport	163 652
18	Works & Energy	612 673
	TOTAL	10 129 076

Source: Data obtained from the Auditor-General's Office, Expenditure Section.

Table 19: Transkei Government Expenditure on Postal, Telegraph & Telephone Services 1980/81

VOTE	DEPARTMENT	EXPENDITURE
1	Prime Minister	20 991
2	Agriculture & Forestry	55 666
3	Auditor General	9 158
4	Defence	25 732
5	Education	74 957
6	Finance	29 764
7	Foreign Affairs	59 104
8	Health and Welfare	167 691
9	Interior & Social Services	30 437
10	Justice	51 184
11	Local Government & Land Tenure	11 446
12	Commerce, Industry & Tourism	19 128
13	Police	90 484
14	Post & Telecommunications	134 491
15	Prisons	12 652
16	Public Service Commission	6 259
17	Transport	22 858
18	Works & Energy	54 326
	TOTAL	881 328

Source: Data obtained from the Auditor-General's Office, Expenditure Section.

Table 20: Transkei Government Expenditure on Printing, Advertisements and Publications 1980/81

VOTE	DEPARTMENT	EXPENDITURE
1	Prime Minister	56 389
2	Agriculture & Forestry	43 306
3	Auditor General	269
4	Defence	10 778
5	Education	318 287
6	Finance	56 470
7	Foreign Affairs	16 770
8	Health and Welfare	285 014
9	Interior & Social Services	715 762
10	Justice	31 275
11	Local Government & Land Tenure	6 875
12	Commerce, Industry & Tourism	42 225
13	Police	25 205
14	Post & Telecommunications	157 764
15	Prisons	16 812
16	Public Service Commission	1 207
17	Transport	27 194
18	Works & Energy	16 586
	TOTAL	1 828 182

Source: Data obtained from the Auditor-General's Office, Expenditure Section.

Table 21: Transkei Government Expenditure on Subsidies and Grants to Institutions* 1980/81

VOTE	DEPARTMENT	EXPENDITURE
2	Agriculture & Forestry	4 583 897
5	Education	9 986 129
9	Interior & Social Services	10 316 898
11	Local Government & Land Tenure	331 032
12	Commerce, Industry & Tourism	3 934 154**
	TOTAL	25 026 610

* This category does not include Government assistance for capital purposes. For instance, Government grant to the University of Transkei for recurrent expenditure is included and for "capital expenditure" is excluded.

** Incentives for the "Establishment of Industries" are included.

Source: Data obtained from the Auditor-General's Office, Expenditure Section.

Table 22: Transkei Government Expenditure on Transfers to Households 1980/81

VOTE	DEPARTMENT	EXPENDITURE
1	Prime Minister	739 957*
2	Agriculture & Forestry	654 739
5	Education	401 535
8	Health and Welfare	8 532 858
9	Interior & Social Services	30 604 930
10	Justice	265 062
16	Public Service Commission	13 928
	TOTAL	41 213 009

* This is basically salaries and presentations to chiefs and headmen.

Source: Data obtained from the Auditor-General's Office, Expenditure Section.

Table 23: Transkei Government Expenditure on Miscellaneous and Recurrent Expenditure* 1980/81

VOTE	DEPARTMENT	EXPENDITURE
1	Prime Minister	1 286 989 (1)
2	Agriculture & Forestry	15 973 835 (2)
3	Auditor General	1 417
4	Defence	2 090 089
5	Education	1 062 627
6	Finance	38 995 592
7	Foreign Affairs	364 203
8	Health and Welfare	6 542 989
9	Interior & Social Services	303 175
10	Justice	79 494
11	Local Government & Land Tenure	1 713 708
12	Commerce, Industry & Tourism	1 055 067
13	Police	507 533
14	Post & Telecommunications	902 895
15	Prisons	838 963
16	Public Service Commission	204 721
17	Transport	5 705 803
18	Works & Energy	28 210 855
	TOTAL	105 840 955

* Current expenditure on goods and services of a non-capital nature; (Subsidies and other types of transfers are excluded)

(1) Included are financial assistance to Regional and Tribal Authorities: i.e. 42 875, Legislative Assembly: 737 050 and Security Intelligence: 483 000

(2) Expenditures of a capital nature are excluded, i.e. Purchase of plant and machinery.

Source: Data obtained from the Auditor-General's Office, Expenditure Section.

Table 24: Taxes Received from 28 Districts of Transkei
(April 1980 - March 1981)

District	General Tax Code: (3501)	Employee's Tax Code: (3502)	Provisional Tax Code: (3503)	Total
1. Bizana	21 352	11 571	50 207	83 131
2. Butterworth	1 244	751 611	604 223	1 357 078
3. Elliotdale	1 328	1 088	27 833	30 250
4. Engcobo	31 890	44 767	324 469	401 126
5. Flagstaff	2 167	2 618	22 170	26 956
6. Idutywa	3 496	27 834	241 304	272 634
7. Kentani	10 802	3 770	31 172	45 744
8. Libode	1 750	1 488	8 218	11 457
9. Lusikisiki	3 662	83 073	121 171	207 907
10. Matatiele	57 445	1 758	40 809	100 013
11. Mount Ayliff	19 318	8 436	12 328	40 083
12. Mt Fletcher	1 749	1 064	43 629	46 442
13. Mt Frere	2 281	27 452	21 940	51 674
14. Mqanduli	3 626	2 877	21 957	28 460
15. Ngqeleni	14 481	5 069	46 613	66 164
16. Nqamakwe	1 359	459	26 023	27 842
17. Port St Johns	19 527	21 792	13 661	54 981
18. Qumbu	10 431	8 079	47 466	65 978
19. St Marks	1 133	7 988	81 449	90 571
20. Tabankulu	2 998	1 493	35 584	40 066
21. Tsolo	2 692	4 488	105 538	112 719
22. Tsomo	8 277	1 915	24 354	34 546
23. Umtata	323	6 629 383*	8 250 363	14 880 070
24. Umzimkulu	278	107 605	41 777	149 661
25. Willowvale	36 146	1 520	105 438	143 105
26. Cala	40	2 306	35 479	37 825
27. Lady Frere	279	4 819	105 664	110 763
28. Sterkspruit	-	23 262	36 906	60 169
Total	260 073**	7 789 597	10 527 759	18 577 429

* All public service income tax is subtracted in Umtata and thus this item does not represent only Umtata.
** Due to some local (and central) refunding of debits this item received by the government is, in fact, much less. (See Table 30).
Source: Data obtained from the Auditor-General's Office, Revenue Section.

Table 25: Transkei Government Income from Direct Taxes 1980/81

Source	Income (R)
1. Employees' tax	7 789 801
2. Provisional tax	10 527 759
3. General levy	2 701 105
4. Licences	228 788
5. Immovable Property tax	811 449
6. General Stock tax	1 996 718
7. Income tax	358 705
Total	24 414 328

Source: Data obtained from the Auditor-General's Office, Income Section.

Table 26: Transkei Government Income from Current Transfers Received from Households* 1980/81

Source	Income (R)
1. General tax	260 073
2. Local tax	2 395 123
3. Fines & Forfeitures	569 172
4. Special tax	1 570 482
Total	4 794 852

* This category includes all transfers enacted on an ad hoc basis

Table 27: Transkei Government Income from Transfers Received from South Africa* 1980/81

Source	Income (R)
1. General tax from South Africa	13 238 686
2. Rand currency circulation	3 166 333
3. Budgetary Assistance from the Republic of South Africa	118 378 000
Total	134 783 019

* Loans received from the South African public and private institutions are excluded

Source: The data for the two above tables obtained from the Auditor-General's Office, Income Section.

Table 28: Transkei Government Income from Property 1980/81

Source	Income (R)
1. Rent of State property	688 187
2. Forest REvenue	2 297 873
3. Interest	2 141 471
Total	5 127 533

Source: Data obtained from the Auditor-General's Office, Income Section.

Table 29: Transkei Government Income from Pro rata charges 1980/81

Source	Income (R)
1. Quitrent	83 861
2. Stamp duties & fees	509 249
3. Estate duties	86 933
4. Transfer duties	41 421
5. Motor vehicle tax	1 644 632
6. General Sales Tax	11 226 444
7. Customs & Excise *	119 704 000*
8. Post Office Revenue	5 886 948
9. Departmental & Miscellaneous	16 367 567
Total	155 551 055

*Owing to the functioning of the Common Custom, this item is more of a Transfer from abroad.

Source: Data obtained from the Auditor-General's Office, Income Section.

Table 30: Transkei Government Revenue for the year 1980/81

Head of Revenue	Amount Paid (Rand)
1. General Tax (3501)	31 859 141
1.1 Poll tax	101 735
1.2 Employees' tax (3502)	7 789 597
1.3 Provisional Tax (3503)	10 528 486
1.4 R.S.A. General Tax	13 439 118
1.5 Post Office Employees' tax	204
2. Local tax (3601)	2 395 123
3. Quitrent (3701)	83 861
4. General levy (3801)	2 701 105
5. Licences (3901)	228 788
6. Stamp duties and fees (4001)	509 249
7. Estate duties (4101)	86 933
8. Fines and forfeitures (4201)	569 172
9. Rent of state property (4301)	688 187
10. Forest Revenue (4401)	2 297 873
11. Transfer duty (4501)	41 421
12. Motor Vehicle tax (4601)	1 644 632
13. Immovable property tax (4701)	811 449
14. Tea revenue (4801)	—
15. Phormium tenax revenue (4901)	—
16. Interest (5001)	2 141 471
17. General stock tax (5401)	1 996 718
18. Special tax (5501)	1 570 483
19. General sales tax (5601)	11 226 444
20. Rand currency circulation (5701)	3 166 333
21. Custom and Excise (5801)	119 704 000
22. Post Office Revenue (7101)	5 886 948
23. Income tax (7201)	358 705
24. Department and Miscellaneous Receipts (7301)	16 367 567
25. Budgetary Assistance from RSA (8201)	118 378 000
TOTAL	324 713 614

Source: Data obtained from the Auditor-General's Office, Revenue Section.

Table 31: Current Income - Expenditure of General Government

Financial Year 1980/81

INCOME			EXPENDITURE	
1. Income from Property (I.1)		5 127 533	1. Consumption Expenditure[1] (E1, E2, E3, E4, E5)	215 080 403
Less Interest on the Public Debt (E1)	12 535 554		2. Subsidies (E6)	25 026 610
2. Indirect Taxes (I.2)		155 551 055	3. Current Transfers to Households (E7)	
3. Direct Taxes (I.3)		24 414 328	- Recurrent Expenditure of General Government	281 320 022
4. Transfers from Households (I.4)		4 794 852	4. Current surplus of General Government[2]	30 515 192
5. Transfers from abroad (I.5)		134 483 000		
TOTAL CURRENT INCOME		311 835 214	TOTAL CURRENT EXPENDITURE	311 835 214

(1) Included are salaries and wages, consumption of goods and services of a non-capital nature and miscellaneous expenditure.

(2) This is equal to government saving, after provision is made for depreciation and inventory revaluation.

Source: Derived from the Revenue-Expenditure Accounts of the Auditor-General's Office, Transkei.

To calculate the total value added of the government of Transkei, wages and salaries paid from subheads other than subhead A must be estimated. Of course only some government departments have such items in which case they are consulted and the following tables are constructed accordingly.

Table 32: Wages and Salaries Paid by the Department of Agriculture and Forestry from subheads other than A, 79/80 and 80/81

SECTION	79/80 (R)	80/81 (R)
Animal Health Section	776 640	792 960
Animal Husbandry (H)	620	700
Engineering (J., F,)	1 001 364	1 100 400
Forestry	2 816 723	3 095 300
TOTAL	4 595 347	4 989 360

Table 33: Wages and Salaries paid by the Department of Health from subheads other than A. 79/80 and 80/81

SECTION	79/80 (R)	80/81 (R)
Community Clinic nurses (K)	49 060	31 965
Health Officers employed by Municipalities (K2)	3 759	15 298
Casual Labourer (H1)	213 746	240 163
TOTAL	266 565	287 426

Table 34: Wages and Salaries paid by the Department of Education from subheads other than A.79/80 and 80/81

SECTION	79/80 (R)	80/81 (R)
Efata (H1)	43 073	62 755
Ikhwezi (H2)	48 705	77 075
Bureau for Xhosa language and Culture (Eq)	N/A	10 800
Compilation of Xhosa English-Afrikaans Dictionary at Fort Hare	N/A	8 000
TOTAL	91 778	158 630

Table 35: Wages and Salaries paid by the Department of Works and Energy from subheads other than A,79/80 and 80/81

REGION	Amount (R) 1979/80	Amount (R) 1980/81
Dalindyebo	1 282 422	1 129 538
Emboland	458 682	402 587
Emigrant Tembuland	325 591	301 406
Finge	423 471	411 470
Gcaleka	636 962	570 126
Nyanda	369 706	330 529
Maluti	362 161	362 138
Qau Keni	578 812	505 162
Umzimkulu	237 397	218 290
Glen Grey	284 669	236 780
Sterkspruit	172 510	177 688
TOTAL	R5 132 383	R4 645 714

Table 36: Total Salaries and Wages paid from Budgeted Subheads other than subhead A, 1979/80 and 1980/81

DEPARTMENT	79/80 (R)	80/81 (R)
Department of Agriculture and Forestry	4 595 347	4 989 360
Department of Education	91 778	158 630
Department of Health	266 565	287 426
Department of Works and Energy	5 132 283	4 645 714
TOTAL	10 085 973	10 081 130

In the case of local authorities, the records of the Department of Local Government are studied and supplemented by the information received from few municipalities in order to determine their factor payments (see Annexure).

The total value added of the Transkei Government and that of the Local authorities together with the factor payments of the Transkei Development Corporation (TDC) constitute the share of Public Administration in the GDP, e.g.

Table 37: Value Added of Transkei Public Administration 1980/81

Source of Factor Payments	Amount R1 000
1. Salaries and Wages paid from subhead A*	32 846
2. Salaries and Wages paid from other subheads	10 081
3. Interest on Public Debt	12 536
4. Factor Payments of Local Authorities	2 415
5. Factor Payments of the TDC	7 815
TOTAL	65 693

* This excludes salaries and wages of the Department of Education and the Department of Health and Welfare as they are included in their respective sector below.

VI.2.9.2 Education and Health Services

a) Education services: The factor payments of the Department of Education together with that of the University of Transkei make up the total value added of the Education sector.(1)

b) Health services: According to the Department of Health and Welfare, there are 60 private medical doctors and 294 doctors who are employed by the Government working in the hospitals. The factor payments of the Department of Health and Welfare include the later group and for the former, information is obtained through the business survey.

In addition to these groups, there are a number of herbalists whose factor payments are estimated with respect to the data collected in the survey.

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(1) Education in Transkei, is the result of inadequate attention in the past and inefficient administration at present, faces numerous problems which cannot be discussed here. In fact these issues require an independent study. Some of these problems are however discussed in a paper by Professor W. Thomas and M. Makwane. See "Transkei Educational Trends", July 1981, IMDS Fact Paper 2-18.

VI.2.9.3 Non-Profit Organisations and Marketed Services

Information concerning the number of churches, church schools and hospitals, religious organisations and other non-profit institutions were obtained by consulting these organisations. Their factory payments were estimated through a sampling method. In the case of marketed services, i.e. dry cleaners, hair-dressers, undertakers and so on, the statistics of the Department of Commerce, Industries and Tourism were used as the bench mark data for the collection samples.

As many services like hairdressing and beauty treatment, traditional rituals and feasts, funerals and mutual assistance, are practised within the subsistence economy on a reciprocal basis (with pay), no estimation is made for them. However, as the Department of Statistics remarks, "*for comparison of welfare over time and between developing and developed countries it is .... important to take into consideration the scope and change in such non-market services*"(1)

V1.3 The Gross Domestic Product of Transkei 1980

The Gross Domestic Product of Transkei is thus arrived at by aggregating the contribution of all sectors discussed thus far, e.g.:

(1) This Department of Statistics of South Africa, "Draft Report of Gross Domestic Product of Transkei 1971 to 1974", Published 1976, p.27.

Table 38: The GDP of Transkei by Type of Economic Activity 1980/81

Type of Activity	Subsistence Economy (R1 000)	Market Economy (R1 000)	Total GDP (R1 000)
1. Agriculture, forestry and fishing	135 664	12 899	148 563
2. Mining and quarrying	-	212	212
3. Manufacturing	14 580	27 800	42 380
4. Electricity and water	164	1 666	1 830
5. Construction	8 748	11 900	20 648
6. Wholesale and retail trade and catering and accommodation services	-	134 426	134 426
7. Transport, storage and communication	-	17 089	17 089
8. Financing, insurance, real estate and business services	8 748*	18 676	27 424
9. Community social and personal services			
a) Public administration**	-	65 693	65 693
b) Education services	-	55 900	55 900
c) Health services	-	27 036	27 036
d) Other services	-	6 302	6 302
Total	167 904	379 599	574 503

* This includes only home-ownership in the rural areas
** The value added of the TDC is also included.

The GDP of Transkei, in 1980-1981, thus consists of 31% subsistence economy, and 69% market economy. In comparison with 1977, the share of the subsistence sector has decreased by 15% and concurrently the share of the market economy has increased by the same percentage. Transformation of this type is a well-acknowledged phenomenon in the developing countries and by the international standard of the developing countries, at their early stages of transformation, a transition rate of under 5% for the Transkei economy is rather mild.

It should be noted that the GDP of Transkei as estimated above, does not represent the real production capacity of the Transkei region. This is because included in the GDP are certain sectors the value added of which is not in fact originated in Transkei.

That is the total value added of

(i) the Public Administration,

(ii) the Health and Education Services,

and part of the value added of

(i) the Transport, Storage and Communication Sector,

(ii) the Construction Sector and

(iii) the Electricity and Water sector

are paid from the Transkei Government Budget of which 74% is financed by external sources in 1980.

As illustrated in Table 30 the external sources of government revenue in 1980 were:

		(R1 000)
(1)	Budgetary Assistance from the Republic of South Africa	118 378
(2)	Rand Currency circulation	3 166
(3)	Custom and Excise	119 704
	Total[1]	241 248

The fact that these external injections (R241m) have been in one way or another included in the factor payments of the GDP, means that $241/_{547}$=44% of the GDP of Transkei in 1980 was externally originated. Or, only 56% of the GDP was attributable to the locally generated factor payments, i.e. R306m.

Even if one assumed that (2) and (3) were in fact related to the domestic economy of Transkei, the Budgetary Assistance from the Republic of South Africa would represent $118/_{547}$= 22% of the GDP.[3] In other words only 78% of the 1980 GDP (R427m) was generated, directly and indirectly, by the local economy of Transkei.

The above should be taken into account in any analysis of the production capacity of the economy of Transkei.[2]

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(1) This does not include R50.5m which was transferred to Transkei under capital aid from the RSA. Over R30m of this transfer could not be utilized for the 1980/81 financial year. Thus it was not included here.

(2) One could take the argument further to trace the share of the GDP of Transkei which is attributable to the migrant labour remittances. With the existing data on the remittance ratio (or the total remittances), such quantification would become too arbitrary to have any real meaning.

(3) Included in Custom and Excise is a 42% 'raising factor' which is an ad hoc transfer from the RSA i.e. R35.4m in 1980. This plus the Budgetary Assistance from the RSA would represent 153/574=26.77% of the GDP in 1980. Thus, the locally originated GDP of Transkei in 1980 was in fact R420720000, i.e. 73.23% of the Calculated GDP on Page 116.

VI.4 The Gross National Product (GNP) of Transkei 1980-81

By definition, as explained in the first part, the GNP is the sum of the GDP and *foreign factor receipts* minus *foreign factor payments*.

External factor receipts in Transkei consist, mainly, of migrant labour remittances and commuters' earnings. Like all other spheres, there is very little substantiated demographic information available from which the number of migrant labour and commuters could be obtained. Thus recourse has to be made to the existing institutions concerned with the issues, such as the recruitment agencies of the South African Chamber of Mines and the Department of Interior of the Transkei Government. These sources, however, provide labour information which is not consistent.

As regards the migrants' remittances there is little recent data and the available information is merely an adjusted revision of the old statistics. Once again, different researchers have supplied different estimates, the reliability of each is equally in doubt.(1)

Taking these into account an estimation is made below:

(1) See the previous discussion on 'The Weakness of Existing Data'.

Table 39: Transkei Factor Receipts from the Republic of South Africa 1980-81

Source of Receipt	Month of Employment p.a.	Average Wage p.m. (R)	Annual Earning (R)	Total No. of Workers	Total Receipt R1 000
1- Migrant Labour	9.5	175	1662.5	345 116	573 755
2- Commuters	12	65	780	9 968	7 775
TOTAL	-	-	-	355 084	581 530

Source: (a) Number of Migrants obtained from the Transkei Development Review 1981, Vol. 1, No. 2.
(b) Length of employment and average wage were provided by the labour recruiting organisations in Umtata.
(c) Number of Commuters were estimated on the basis of the 1980 BENSO Statistics.

Foreign factors payments in Transkei is not, by any standard, considerable. In fact, the bulk of it consists of the interest paid on the public debt. An estimation, however, is made of salaries and other factor payments to the Republic of South Africa. The information is obtained from the business survey of 1981.

Table 40: Transkei Factor Payments to the Republic of South Africa 1980/81

Source of Payment	Amount (R1 000
Private Sector	
Salaries and other factor payments	542
Public Corporations	
Salaries and other payments	691
Government	
Interest on public debt	12 536
TOTAL	13 769

The GNP is therefore equal to:

Table 41: The GNP of Transkei 1980/81

GDP at Factor Cost (R1 000)	Foreign Factor Receipts (R1 000)	Foreign Factor Payments (R1 000)	GNP at Factor Cost (R1 000)	GDP as a Percentage of GNP
547 503	+581 530	-13 769	=1 115 264	49.1%

To derive the GNP at market price, the net indirect taxes are added to the GNP at factor cost, that is

Table 42: The GNP of Transkei in Market Price 1980/81

GNP at Factor Cost (R1 000)	Indirect Taxes (R1 000)	Subsidies (R1 000)	GNP in Market Price (R1 000)
1115264	+ 133297	-5689	= 1242872

VI.5 The National Income of Transkei 1980/81

To arrive at the national income, an estimate for the depreciation of assets is required. The quantification of the wear and tear of the existing capital stock provides a measure of the portion of GNP which is necessary to maintain the productive capacity of the economy. In Transkei, wear and tear of capital stock is relatively high.(1) This is mainly due to inappropriate use of machines, lack of proper supervision and inadequate maintenance.

Generally there seems to be a lack of concern for depreciation as a cost of production or operation. Naturally then there is very little data available on depreciation, both in the private and public sector. For instance the Auditor-General's (of the Government of Transkei) report does not include either depreciation or capital stock estimates. In such circumstances the quantification of depreciation is laborious and subject to revision. To make an estimate for depreciation in 1980:

(1) The fact that the depreciation ratio in Transkei is higher than South Africa is suggested by the insurance companies in Transkei as well as by the economic adviser of the Department of Finance of Transkei.

(a) It is assumed that the maintenance expenditure in the government accounts is equivalent to the depreciation of capital stock used by the government.

(b) Similarly the repair outlay of the public corporations, as revealed in the 1980 Business Survey, are taken as equal to their capital consumption allowance, and

(c) an estimate is made for the wear and tear of the private sector stock of capital based on the data collected in the 1980 survey.

The results are summarized in the following table, e.g.

Table 43: Estimates of the Capital Consumption Allowance in Transkei 1980

	Public Sector	Public Corp's	Private Sector	Total
Depreciation (R1 000)	26 962	377	7 613	34 952
Percentage of total	77%	1%	22%	100%

These estimates are rather conservative and do not include the depreciation of the Traditional dwellings.(1) Yet they differ widely from the depreciation estimates of BENSO. In fact BENSO's depreciation estimates, for the 1970-1977 period, are simplistically erroneous. Firstly the estimates are increased quite arbitrarily, from 1.2 million in 1970 to 4.3 million in 1977.(2) These represent 0.57% and 0.52% of the GNP in 1970 and 1977 respectively. Secondly the depreciation GNP ratio is usually in the industrial countries, approximately 10% of the GNP. In the less developed economies, the depreciation increases more than the GNP as the economy undergoes structural changes, from the subsistence to market economy. Obviously the BENSO depreciation estimates neither accords with the conditions of a developing economy nor are they objectively computed. Consequently the net national income estimates of BENSO are deficient.(3)

In 1980 the national income of the net national product (income) (NNP or NNI) of Transkei using the aforementioned estimate for depreciation is:

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(1) The traditional dwellings are very seldom repaired. Instead when a mud hut is worn out, it is replaced by a new one, i.e. on average after 20 years. This, however, does not mean that the hut does not have any depreciation.

(2) These estimates are R1.2 million, R1.8 million, R2.1 million, R2.5 million, R3.0 million, R3.6 million and R4.3 million for 1970, 1972, 1973, 1974, 1975, 1976, and 1977 respectively. (See BENSO Statistical Survey 1979, Table 35 and 1980 Table 53).

(3) For discussion see Chapter V, V.3, B.

Table 44: The National Income of Transkei at Factor Cost 1980-81

G N P (R1 000)	Depreciation (R1 000)	NNP or NNI at factor price (R1 000)
1 115 264	- 34 952	= 1 080 312

To derive the national income at market price, the total indirect taxes paid over the same period should be added to the NNP (NNI) at factor cost. This is calculated below:

Table 45: The National Income of Transkei at Market Price 1980-81

NNP (NNI) At Factor Cost (R1 000)	Indirect Taxes (R1 000)	Subsidies (R1 000)	National Income at Market Price (R1 000)
1 080 312	+133 297	- 5689	1 207 920

VI.6 Capital Formation in Transkei 1980

The production capacity of the economy is closely related to the size of the existing capital stock. By the same token, the growth of the production capacity depends on the rate at which the existing capital stock is increasing. From a national accounting point of view a minimum capital formation is necessary to compensate for the wear and tear of the existing stock of capital. Over and above that, any capital formation would add to the production capacity of the economy. The optimum rate of capital formation differs from one economy to another. Factors such as the capital labour-ratio, capital-output ratio, structure of the economy and the rate of growth of the labour force would determine the required capital formation for maintaining the labour and commodity markets in balance.

To estimate the capital formation in Transkei for the 1980 period, the economy, as in the case of depreciation, is divided into three sectors for which estimates are made separately, e.g.

Table 46: Gross and Net Capital Formation in Transkei 1980/81

	Public Sector	Public Corporations	Private Sector	Total	Net Capital Formation *
Amount (R1 000)	10 526	5 845	80 304	96 675	61 723
Percentage of total	11%	6%	83%	100%	64%

* Net capital formation is the gross capital formation minus the capital consumption allowance (depreciation).

VI.7 Other Aggregates

As discussed in Chapter II, a complete set of national accounting statistics includes estimates for Personal Income and Disposable Personal Income. These estimates, by definition, require data on contribution to social schemes, undistributed profit, corporate profit taxes, net interest paid by the government to people, and the like. For the reasons previously mentioned, information on these measures are neither readily available nor easily obtainable in Transkei. Furthermore the inclusion of these items changes the national income of Transkei only marginally, though their data collection is costly and laborious. Thus no attempt is made to estimate them for 1980.

VI.8 Evaluation of the estimates

The 1980 estimates, as calculated in this chapter, are derived from the information obtained from:

(a) records of various departments and corporations
(b) the Business Survey 1981 conducted mainly for this purpose, and
(c) permutation of certain values based on the available relevant data.

As regards the first category, only the data obtained from the Department of Agriculture and Forestry, concerning crop production, are likely to be miscalculated. Otherwise the margin of error in the case of other accounts is negligible.

In the case of the Business Survey, it is widely diagnosed that people in general, and businessmen in particular, are invariably sensitive to any question pertaining to their income, revenue, profit and saving. Depending on the circumstances, their answers are either over-estimated or underestimated. In the Business Survey it was noticed that the answers were mostly underestimated. Thus certain adjustments were made to make the profit rate more realistic. Yet the estimates for the business sector are considered conservative. The margin of error of those estimates is likely to be in the range of 5 to 7 per cent.

The permutation of any estimate naturally involves a certain degree of subjectivity and hence unreliability. Having regard for this inevitable drawback, all available data was, however, utilized to permute certain measures such as the value of constructions, home-ownership, manufacturing and services in the subsistence economy. These estimates are nevertheless subject to revision in the wake of any new piece of information. A major controversial item however, is the total number of migrants and their earnings which constitute the Transkei foreign factor receipts. Decisive for the size of GNP as it is, the migrants earnings have remained unverified and the available estimates differ remarkably, i.e. the Department of Interior of Transkei data indicates a total earning of R402 million whereas the information provided by the labour recruiting agencies in Transkei suggests a sum of R574 million. This means a 43% discrepancy. Obviously discrepancies of this magnitude could alter the margin of error of GNP estimate considerably if a verification invalidates the use of the figure used here for the migrant's earnings.

Estimates for depreciation and capital formation are not rigorously made and further investigation is necessary to analyse the extent of wear and tear as well as the sectors in which capital formation has taken place.

All in all the 1980 GDP estimates are neither unrealistically over-estimated nor underestimated. And with an overall 4 to 5 per cent margin of error the estimates could be used to gauge the performance of the economy.(1) More important, they could be regarded as the indicators of various economic trends.

(1) Strictly speaking the elimination of the margin of error is impossible. Even in an economy like that of the United States, with almost no permutation, the margin of error could be as high as 10 per cent. See Kendrick, J.W.: Economic Accounts and Their Uses, 1972, McGraw-Hill, Inc., U.S.A.

CHAPTER VII

MACROECONOMIC TIME SERIES FOR TRANSKEI
1954 - 1980

VII.1 General Application

The uses to which time series are put, vary from econometric studies of the interrelationship between various macroeconomic variables, to medium and long run development planning. The rationale for the use of time series emanates from the fact that every one or two (or a few) year's statistics are likely to be affected by short-run maybe unusual, fluctuations to become unrepresentative of the actual potentials. In the long run, on the other hand, it is likely that fluctuations occur in opposite directions, balancing out each other and making estimates more indicative of their true magnitudes.(1)

Thus in national accounting the construction of macroeconomic time series helps to identify trends of production structure, income-expenditure pattern, saving-investment relationship as well as the performance of the economy in general.

The establishment of macroeconomic time series for Transkei is severely constrained by the lack of adequate sequential data or various aggregates. The multiplicity of estimating agents, as explained before, further complicates the task of making time series. Differently put, where different agents focus on different estimates and thus apply varying definitions, their results are obviously not comparable.(2) As such, very few time series for the national accounting statistics of Transkei could be made. Aggregates for which sequential data could be obtained or calculated are discussed in the remainder of this section.

VII.2 GDP Time Series

As illustrated in Table 1, no data are provided for the 1955-59 period. Since no extraordinary economic conditions are reported for this period, an interpolation is made to complete the time series

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(1) There exists, however, certain conceptual difficulties in the use of time series in so far as they rarely reflect any quality changes. This is of particular relevance to time series of the GDP, GNP and the like.

(2) The Department of Statistics, for example, has concentrated on the GDP and government expenditure whereas BENSO has focused on national income, income per capita and purchasing power of Blacks.

of data for the 1954-67 period. For this purpose the following rates of growth are calculated for various industries:

Table 47: Average Annual Growth Rate of Different Industries over the 1955-59 Period

Industry	Growth Rate
1- Agriculture and forestry	N/A
2- Mining and Quarrying	-
3- Manufacturing	2,69%
4- Construction (private)	16,99%
5- Electricity and water	6,50%
6- Transport and Communication	3,71%
7- Trade	3,3%
8- Financial Services	3,92%
9- Fixed Property (Home Ownership)	3,08%
10- Government Administration*	6,33%
11- Other Services	
(a) Education	1,96%
(b) Health	5,64%
(c) Other	1,45%

* Including government construction

It should however be noted that the use of an average rate of growth for successive periods includes a certain degree of inaccuracy. It is particularly important in the case of subsistence agriculture economies where the output is, to a large extent, dependent on climatic conditions.

As such, no interpolation for this sector is meaningful. Thus in order to reduce the margin of error the available production data are used to calculate the value added of the agriculture sector in this period.(1) According to the data, the value of input constitutes, on average, 2.7 per cent of the total value of output.(2) The balance is assumed as value added. And using the abovementioned interpolated growth rates for other sectors, estimates for the 1954-58 are interpolated.

(1) See the BEPA Report, p.5, Table II.

(2) This is calculated by comparing Tables I & II of the BEPA Report .

Table 48: The Gross Domestic Product of Transkei* (1954/55 - 1958/59) (R1 000)**

	1954/55	1955/56	1956/57	1957/58	1958/59
1- Agriculture & Forestry	16 367	20 012	24 049	18 176	21 707
2- Mining & Quarrying	-	-	-	-	-
3- Manufacturing	2 396	2 460	2 527	2 595	2 664
4- Construction (Private)	60	70	82	96	112
5- Electricity & Water	55	59	62	66	71
6- Transport & Communication	770	799	828	859	891
7- Trade	4 328	4 471	4 618	4 771	4 928
8- Financial Services	182	189	197	204	212
9- Fixed Property (Home Ownership)	806	831	856	882	909
10- Government Administration	2 319	2 466	2 622	2 788	2 964
11- Other Services					
(a) Education	3 426	3 493	3 562	3 631	3 703
(b) Health	881	930	982	1 037	1 094
(c) Other	7 115	7 218	7 323	7 429	7 537
Total	38 705	42 998	47 708	42 534	46 792

*These estimates are based on the definition of the GDP and this includes subsistence sector as well as the (white) commercial area of the Transkeian Territories.

** All figures are rounded.

For the period 1959/60 - 1973-74, different estimates are supplied by the Bureau for Economic Policy and Analysis (BEPA), the Department of Statistics, the BENSO and the Transkeian Government. Statistical discrepancies of these sources are often considerable and the best one can do is to analyse them comparatively. The following table summarizes all of them:

Table 49: The GDP of Transkei (1959 - 1973) as provided by different sources. (R1 000)

Year	The BEPA 1968	Department of Statistics 1976	Department of Statistics 1978	The BENSO 1976	The Transkei Government 1978
1959	45 021	NP*	NP*	43 594	50 133
1960	49 251	"	"	49 701	57 156
1961	47 961	"	"	48 831	56 156
1962	52 066	"	"	52 186	60 014
1963	55 481	"	"	55 613	63 955
1964	52 743	"	"	53 492	61 516
1965	60 471	"	"	60 309	69 355
1966	68 375	"	"	69 453	79 871
1967	NP	"	"	62 465	71 835
1968	"	"	"	62 270	71 611
1969	"	84 528	"	84 528	92 207
1970	"	87 348	"	87 348	100 450
1971	"	105 623	108 496	105 623	121 466
1972	"	111 475	114 218	111 475	128 196
1973	"	131 243	136 592	131 243	150 929

* NP: Not Provided

Sources: The 1968 BEPA Interim Report, Report No. 09-17-01 of the Department of Statistics, BENSO report on The National Economy of Transkei 1976, "This is Transkei" prepared by the Information Division of the Transkeian Department of Foreign Affairs, 1978.

It is worth noting that although these data are provided by different agents, they nevertheless find their origins in the BEPA and Department of Statistics estimates. In fact each source has revised the other one's statistics for some or other reason. Revisions are sometimes necessary on conceptual and methodological grounds in order to make different estimates more consistent and comparable. But they, in any case need to be justifiable. To evaluate these varying estimates, it is likely that the overestimation of the Transkeian Government stems from its political preference for more impressionistic figures than any sound revision of other data sources. This is suggested by its constant 15 per cent overestimation compared with the BENSO estimates, a statistically improbable phenomenon for the entire period.(1) No doubt, then, that its inaccuracy

(1) Interestingly enough the BENSO estimates were compiled for the Government of Transkei in 1976 and one would expect that they already include a certain amount of overestimation. Yet the Transkei Government added a further ad hoc 15% on the BENSO estimates!

invalidates its reliability. The discrepancy between BENSO and the other two sources are neglibible and the revised data of BENSO for the 1959-69 period are used below to complete a time series for the GDP of Transkei. For the 1969-77 period the latest statistics of the Department of Statistics are used.

Table 50: The Gross Domestic Product of Transkei by Type of Economic Activity 1969-1980.
(R1 000)

Economic Activity	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
A- Market Production:												
1- Agriculture,hunting,forestry	2 572	2 295	4 315	6 110	6 595	8 553	11 082	15 094	17 470	15 742	14 276	12 899
2- Mining and quarrying	13	77	48	28	14	167	130	151	170	183	197	212
3- Manufacturing	2 399	2 660	2 888	3 334	3 695	4 555	7 048	8 607	9 975	14 035	19 747	27 800
4- Electricity,gas and water	128	145	145	186	211	338	722	1 001	1 150	1 342	1 566	1 666
5- Construction*	1 035	1 876	2 037	2 270	3 269	4 689	5 656	7 222	8 360	9 405	10 581	11 900
6- Wholesale,retail trade and catering & accommodation services	12 486	13 784	14 039	15 250	16 592	18 085	20 214	21 927	24 500	43 218	76 237	134 426
7- Transport,storage and communication	4 457	5 087	5 499	5 638	5 888	6 932	8 058	8 890	10 220	12 131	14 399	17 089
8- Financing,insurance,real estate and business services	2 562	3 121	4 260	4 639	5 384	5 956	7 280	8 703	10 206	12 475	15 257	18 676
9- Community,social and personal services												
(a) Public Administration	8 709	9 630	10 800	11 818	13 218	18 212	22 913	27 382	30 000	38 940	50 544	65 693
(b) Educational services	6 404	7 191	8 494	10 075	11 830	15 554	18 615	22 640	27 200	34 571	43 940	55 900
(c) Health services	2 410	2 821	3 958	4 512	5 779	6 960	8 337	10 432	11 500	15 295	20 342	27 036
(d) Other marketed services	2 316	2 498	2 654	2 852	3 068	3 299	3 770	4 017	5 000	5 400	5 832	6 302
Total Market Production	45 491	51 185	59 137	66 712	75 543	93 210	113 755	136 066	155 745	202 787	272 918	379 599
B- Non-market Production:												
1- Agriculture,hunting,forestry and fishing	29 076	25 335	37 808	34 896	47 166	55 188	80 081	100 078	111 910	119 276	127 170	135 664
2- Manufacturing and water	6 457	6 915	7 428	8 210	9 203	10 206	11 227	12 411	13 775	14 037	14 304	14 580
3- Construction	1 485	1 599	1 688	1 799	1 908	2 031	2 164	2 307	2 500	3 798	5 769	8 748
4- Home Ownership	2 019	2 313	2 435	2 601	2 772	2 948	3 129	3 345	3 775	4 994	6 607	8 748
Total Non-Market Production	39 037	36 163	49 359	47 506	61 049	70 373	96 601	118 141	131 960	142 125	153 850	167 904(1)
Grand Total	84 528	87 348	108 496	114 218	136 592	163 583	210 356	254 207	287 705	344 912	426 768	547 503

Sources: (a) Department of Statistics Reports on National Accounts of Transkei 1969-75, for 1969-1975, (b) The BENSO Statistical Survey 1979 and 1980 for 1976, 1977, and (c) The 1980 own estimates, and interpolated for 1978 and '79.

(1) This includes an estimate for fetching water in rural areas, i.e. R164 000.

The above table together with Table 1 provide the necessary data for the construction of time series for the GDP and its constituent sectors for the economy of Transkei for the period 1954-80. The following table summarizes the two abovementioned tables, e.g.

Table 51: The GDP and the Share of Major Sectors in the Economy of Transkei 1954-80

Year	GDP (R1 000)	% Share of Subsistence Economy	% Share of Public Sector	% Share of Agriculture	% Share of Manufacturing	% Share of Trade
1954	38 705	52,2	18,4	42,3	6,2	11,2
1955	42 998	49,9	17,1	46,5	5,7	10,4
1956	47 708	51,5	16,0	50,4	5,3	9,7
1957	42 534	47,8	18,7	42,7	6,1	11,2
1958	46 792	49,4	17,7	46,4	5,7	10,5
1959	45 021	54,3	19,9	42,6	6,1	11,3
1960	49 251	57,6	19,2	46,6	4,9	10,4
1961	47 961	53,6	21,0	43,7	5,3	10,0
1962	52 066	52,5	20,6	43,3	5,3	11,4
1963	55 481	51,9	21,2	43,4	5,1	11,7
1964	52 743	47,5	25,0	37,0	5,1	12,6
1965	60 471	47,6	24,4	40,8	5,2	11,4
1966	68 375	51,4	23,3	51,0	5,0	11,7
1967	62 465	42,0	25,7	31,7	7,5	14,9
1968	62 270	36,7	29,0	27,5	10,4	17,3
1969	84 528	46,2	26,9	37,4	10,5	14,8
1970	87 348	41,4	30,4	31,6	11,0	15,8
1971	108 496	45,5	28,7	38,8	9,5	12,9
1972	114 218	41,6	30,8	35,9	10,1	13,3
1973	136 592	44,7	29,8	39,3	9,4	12,1
1974	163 583	43,0	33,7	38,9	9,0	11,0
1975	210 356	45,9	32,3	43,3	8,7	9,6
1976	254 207	46,5	31,6	39,4	8,3	8,6
1977	287 705	45,9	31,8	44,9	8,3	8,5
1978	344 912	41,0	27,4	39,1	8,1	12,5
1979	426 768	36,0	28,4	33,0	8,0	17,9
1980	547 503	30,7	28,5	27,1	7,7	24,6

As discussed in some detail in Cahpter II, to make nominal values more meaningful, they are converted into real values. To eliminate the impact of inflation on the trend of GDP growth, the GDP deflator is usually used to deflate nominal values.

In the absence of an independent monetary system and a statistics department (or its equivalent) no price indices, i.e. GDP deflator, are calculated for Transkei. As such the South African price indices are perforce used below for the conversion. Further the composition of the South African GDP and the relative significance of different sectors in the economy differ so much with the GDP of Transkei as the South African GDP deflator is not applicable to the Transkeian economy. Of necessity therefore the CPI is employed, though the local economic structure in Transkei exerts an upward pressure on prices making the CPI of Transkei higher than that of South Africa.(1) The 1970 period is chosen as the base year and real GDP of Transkei is calculated for the period 1965-80. The exclusion of the 1954-1965 period is partly due to the inapplicability of the 1970 price index to the period which is distant in time from 1970, and partly because there is no reliably applicable price for this period.

Table 52: Real GDP of Transkei 1965-1980

Year	C P I 1970 = 100	Real GDP (R1 000)	% Growth Rate
1965	84,8	71 310	-
1966	87,8	77 876	9,2
1967	90,7	68 870	-11,6
1968	92,3	67 465	-2,0
1969	94,9	89 070	32,0
1970	100,0	87 348	-1,9
1971	106,1	102 258	17,0
1972	113,0	101 078	-1,1
1973	123,7	110 422	9,2
1974	138,0	118 538	7,3
1975	156,7	134 241	13,3
1976	174,1	146 012	8,8
1977	193,9	148 378	1,6
1978	215,0	160 424	8,1
1979	243.4	175 336	9,3
1980	276.9	197 726	12,8

Whilst the real GDP is a much more meaningful indicator of the performance of the economy than the nominal GDP, it should nevertheless be compared with the size of the population to highlight its per capita magnitude. For doing so, reliable population data are required.

Although population statistics for Transkei are provided by the Department of Statistics of South Africa, there have been so many revisions and variations, usually contradictory, in their various

(1) A comparison between 'prices in Umtata and East London or Kokstad would show that prices in Umtata are up to 40% higher. The CPI for Transkei thus would be larger than the CPI in South Africa.

publications, since the 1970 census, that the derivation of a reliable population figure has become impossible.

Moreover there are numerous population projections for Transkei made on the basis of different publications of the Department of Statistics. These projections are usually made under varying assumptions which are not easily verifiable. Such ambiguities are further fostered by the lengthy processing and publishing of the 1980 census results. In the absence of any concrete data the best one can do is to specify a range within which the actual population is likely to be. This is done in the following table by taking the high and low estimates as well as an adjusted population estimate.

Table 53: Population of Transkei (Excluding Migrants) 1970-1980

Year	High Estimation Data, Growth Rate: 2.6%	Low Estimation Data, Growth Rate: 1.7%	Adjusted Estimate,* Growth Rate: 2.2%
1970	2 028 900 **	1 971 877 **	2 000 388
1971	2 081 651	2 005 398	2 044 396
1972	2 135 774	2 039 490	2 089 373
1973	2 191 304	2 074 162	2 135 339
1974	2 248 278	2 109 423	2 182 317
1975	2 306 734	2 145 282	2 230 328
1976	2 366 709	2 181 752	2 279 395
1977	2 428 243	2 218 842	2 329 542
1978	2 491 377	2 256 562	2 380 792
1979	2 556 153	2 294 924	2 433 169
1980	2 621 700	2 334 946	2 486 699

Sources: BENSO Statistical Survey 1979 and 1980
- The Transkei Development Review, Vol. 1, No.2.

* The adjusted growth rate is the average of the other two growth rates.

** Estimates for 1970 are made by the Department of Statistics.

The GDP per capita, both in nominal and real terms, are thus calculable as follows:

Table 54: The Nominal and Real GDP per Capita in Transkei* (1970-1980)

Year	GDP per Capita	Percentage Growth	Real GDP per Capita 1970 = 100	Percentage Growth
1970	43.7	-	43.7	-
1971	53.1	21.5	50.0	14.4
1972	54.7	3.0	48.4	-3.2
1973	64.0	17.0	51.7	6.8
1974	75.0	17.2	54.3	5.0
1975	94.3	25.7	60.2	10.9
1976	111.5	18.2	64.0	6.3
1977	123.5	10.8	63.7	-0.5
1978	144.9	17.3	67.4	5.8
1979	175.4	21.0	72.1	7.0
1980	220.2	25.5	79.5	10.3

* The adjusted population figures are used to construct this table.

It is worth nothing that in the above table, the defacto population is used. This is justifiable as the migrant labourers do not directly dispose of the GDP, though strictly speaking 10% of them should be included in the defacto population, as suggested by a labour survey of the Department of Interior of Transkei.

VII.3 Migrant Labourers, Their Earnings, Their Remittances and the GNP

For the reasons already discussed in Chapter V, no meaningful GNP estimates for Transkei are available for the period prior to 1970. The construction of GNP time series for the 70's on the other hand, depends to a large extent on the data about the number of migrant labourers, their total earnings and their total remittances. As in the case of population data, there are many estimates for the number of migrant labourers (from Transkei), none of which is sufficiently substantiated. Various sources of data such as the Department of Interior of Transkei, the recruiting agencies of the South African Chamber of Mines and the Department of Statistics of South Africa have published labour statistics using different definitions and classifications, overestimating and under-estimating for varying socio-political reasons. To cite but one example, the Rand currency compensation, paid to Transkei by the South African Government, is directly related to the migrants' remittances and hence to the number of migrants. The South African sources are thus inclined to under-estimate the labour statistics whilst the Transkeian sources tend to overestimate the number of migrants. For reasons of this nature the actual number of migrants is not known. Additionally, there are other reasons for the lack of accurate data in the labour sphere in Transkei. Illegal migration is the most important one. Also some migrants, mainly in the South-Western area of Transkei, find employment in the Cape Province and the Orange Free State without going through the local recruiting agencies. These are but few of the reasons for the lack of coherent labour statistics for Transkei. To highlight the extent of statistical incoherence the following table compares the BENSO statistics with those of the Department of Interior of Transkei, e.g.:

Table 55: Number of Transkeian Migrant Labourers and Their Earnings (1970 - 1980)

Year	BENSO 1979 AND 1980			DEPARTMENT OF INTERIOR OF TRANSKEI		
	No. of Migrants	Earnings (R1 000)	Average (I) Monthly Wage	No. of Migrants	Total Earnings (R1 000)	Average Monthly Wage
1969	-	-	-	174 223	26 133	18.75
1970	248 300	1 237 582	63	184 788	29 566	20
1971	263 520	-	-	191 600	30 656	20
1972	279 700	170 453	76	225 330	50 699	25
1973	295 400	214 827	81	231 969	65 241	31,25
1974	311 100	285 262	102	256 971	115 636	50
1975	265 000*	380 252	159	303 233	153 512	56
1976	264 000*	462 173	194	377 760	233 739	68
1977	263 000	544 641	230	403 838	272 584	75
1978	262 000	-	-	425 230	325 301	85
1979	26 000	-	-	341 553	315 083	102.5
1980	NP	-	-	345 116	401 629	122.5

* In BENSO Statistical Survey 1979 these two figures are estimated 326 800 and 343 300 for 1975 and 1976 respectively.

(I) Average monthly wage is arrived at by assuming the following length of contract:
(a) 8 months for the 1970 - 1971 period
(b) 9 months for the 1972 - 1979 period
(c) 9½ months for the 1980 period.

Sources: (a) BENSO Statistical Survey 1979 and 1980, tables 18, 52 (from 1980) and tables 16 and 39 (from 1979).
(b) The labour survey of the Department of Interior of Transkei. Reprinted in the TDR, Vol. 1, No. 2, Oct. 1981.

The vast discrepancies in the table are attributable not only to the aforementioned reason but also to the perfunctory statistical manipulation of BENSO. It is obvious from the table that BENSO data on the number of migrants are completely invalid and its statistics on "total earnings" are likely to be exaggerated. The Department of Interior of Transkei on the other hand seems to have under-estimated the total earnings and slightly over-estimated the number of migrants.

More ambiguous than the number of migrants and their earnings are their remittances to the economy of Transkei. Remittances usually are sent in cash, in kind and/or transfers through the Post Office and building society deposits. The migrant's transfers are irregular and depend largely on the needs of their dependants at home. More to the point, a migrant's conviction of his/her dependants' requirements is the main determinant of the size of his/her remittance.

In such circumstances it is extremely hard to make an objective estimation of total remittances. Various studies however suggest different conclusions. Professor Swidinsky for instance, asserts that migrant workers remit, on average, 25.9% of their monthly cash earnings, i.e. R30.70 p.m. in 1979. This ratio depends on the position of the migrant in the family. That is, the husbands remit 31%, married males 28%, daughters of the head 29%, and single males 19% of their cash earnings.(1) These ratios are however, derived from the Bureau of Market Research (BMR) 1979 survey and could not be generalized. Furthermore such wage rates and remittance ratios are firmly refuted by the information supplied by the labour recruiting organisations, at least as regards the contract workers. For instance, the VEZAMFA and ACRO-HANISE recruiting agencies suggest an average monthly wage of R135 and R175 for 1979 and 1980 and a remittance ratio of 55% and 60% for the same two years respectively. Obviously not all migrant workers are contract labourers, though according to the labour organisations 7/8 of Transkei migrant labourers are contract workers.

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(1) R. Swidinsky: "Labour Resources in the Economic Development of Transkei, p.5. Prepared for the planning committee of Transkei; 1981 Unpublished.

The results of a pilot survey of "Household Expenditure Income of Transkei", conducted in December 1981 - January 1982, support the wage rates suggested by the VEZAMFA and ACRO-HANISE. Their remittance ratios are however high and inapplicable to all migrant labour.

With reservations for the foregoing uncertainties and unquantifiable transfers in kind, the time series for the migrants and other relevant measures are made below:

Table 56: Estimated Number of Migrant Workers from Transkei, Their Earnings and Their Remittances to Transkei (1969 - 1980)

Year	Number of Migrants (a)	Length of Contract (Months) (b)	Monthly (1) Wage (R) (c)	Current* Total Earnings (p.a) (R1 000)	Real Total Earnings (p.a) (1970=100)	Remittance as Percentage of Earnings	Estimated Total Remittance (p.a) (R1 000)	Real Total Remittance (p.a) (1970=100)	% Growth in real Remittance	Average(3) Annual Remittance Per Worker (R)
1969	174 223	8	18,75	26 133	27 537	15	3 920	4 131	-	22.5
1970	184 788	8	20,00	29 566	29 566	15	4 430	4 430	7.2	24.0
1971	191 600	8	20,00	30,656	28 893	15	4 600	4 336	-2.1	24.0
1972	225 330	9	25,00	50 699	44 866	18	9 130	8 080	86.3	40.5
1973	231 969	9	31,25	65 241	52 741	21	13 700	11 075	37.1	59.0
1974	256 971	9	50,00	115 636	83 794	24	27 750	20 109	81.6	108.0
1975	303 233	9	56,25	153 512	97 966	27	41 450	26 452	31.5	136.7
1976	377 760	9	68,75	233 739	134 255	30	70 120	40 276	52.3	185.6
1977	403 828	9	75,00	272 584	140 580	33	89 950	46 390	15.2	222.7
1978	425 230	9	85,00	325 301	151 303	35	113 860	52 958	14.1	267.8
1979	341 553	9	135,00	414 987	170 496	40 (2)	165 994	68 198	28.8	486.0
1980	345 116	9.5	175,00	573 755	207 207	40	229 502	82 882	21.5	665.0

Sources: (a) Data obtained from the Department of Interior of Transkei, published in TDR, Vol. 1, No. 2, October 1981.
(b) Information received from the labour recruiting organisation in Umtata, i.e. VEZAMAFA and ACRO-HANISE.

(1) Monthly wage is calculated by multiplying the "working days per month", i.e. 25, by "average shift rates".

(2) The sudden increase in remittances may be attributable to the drought which occurred in 1979/1980 in Transkei.

(3) Calculated for current remittances.

* Current Total Earnings are derived by multiplying (a) (b) and (c).

Using the data in Table 56 for 1978, 1979 and 1980 time series for the GNP of Transkei are made for the 1970 - 1980 period. To estimate the GNP per capita the number of migrants is added to the defacto population.

Table 57: Nominal and Real GNP of Transkei 1970 - 1980

Year	Population* Including Migrants	CURRENT				REAL (1970 = 100)			
		GNP R1 000	% Growth	GNP per Capito	% Growth	GNP R1 000	% Growth	GNP per Capito	% Growth
1970	2240388	207725	-	93	-	207725	-	93	-
1971	2293485	233093	12.2	102	9.7	219692	5.8	96	3.2
1972	2347841	278871	19.6	119	16.7	246788	12.3	105	9.4
1973	2403484	344819	23.6	143	20.2	278754	12.9	116	10.5
1974	2460447	441645	28.0	179	25.2	320033	14.8	130	12.0
1975	2518759	582408	31.9	231	29.0	371671	16.1	148	13.8
1976	2578454	707180	21.4	274	18.6	406192	9.3	158	6.7
1977	2639564	822276	16.3	312	13.9	424072	4.4	161	1.9
1978	2702121	910177	10.7	337	8.0	423338	-0.2	157	-2.5
1979	2766162	1007475	10.7	364	8.0	413917	-2.2	150	-4.5
1980	2831815	1115264	10.7	394	8.2	402768	-2.7	142	-5.3

* The adjusted population estimates are used here. Even if the low population estimates are used, the real GNP per capita would have shown a downward trend, though less steeply.

The average growth rate over the period is 18.3% for nominal GNP and 6.8% for real GNP. The above GNP time series are composed of the BENSO estimates for the period 1970 - 1977 and the 1980 estimate as calculated in the previous chapter. Estimates for 1978 and 1979 are then made by interpolation. It should however be noted that, as illustrated in Table , BENSO data on migrant earnings (which is the main item in foreign receipt of Transkei) differ widely from those of the Department of Interior of Transkei (used for calculating the 1980 estimate). As a result, the GNP time series loses its consistency and actual trend. Also the constant 10.7% growth of the GNP over the 1977 - 1980 period is due to the interpolation.

In the light of these shortcomings, the BENSO GNP statistics are revised below. This is done by using the GDP estimates (Table 51) and migrant earnings estimates (Table 56).

* Strictly speaking GNP is: GNP = GDP + (Migrant Earnings + Commuters' Earnings) - Foreign Factor Payments. It is assumed that Commuters' Earnings are balanced out by Foreign Factor Payments and thus GNP = GDP + Migrants' Earnings.

Table 58: Revised GNP Estimates for Transkei 1970 - 1980

Year	CURRENT				REAL (1970 = 100)			
	GNP R1 000	% Growth	GNP per Capita	% Growth	GNP R1 000	% Growth	GNP per Capita	% Growth
1970	116914	-	52.2	-	116914	-	52.2	-
1971	139152	19.0	60.7	16.3	131152	12.2	57.2	9.6
1972	164917	18.5	70.2	15.7	145944	11.3	62.2	8.7
1973	201833	22.4	84.0	19.7	163163	11.8	67.9	9.2
1974	279219	38.3	113.5	35.1	202333	24.0	82.2	21.1
1975	362868	30.3	144.5	27.3	232207	14.8	92.2	12.2
1976	487946	34.1	189.2	30.9	280268	20.7	108.7	17.9
1977	560289	14.8	212.3	12.2	288958	3.1	109.5	0
1978	670213	19.6	248.0	16.8	311727	7.9	115.4	5.4
1979	841755	25.6	304.3	22.7	345832	10.9	125.0	8.3
1980	1121258	33.2	396.0	30.1	404932	17.1	143.0	14.4

The growth rate for the period is 25.4% for current GNP and 13.2% in the case of real GNP.

VII.4 Domestic Disposable Income (DDI)

To arrive at the GNP conventionally, foreign factor receipts and payments are added to and subtracted from the GDP. In the case of Transkei the single foreign factor receipt is migrants' earnings of which 60% is spent outside the economy of Transkei. Of the remaining 40% which constitutes the remittances, only a certain fraction is transferred in cash. The balance is spent in South Africa on transfer in kind. Consequently a dominant share of expenditure generated by the migrants' earnings does not have any multiplier effect on the economy of Transkei. Additionally migrants spend up to 11 months in South Africa and as such they hardly make any disposal of the GDP of Transkei. Thus the inclusion of migrants' total earnings in the GNP becomes erroneous. Likewise the inclusion of the migrants in the population of Transkei, for the calculation of GNP per capita, is not objective.

To eliminate these drawbacks of the GNP in its conventional definition, and in order to arrive at a more meaningful and objective indicator of the magnitude of expenditure potential (within the Transkei economy), the Domestic Disposable Income (DDI) of Transkei could be estimated. This concept is defined below:

DDI = GDP + Migrants' Remittances - Foreign Factor Payments

And to arrive at a more realistic per capita value, the defacto population (excluding migrants) should be used. These two definitions are employed below.

Table 59: Estimated Domestic Disposable Income of Transkei 1970 - 1980

Year	GDI (R1 000)	% Growth	GDI per Capita	% Growth	Real GDI 1970 = 100 (R1 000)	Growth	Real GDI per Capita	% Growth
1970	91778	-	46	-	91778	-	46	-
1971	113096	23	55	20	106594	16	52	13
1972	123348	9	59	7	109158	2	52	0
1973	150292	22	70	19	121497	11	57	10
1974	191333	27	88	26	138647	14	64	12
1975	251806	32	113	28	160693	16	72	12
1976	324327	29	142	26	186288	16	82	14
1977	377655	16	162	14	194768	5	84	2
1978	458772	21	193	19	213382	10	90	7
1979	592762	29	244	26	243534	14	100	11
1980	777005	31	312	28	280609	15	113	13

The above series could be regarded as the purchasing power of the economy of Transkei. The DDI is however different from the concept of the "purchasing power of Blacks" as employed by the BENSO. According to BENSO definition, "the purchasing power of Blacks (in Transkei) is calculated to be the GDP earned by Black inhabitants plus commuter income plus 20 per cent of the income of migrant workers in the rest of the RSA". Contrary to its theoretical neatness, it is practically impossible to determine "the GDP earned by Black inhabitants" and attempts to do so become too arbitrary to be indicative of any real magnitude.

Over the 1970-1980 period, according to the above table, the current DDI increased by 23.8% on average and the real GDI growth was 11.8% for the same period.

VII.5 Other Time Series

In addition to the foregoing time series, certain other sequential statistics on measure such as gross and net capital formation, gross fixed investment of the public sector, trend of labour productivity, direction of capital - labour ratio in the local production and its implication for the labour market as well as for the education system are of paramount importance for any analytical study of the economy. Research on these issues is however beyond the scope of this thesis, as each independently merits an intensive study of the private and public sector of the economy of Transkei.

CHAPTER VIII

ESTIMATES
- THEIR MEANINGS AND IMPLICATIONS -

ESTIMATES, THEIR MEANINGS AND IMPLICATIONS

So far, estimates for various aggregates have been made without much qualification and interpretation of their magnitudes. Nor has there been any question about the definitions and their meaning in the context used. In other 'words', would the GDP, GNP, foreign factor receipts (or payments) and the like have had the same definitions and magnitude had the Transkei economy been studied as an integrated part of the economy of South Africa? The aim of this chapter is to briefly examine the general economic trends and also to demonstrate the primary connotations of the main sectors' structure.

VIII.1 Overall Performance

National accounting statistics have to be used with special care. That is if the theoretical foundation of measures such as GDP, GNP, GDP and GNP per capita and so on is not taken into account, the interpretation of their magnitude could be misleading, if not meaningless. To cite but one example, an inhabitant of the Transkei region in 1975 was a beneficiary of the South African economy with a per capita GDP of R1 078. The same person in 1976 is a beneficiary of "the Transkei economy" with a per capita GDP of R112, i.e.962% deterioration over a year. The fallacy of unqualified use of aggregated measures is obvious in the example. It is true that the aggregated national statistics do not represent any distributive aspect of the economy. In other words, an inhabitant of the Transkei region in 1975 was likely to have had, on a per capita basis, R231 of the GDP of South Africa, as opposed to R1 078. As illustrated in the previous chapter, R231 is *the GNP per capita* of Transkei in 1975. A similar exercise for 1980 shows the GNP per capita of Transkei as 18.5% of the GDP per capita of South Africa. In other words even if what the migrants earn is to be added to the GDP of Transkei, the per capita value is by no means comparable to the per capita GDP of South Africa. Thus the use of "GNP per capita", GNP, and the like for Transkei, not only conceals the immense regional discrepancies in a broader economy of South Africa, but it also tends to justify an already institutionalized discriminatory treatment of the various regions by the overall economic policy makers.

Such low economic performance is, more often than not, attributed to the regional economic potentials, thus considering it as normal. Whilst there is little debate about the inadequacy of economic resources in Transkei, it is erroneous to relate the present economic performance to the existing capabilities only.

In a fully integrated economic system, the utility maximization nature of man would carry him/her from a poor region to an area with far more opportunities, thus making the net interregional income differentials marginal. In the case of Transkei, and the other homelands, it has not been true. As a result the present economy of Transkei is the residue of an economy which did not have much scope for real adjustments. The ultimate results were a depressingly poor education, health, housing, urban and rural services.

Overwhelmed with the inherited bottlenecks and socio-economic complexities of the past, the Transkei economy, after "independence", encountered further obstacles some of which are acutely unmanageable with the existing socio-economic resources. In other words to compensate for the shortcomings of the past and to maintain a reasonable growth rate in order to meet the growing 'improvement expectations' and 'aspirations of the people' are far beyond the capability of the available resources. To ameliorate the conditions, a vast variety of social, administrative and economic arrangements need to be altered.

From a purely economic point of view, a prerequisite for a meaningful and dynamic improvement strategy for Transkei is the mobilization and utilization of considerable economic resources. The issue to discuss is thus the sources from which the Transkei economy has been and is likely to draw its requirements in the future. Usually an economy derives resources from either its internal or external sources.

The internal sources of capital formation and production capacity creation in Transkei are exceptionally meagre. As regards the subsistence economy, the predominant portion of savings is invested in stock ownership amounting to over R650m in 1980. In the Transkeian circumstances, where stock ownership provides mainly security and social status, as Professor Southey asserts: "*such stock investments almost certainly have a negative social return, since the added competition for food among stock, causes offsetting losses through reduced fertility and* *higher deaths, particularly among infant cattle".*[1] (p.12)

In the market economy of Transkei, industrial and manufacturing establishments are heavily subsidised and can hardly cover their current expenditure (including depreciation of their capital stock) and thus lack any potential for capital accumulation. Trade and other services therefore remain the only sectors capable of accumulating resources. Most of their accumulated capital, due to the financial structure of the economy, is not implanted in the economy of Transkei. The effective capital formation of the internal economy of Transkei is thus insignificant.[2]

As regards the external resources, the Transkei economy has its own limitations. First and foremost, due to its internationally unrecognized political structure, there is almost no opportunity for Transkei in the international financial market. The only source from which Transkei could receive capital is the South African financial market. In fact, as Professor Thomas points out, *"From the economic point of view the difference between independent and self-governing homelands is insignificant, since the former, due to their international non-recognition, cannot rely in any case on other major sources of resource transfer. Any differences, therefore, are largely limited to built-in institutional variations".*[3]

Transkei's manoeuvrability in the South African financial market is also severely constrained. According to a pre-independence agreement between the governments of Transkei and South Africa, which has remained valid to the present, Transkei cannot offer incentives to investors so as to put herself in an advantageous position in comparison with other regions in the Republic of South Africa.[4] This is an additional constraint to the already unattractive economy of Transkei, for the foreign investment.[5]

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(1) Southey, C.: "Land Tenure in the Transkei; A Report Prepared for The Planning Committee", 1981, Unpublished.

(2) For an estimation of capital formation in 1980 see Table

(3) Thomas, W.: "Financial Socio-Economic Development in the Black Homelands of South Africa", 1981, Journal of Contemporary African Studies, Vol. 1, No. 1, Oct. 1981.

(4) This is mainly part of the decentralisation policy in South Africa.

(5) For more details see M. Jackson: "Development of Industries in Transkei, Policy Consideration". TDR Vol. 1, No. 2, Oct. 1981.

Given the abovementioned constraints, the South African Government remains the only channel through which the Transkei economy may derive resources for her development. The resources transferred through the South African Government are either current or capital transfers. The former includes three types of transfers as discussed below:

(i) The Rand currency compensation which is payable to the Transkeian Government in terms of the Interim Agreement on the Monetary Relations between Transkei and South Africa (1977). The compensation payable is calculated on the basis of estimated notes and coins in Transkei as follows:

(a) The growth rate of notes and coins in South Africa is calculated for the year

(b) The growth rate of notes and coins in Transkei is assumed to be 1.2 times that of South Africa

(c) The total notes and coins in Transkei are then calculated, i.e. having the previous year's amount and multiplying it by the growth rate

(d) The compensation is computed by calculating 'the annual yield of the latest long-term South African Government stock issue prior to 31 December' for the 2/3 of the total amount of notes and coins in Transkei, as calculated above.

The following table shows the volume of this transfer in both nominal and real terms.

Table 60: Rand Currency Compensation Paid to Transkei by the Republic of South Africa 1978/80

Compensation \ Year	1978	1979	1980
Current Value (R1 000)	1 863	2 044	3 166
Real Value (R1 000) 1975 = 100	1 358	1 316	1 792

There are, however, ambiguities in the way this transfer is calculated. For instance, where does the 1.2 coefficient come from? Or, why should yield be calculated only for 2/3 of coins and notes in Transkei and not for 3/3? Or, how was the initial 1977 stock of notes and coins estimated? These are questions for which no answer seems to exist in Transkei. In fact according to the calculation done in the Department of Finance of Transkei, the total value of Rands in circulation in Transkei is over R100m whereas the Department of Public Finance of South Africa estimated a total of R53 200 000 according to which a sum of R4 761 167 accrued to Transkei for 1981. The discrepancy between the two estimates is considerable and yet there does not seem to be any consideration for the claim of the Department of Finance of Transkei.

On a more fundamental basis, the Interim Agreement, by definition, was to be temporary and *is it not time for the restructuring of the formula on more rigorous and objective grounds?*

In its present form, as illustrated in the table above, the amount trasnferred to Transkei for the use of Rand as the currency is a small amount.

(ii) Transfer as the share of Transkei in the Customs Union: Transkei as a member of the Customs Union of the Southern African States receives her share of the total common revenue in terms of the Article 14 of the Customs Union Contract. According to the Article, the share of each contracting party is determined by the following formula.

> "The cost-insurance-freight value at border of goods from all sources imported during the financial year into the area of each party, *plus* the value of excisable and sales duty goods produced and consumed in such area during such year, *plus* the excise and sales duties paid thereon during such year shall be expressed as a percentage of the cost-insurance-freight value of the goods imported during the financial year into the common customs area, *plus* the customs and sales duties paid thereon during such year, *plus* the value of excisable and sales duty goods, produced and consumed during such year in the common customs area, *plus* the excise and sales duties paid thereon during such year.

The amount calculated by the application to the common revenue pool of the percentage so obtained, enhanced by a multiplying factor of 1.42 shall represent the share of each (country) in respect of that financial year."

As from 1978, Transkei has been receiving her share of the Customs Union revenue as follows:

Table 61: Transkei's Share of Customs Union 1978/81

Year / Amount	1978	1979	1980	1981
Current Transfer (R1 000)	55 660	88 497	119 704	91 000
Real Transfer 1975 = 100	40 568	56 985	67 744	

For a party like Transkei, with little available data and a meagre statistical service, the implementation of the above mentioned formula is almost impossible. Each and every part of the formula calls for a different type of technical statistics, whereas Transkei lacks general information in many spheres. Moreover the formula presumes a well-defined and tightly monitored border post for each beneficiary, which is not true in the case of Transkei. In other words, how can Transkei collect data on the value of all goods imported from South Africa while it has only two border posts and there are many other routes with no border posts whatsoever? Even the existing border posts are not properly staffed and very few people declare their imports. Furthermore, as long as places like Kokstad, a South African town within the Transkeian region, supply a considerable amount of goods to Transkei, the control of borders loses its meaning.

In such circumstances, the share of Transkei is determined more on an ad hoc basis than anything else. In fact it is dependent upon the availability of funds in Pretoria as well as on the negotiation ability of Transkei.(1)

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(1) Strictly speaking, in such circumstances, parties with reliable statistics receive their shares from the revenue pool and what remains gets distributed amongst the other parties with little provable data.

For instance, the share of Transkei as estimated by the Transkei 1981/82 budget was R131m whereas the actual trasnferred amount, decided by South Africa, was R91m.

Apart from these types of drawbacks which are more attributable to the meagre statistical services in Transkei, the size of the revenue pool and hence the share of each party is largely affected by South African import policies.

The ultimate result of these factors is a transfer which is risky to depend upon due to its erratic nature.

(iii) Transfer in the form of Budgetary Assistance: As negotiated between the governments of Transkei and South Africa at the time of independence, the former was to receive a *statutory grant* for three successive years after independence. Of course the concept was nothing new as the Transkeian self-governing administration used to receive grants from the government of South Africa for many years before independence. The only difference however was the size of the grant.

Renamed as *Budgetary Assistance* from South Africa, the statutory grant continued up to the present. The following table summarizes this transfer as from 1974.

Table 62: Transfers to Transkei for Budgetary Purposes 1974/80

Transfer \ Year	1974	1975	1976	1977	1978	1979	1980
Current Value R1 000)	60 800	71 080	110 670	165 000	113 500	98 500	118 378
Real Value 1975 = 100	69 012	71 080	99 613	133 387	82 726	63 426	66 994

It is obvious from the table that the size of the budgetary assistance is erratic and unforeseeable. Seemingly there is no formula or criterion according to which the budgetary assistance can be calculated. Rather it is entirely determined by factors such as the economic situation and availability of funds in South Africa, the political atmosphere of the area at the time of negotiation, the bargaining power of the Transkeian delegates during the negotiation procedure. Such arbitrary and baseless determination of the budgetary assistance has, theoretically at least, mixed blessings for Transkei. On the one hand there is no rigid formula and thus no grant is high. On the other hand, and as regards South Africa, no grant is low. Practically however, the South African government being the donor has far more bargaining power and in the final analysis it is the decision maker. This is also supported by the abovementioned table.

As mentioned before there is no mutually accepted criterion for the determination of budgetary assistance from South Africa to Transkei and as such no evaluation of the size of the grant seems to have been made, unless on the basis of the planned expenditure of the government of Transkei. In other words, this has been looked upon as a balancing item in the Transkei government budget. Thus if the budget receives considerable revenue from other sources, i.e. internal sources, Customs Union share, etc. any budgetary grant, no matter how small would be satisfactory!

To assess the size of the budgetary assistance, it should be studied in a comparative inspection. The proxy counterpart for the budgetary assistance is the *transfer payments for the current expenditure* to the provincial administrations in South Africa. The following table illustrates the size of Transfer payments to the four provincial administrations in South Africa.

Table 63: Transfer to the Provincial Administrations and Transkei for Current Expenditure (1979/80)

Administration / Year	Transvaal	Natal	Cape of Good Hope	Orange Free State	Transkei
1979 (R1 000)	695 491	243 080	575 553	177 977	98 500
1980(1) (R1 000)	862 099	311 643	724 010	215 064	118 378
per capita(2) Transfer 1980(R)	108	123	148	117	48

Sources: a) First Statistical Newsletter, 16 Sept 1981, p.11
b) "Estimate of the Expenditure to be defrayed from State Revenue Account for the Financial Year Ending March 1981." First Print (R.P.2 - 1980)
c) Tables 28, 29.

(1) A further R1 950 000 was later distributed amongst the four Provincial Administrations which is not included in these estimates.
(2) Population of the self-governing black states, or independent states, is not included in the Provincial population figure.

It might be argued that the comparison made is not meaningful because the Transkei government has sources of revenue like post office revenue, income tax revenue, sales tax revenue and the like that the other administrations lack. This contention obviously ignores the fact that the Transkei government has far more functions than the other administrations. For example, "in quite a number of instances a public service or amenity (in South Africa) is provided jointly by the central, provincial and municipal authorities, e.g. health services, roads, physical planning, protection of the environment, museums, libraries and recreation",[1] whereas in Transkei all these defrayals are made from the Transkei government revenue.[2] Additionally the Transkei government has to finance various economic development projects. Of course, apart from the current budgetary assistance, the Transkei government also receives certain capital transfers to which the discussion is directed now.

(iv) Project Aid Transfer: For financing various economic development schemes, Transkei, prior to 1976, used to receive Transfers through various channels such as the Xhosa Development Corporation, the Department of Bantu Affairs and so on. After independence this type of Transfer was discontinued. Indirectly however, a part of budgetary assistance was allocated to the Transkei Development Reserve Fund, the appropriation of which was determined by the Transkei government. To supervise the capital expenditure appropriation as from 1980, the South African government has made this transfer subject to the prior approval of projects for which the aid is required, i.e. project aid.

Project aid amounted to R50.5m in 1980/81 most of which consists of South African-guaranteed, interest subsidised and/or South African "approved" loans from the open capital market.

Capital transfer is not exclusive to Transkei only. The Provincial

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(1) 'South Africa 1981' Offical Yearbook of the RSA, p.156.

(2) In South Africa "the provinces receive approximately 80% of their income on revenue account from the treasury. This means that only about 20% of their income is derived from their own sources." (South Africa 1982 p. 156). In Transkei, if the custom share and Rand compensation be regarded as own-source-revenue, the Transkei government received 36% of its revenue from the treasury of South Africa.

Administrations in South Africa also receive the same transfer. The following table shows the size of capital transfers to various administrations as well as to the Transkei government in 1979 and 1980:

Table 64: Capital Transfer to Provincial Administration and Transkei 1979/80

	Transvaal	Natal	Cape of Good Hope	Orange Free State	Transkei
1979 (R1 000)	76 900	24 500	43 600	25 000	
1980 (R1 000)	93 500	29 700	48 300	30 000	50 500(1)

Sources: a) Estimate of the Expenditure from State Revenue Account Financial Year ending March 31, 1981
b) Information obtained from the Department of Finance, Transkei.

(1) The relatively high amount is mainly due to drought relief transfer in 1980.

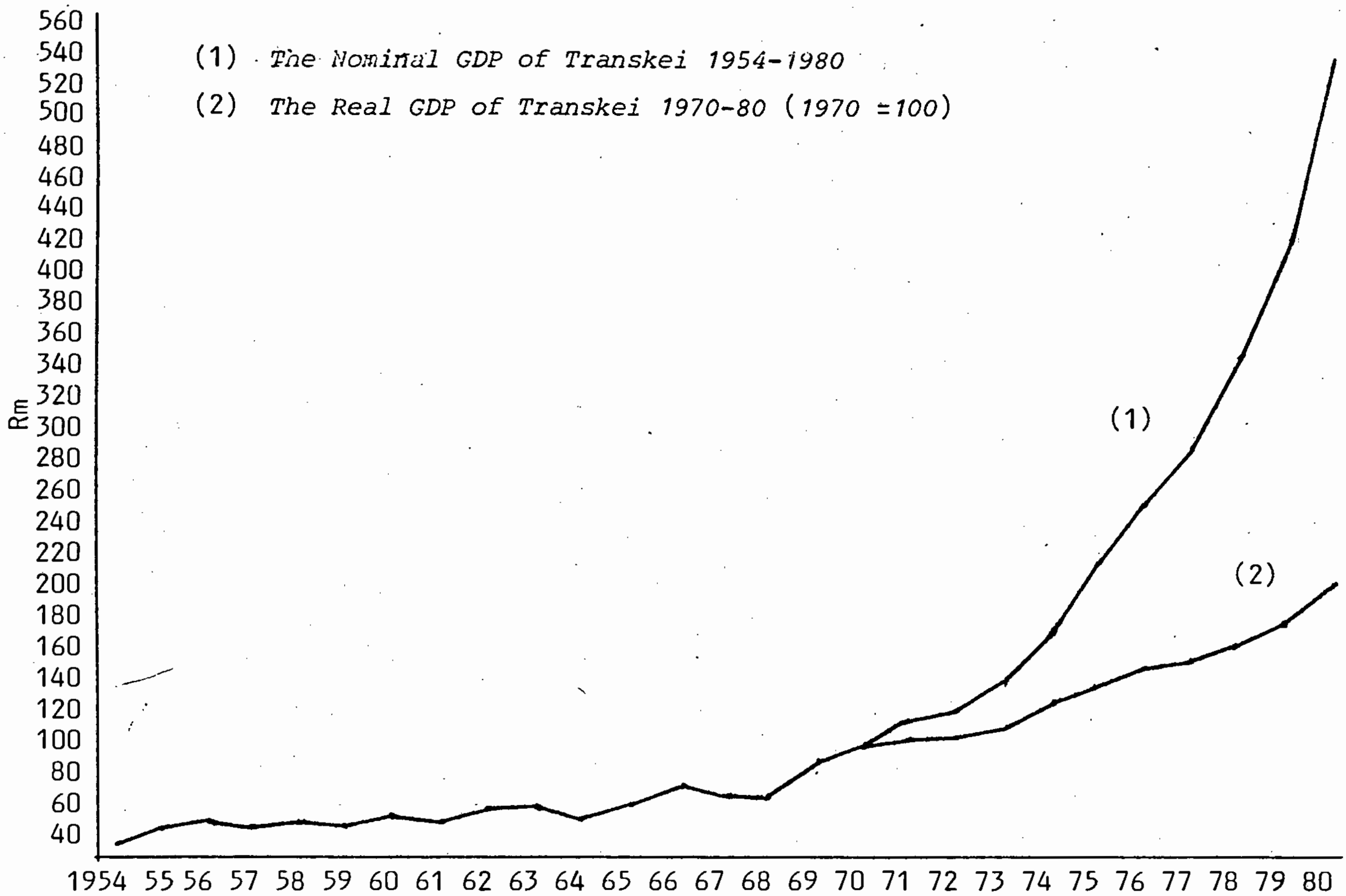
It must be borne in mind that, as mentioned before, the Provincial Administrations have far limited functions for their capital defrayments whereas Transkei has to finance all development schemes in its region. The comparison thus simply highlights the meagre capital transfer to Transkei.

The project-related capital transfer method has its merits and weaknesses. As it necessitates a careful study of each development project, it contributes to the overall efficiency of investments, particularly if the project motivation is re-examined in Pretoria.

Its weaknesses however stem from the bureaucratisation of development fund approval. More bureaucratic procedure usually results in delays in the approval of projects and inefficiency in the evaluation of schemes. The situation is further compounded by the lack of adequate experienced manpower in Transkei to study, motivate and support projects. The end result is the prolongation of project preparation as well as its approval.

Meagre internal potential for capital accumulation together with undependable erratic foreign sources of transfers have maintained Transkei as an economy with an extremely low production capacity. This is illustrated below by depicting the trend of GDP for the period 1954-80.

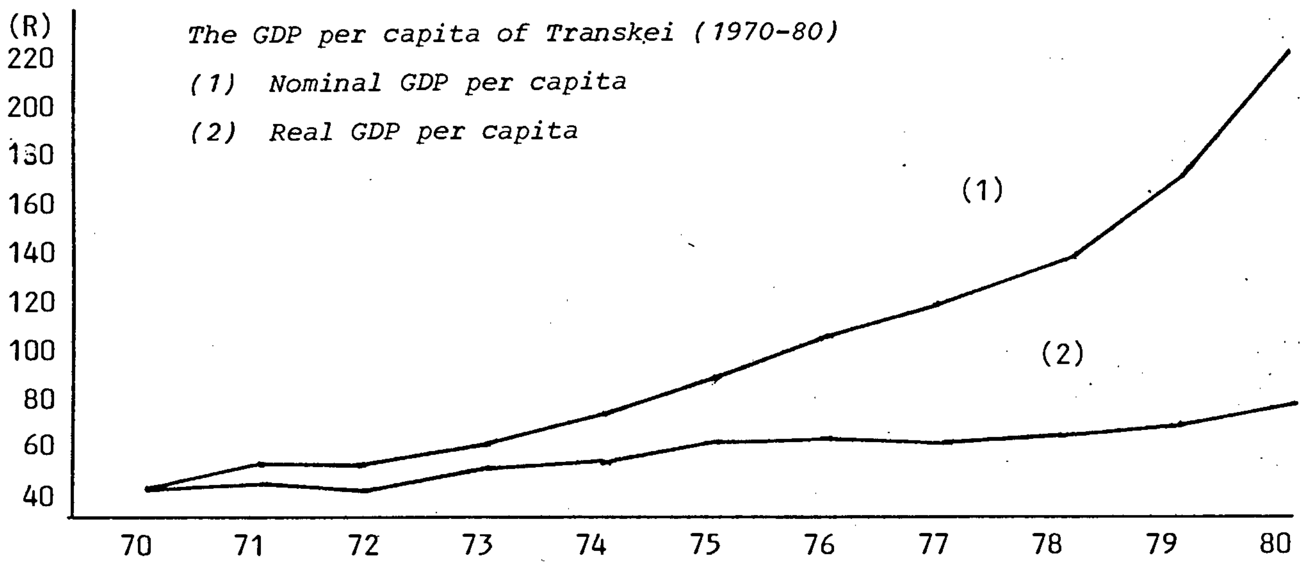
To eliminate the illusive effects of inflation the real GDP is calculated for the period 1970-80.



Source: Table 51, Page 132

With real GDP of R198m Transkei remains one of the poorest countries of the world. This is simply the indispensible consequences of the combination of the foregoing factors.

To illustrate the extent of the incredibly low production capacity and its effects, the GDP per capita is computed next.



As depicted above, the GDP per capita of Transkei in 1980 was R220.2. Bearing in mind that a comprehensive production concept is employed to calculate the GDP of Transkei, it means that a person's share of all various sources, in subsistence and otherwise, from the GDP was R18 per month.[1] This is obviously when an equitable distribution is presumed.

The existence of migratory labour alleviates the situation considerably. If the migrants' earnings are taken into account the situation improves substantially as shown in the following figure:

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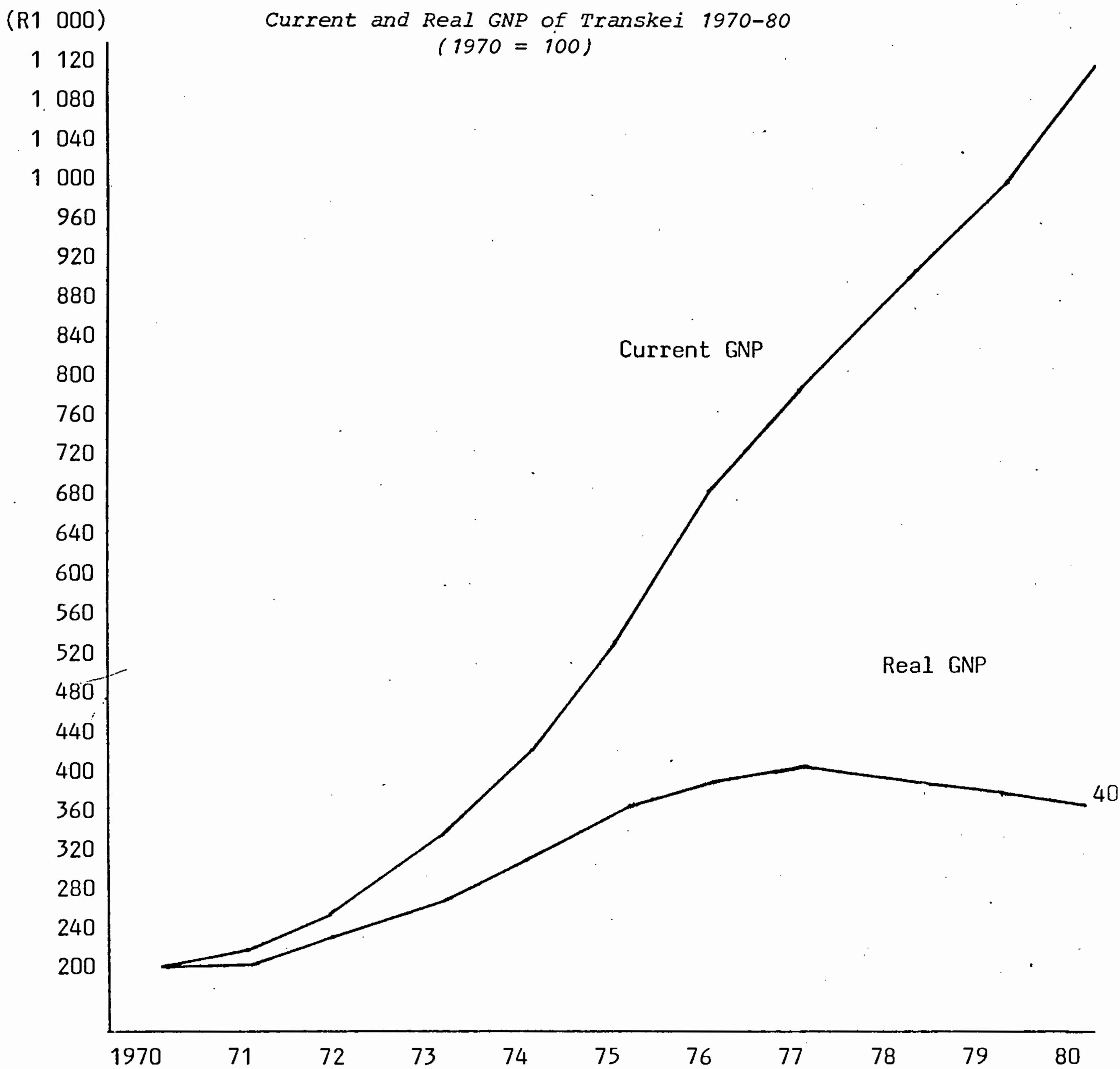
(1) This figure would have been 22% lower, i.e. R4 p.m. if only the locally generated GDP was included. In other words the per capita GDP would have been only R14 p.m. See page 117 for discussion.

Current and Real GNP of Transkei 1970-80
(1970 = 100)



The decline shown in the real GNP implies a deterioration of the overall economic performance. The contributing factors may be the escalating rate of inflation causing a decline in the real migrants' earning.(1)

On a per capita basis the same trend is obviously experienced, e.g.

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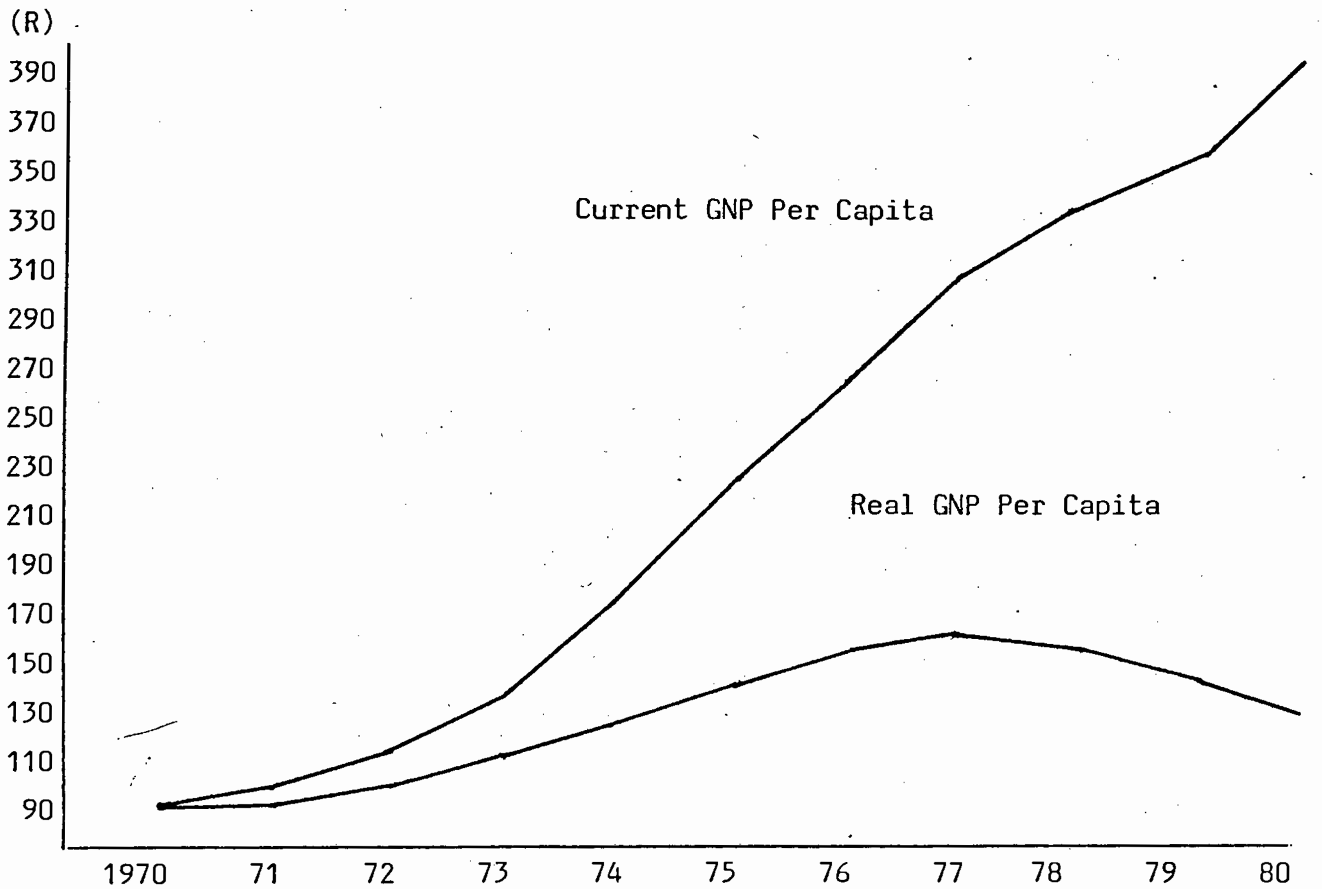
(1) An alternative explanation for the decline of the real GNP might be the over-estimation of GNP figures prior to 1977. Even then, the downward trend would exist, though less steeply.

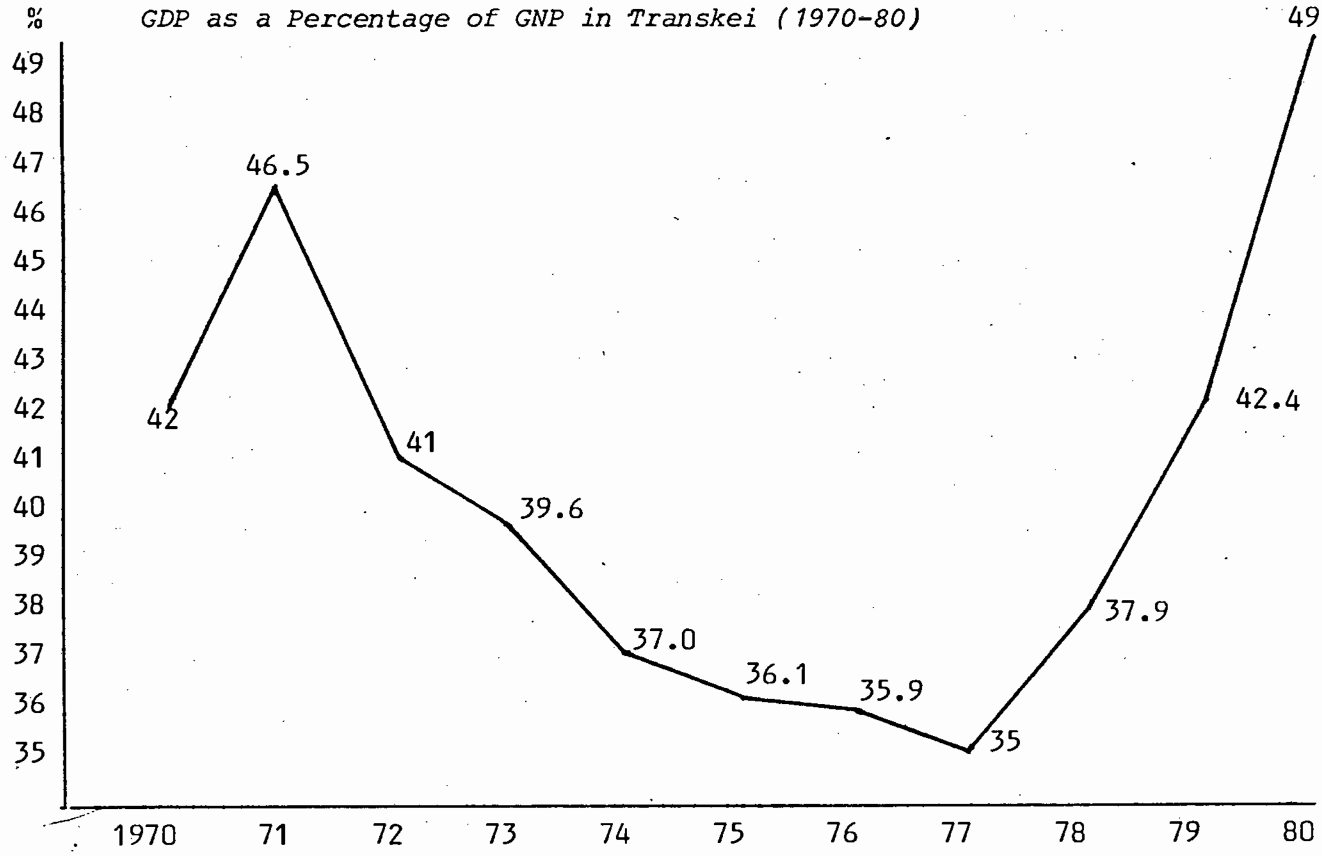
Current And Real GNP Per Capita in Transkei (1970-80)
(1970 = 100)



A per capita GNP of R394 implies an average income of R33 per month for a person. Bearing in mind that in 1980, 14% of population, i.e. migrant workers, earned 51% of GNP and considering the extremely low level of GDP per capita, a considerable portion of the population lives very poorly. In other words even if each migrant supports 5 relatives, 31% of the population of Transkei receives no other benefit except his/her GDP per capita, i.e. R18 per month, that is assuming an equal distribution of income which is not a realistic assumption.

Further interpretation of the trend GDP and GNP and their impact on the living standard of the Transkei inhabitants requires supplementary studies of household expenditure pattern which is beyond the scope of this thesis.

A final illustration is however necessary for the relationship between the GDP and GNP of Transkei. The following figures show the GDP/GNP ratio for the 1970-80 period.



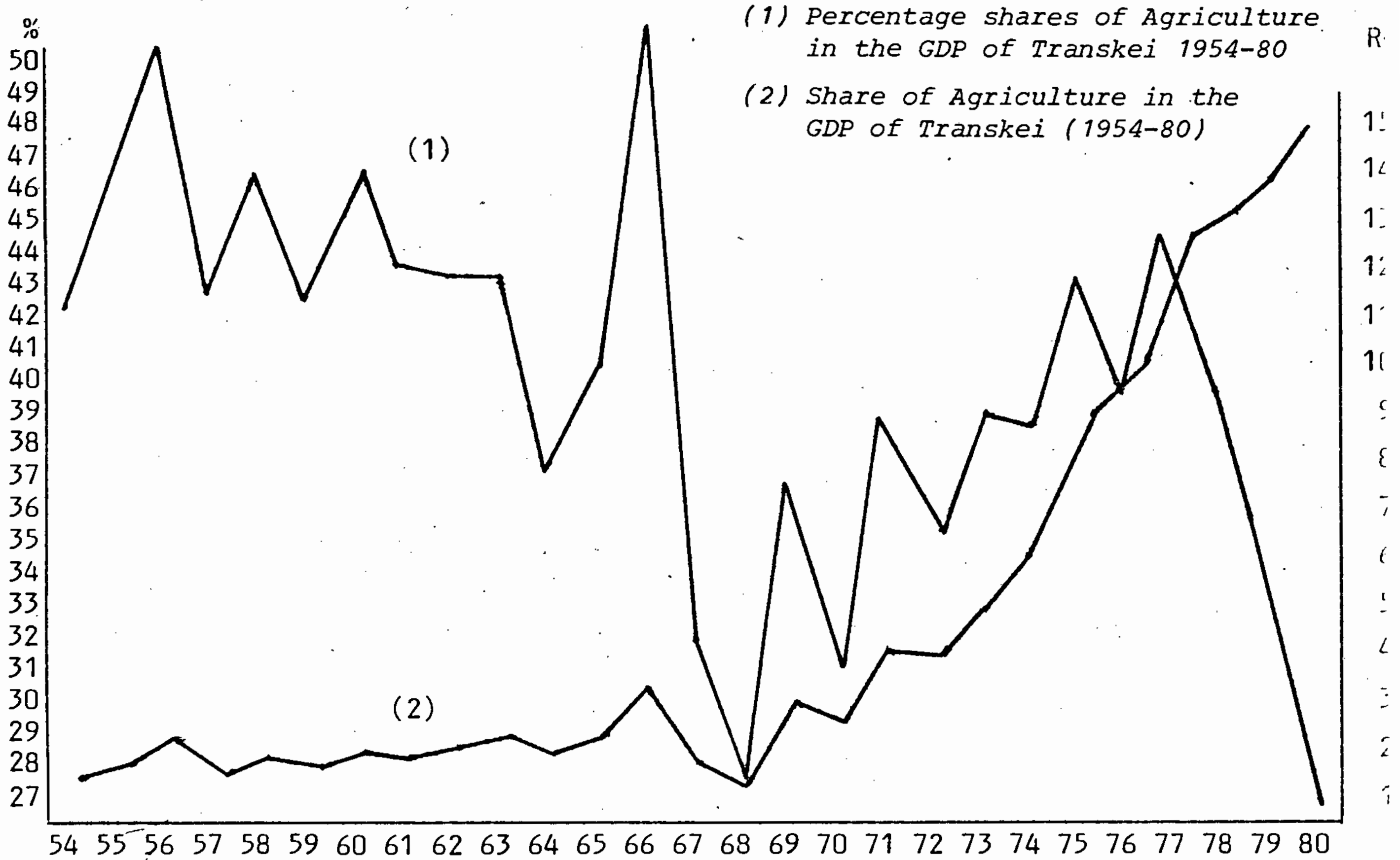
The fluctuating trend is attributable to the compounded effect of the factor discussed earlier, i.e. the lack of domestic production capacity, meagre internal capital accumulation, erratic foreign resource transfer and the like.

VIII.2 Sectoral Performance

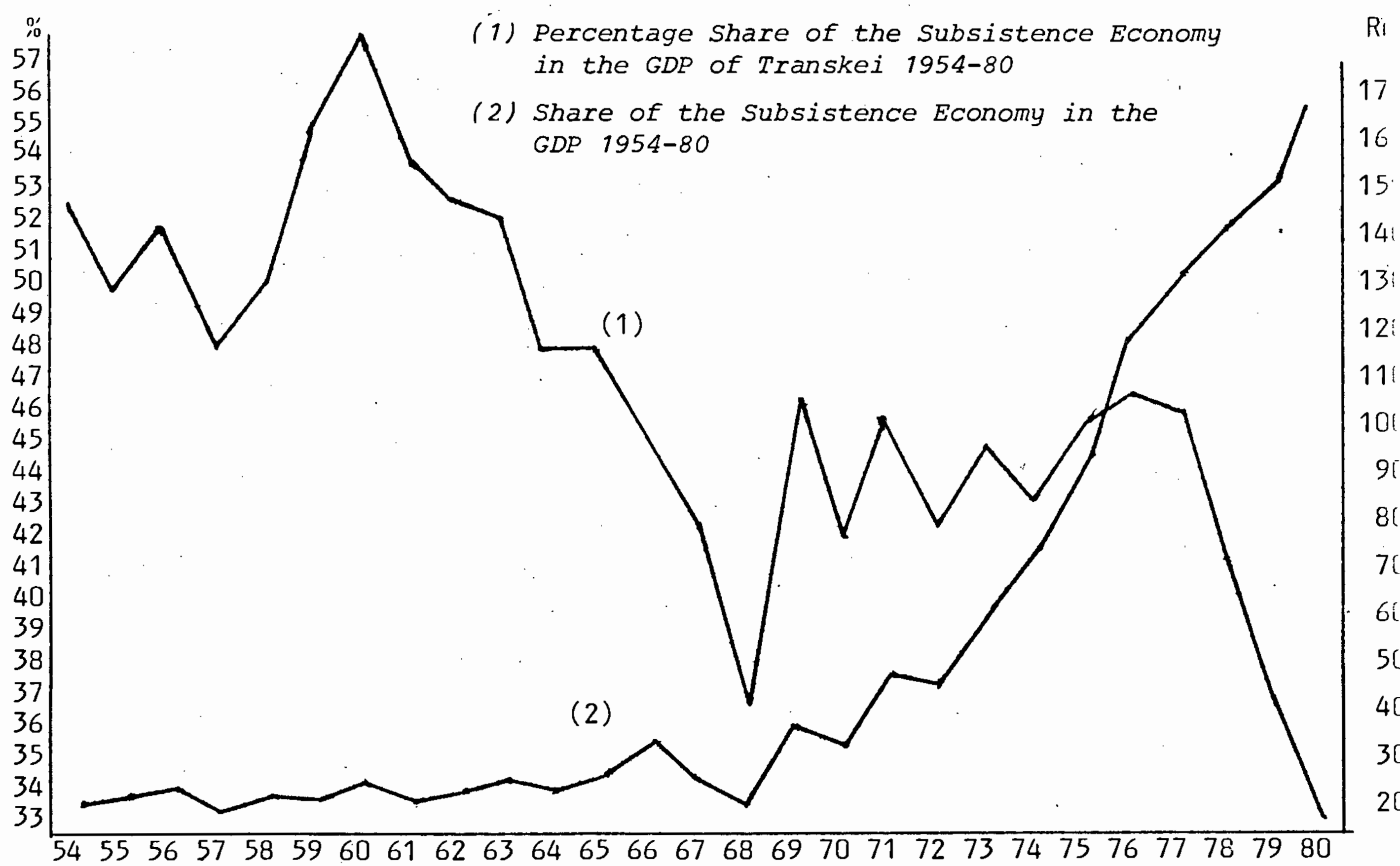
A rigorous analysis of the sectoral performance of the economy would demand a thorough study of the structural characteristics of each sector together with its relationship to the rest of the economy. Whilst such undertaking is clearly beyond the scope of this thesis, the main sectors of the economy of Transkei are hereunder discussed briefly. Care however should be taken in the separate analysis of a sector. For quite often the sectoral performance may lead to incorrect inferences if it is not seen as an integral part of the whole economy. It is in fact the functional amalgamation of various sectors which determines, to a large extent, the general performance of a sector.

2.1 The Agriculture Sector and the Subsistence Economy

The subsistence economy of Transkei consists of agriculture, manufacturing, construction and home-ownership mainly. Agriculature however is by far the larger portion of it, i.e. 81% in 1980. As such the two are usually synonymous. A comparative study of them both shows a similar trend in the two sectors over the 1954-80 period. The following figures show these trends explicitly;



Source: Table 51, Page 132



Source: Table 51, Page 132

Modern agriculture in Transkei has a marginal share in the total agriculture production, i.e. 9% of total agriculture produce originated in the modern agriculture of the economy. Such meagre contribution may be attributed to insufficient attention given to this activity together with inappropriate implementation of the already undertaken projects. Heavily capital-intensive agricultural projects combined with the lack of familiarity of the peasants with the techniques introduced in these projects have proved problematic for the expansion of this type of agriculture activity in Transkei.(1)

As regards the traditional agriculture production, the impediments to improvement are numerous, some of which are already discussed in Chapter VI. Further contributing factors to the dismal performance of this section may, as Professor Southey suggests, be classifed as:

(i) Lack of access to inputs, including finance, draft power and equipment, fertilizers, seed, insecticides, labour, knowledge, land and markets for output.

(ii) Lack of individual incentives to become successful farmers. This is intimately related to (and a consequence of) the migratory labour in the region. With men being on a contract work in South Africa, "the incentive for women to succeed is dramatically reduced by the poor rwards offered them".(2) In other words in a situation where "remittances from migrants appear to be very much based on a needs basis",(3) "if then females produced more they might simply find remittances declining".(4) Furthermore it is noted that "the investable funds of migrants would not be readily available to females attempting innovative cropping".(5)

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(1) The relatively considerable increase, in both subsistance and agriculture sectors, in the 70's is most attributable to the improvement of the quantification methods used for these sectors, and not necessarily due to an increase in actual production. Own-account consumption, self-built dwellings and the like were not usually taken account of up until the introduction of 'The New System of National Account 1968'. Obviously the inclusion of these items inflate the total share of this sector considerably, especially in an economy like that of Transkei.

(2) For a lucid analysis of the issues involved, see Professor C. Southey: "Land Tensure in the Transkei", 1981, Unpublished.

(3), (4) and (5) Ibid.

(iii) Social restrictions which "include institutions such as land tenure, class relations, social mores and customs, power structure and the whole web of social interactions."(1)

"Social roles curtail certain innovations. Women cannot make decisions on stock while their men are away, and in some districts must seek permission from senior members of the clan or the headman if they wish to plough. The social structure, while enhancing the sense of independence of males as the head of the household, seems to compel a great deal of conformity and resists change."(2)

"Progressive individuals seeking to use tin roofs were, until recently, subject to accusation of displeasing the ancestors, and usually successful farmers are not free of the accusation of witchcraft."(3)

The abovementioned are largely institutions and values emerged in a socio-economic structure which can be meaningfully analysed only with respect to their historical causal factors. This cognizance is particularly necessary when corrective and palliative strategies are sought. Otherwise, attempts to eliminate the symptoms create further imbalances in the socio-economic sphere without any positive effect on economic production. The unsuccessful policies of the Department of Agriculture of Transkei may, amongst other things, be due to their '*partial corrective*' strategies which seek to improve agriculture produce without much concern for factors and values underlying the motivation and expectation of the peasants.

Whether or not agreement could be reached as to what the causes of the present poor performance of the agriculture sector are, is immaterial to the fact that this sector, in its present form, does not render any promise for betterment. This feeble sector accommodates over 90% of the Transkei population who is in one way or another dependent on this sector, though not necessarily for their earnings.

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(1) Ibid

(2) Ibid

(3) Ibid

Drastic, though not necessarily hasty, change of approach is necessary for any meaningful improvement in the subsistence economy. Otherwise with the population growing at 2.2% everyone's share of land slowly gets smaller and smaller and "people sink into collective poverty; they all go down with the ship together".(1)

2.2 The Public Sector

As explained before, the Transkei economy lacks the circumstances required for spontaneous growth. The crucial role of the Government, in such conditions, lies thus not only in the sheer size of its involvement in economic activities, or its role in the transition of the subsistence economy to market economy, but mainly in its function as an entrepreneur. In other words, it has to direct savings into productive investment or to assume responsibility for management. Additionally the Government is the only provider of socio-economic infrastructures. This is particularly relevant after independence in 1976.

At present the public sector's major functions may be summarized as:

(a) The predominant creator of employment and hence demand;
(b) The regulator of income distribution in the economy; and
(c) A major-contributor to domestic capital formation.

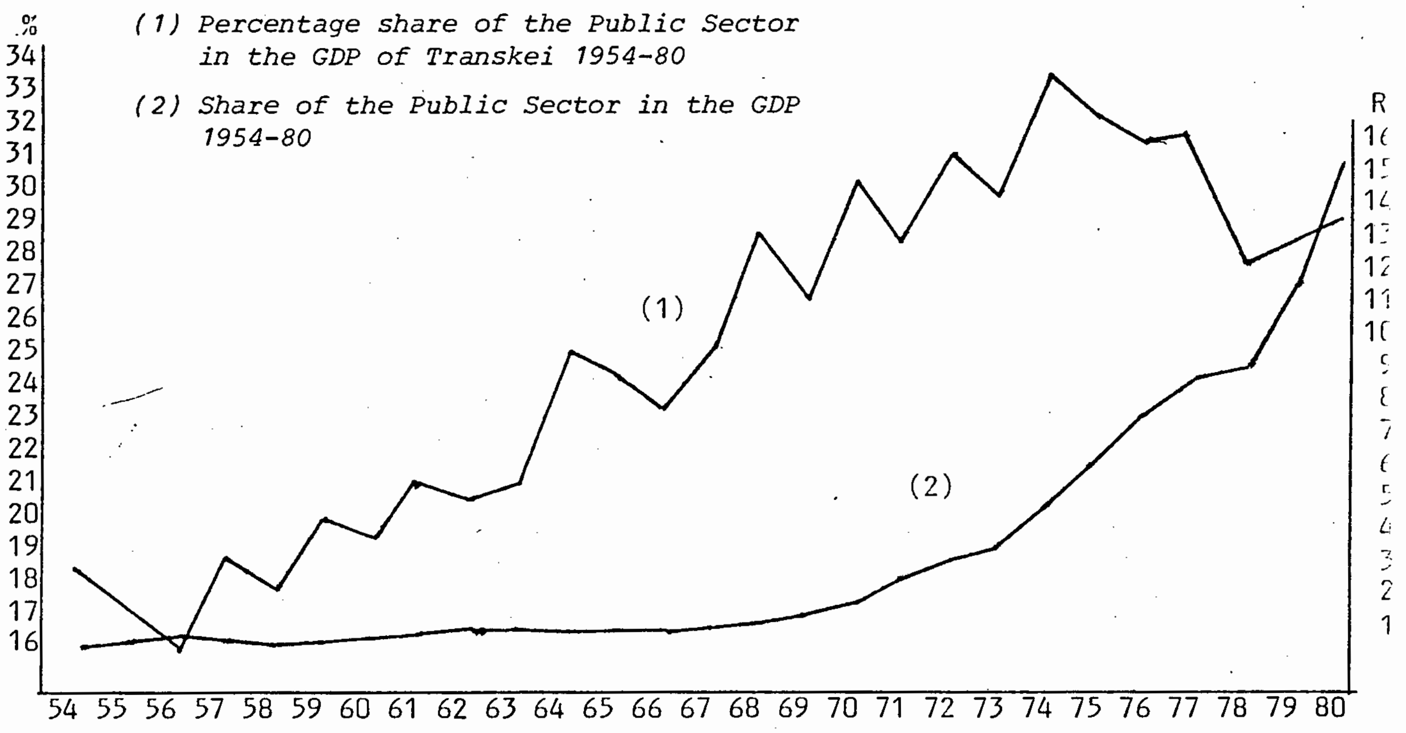
To meet the abovementioned objectives, the major constraints experienced by the Government of Transkei are: (a) mobilisation of fund for financing its economic commitment and (b) lack of properly trained staff to formulate and implement either administrative or development schemes.

The former is primarily due to the factors discussed under "Overall Performance" of the economy. In short, meagre tax potential of the internal economy together with uncertain and arbitrary transfer from South Africa create serious financial complications for the Government of Transkei. The latter source of income constitutes, on average, 75% of the total Government revenue. Its erratic and non-objective nature obviously puts intractable limitations on the extent of Government involvement in economic as well as social activities. It does not imply that Government involvement is necessarily desirable, but in

(1) Harrison, P.: Inside the Third World, p. 79.

the absence of an extempore growth stimulus in the economy, the Government initiative is critical for the continuation of economic growth momentum. Thus, not only the size of the Government expenditure per se but also the rate at which it increases is decisive.

The trend of public sector involvement in the economy in the past, depicted below, illustrates the fluctuating share of the public sector in the economy of Transkei. In spite of its gradual increase, the public sector share as a percentage of the GDP has been variable.



A noticeable development is the relative decline in the share of the public sector after independence. This is partly attributable to high South African Government transfers during the 1974-75 period preceding independence in 1976, mainly for improving certain impressionistic as well as basic infrastructure. Thereafter the rate of increase in the transfers decelerated and simultaneously the size of the GDP, due to the preceding investments, increased, making the percentage share of the public sector even smaller.

With a marginal increase in the contribution of the public sector the percentage share of it decreased to its lowest in the 70's during the 1978 period. A further characteristic of the post-78 period is the relatively slow growth of the percentage share of the public sector in spite of a steady growth of the GDP. This is mainly due to the underutilization of Government revenue, particularly the portion allocated to capital expenditure, i.e. allocated to the Transkei Development and Reserve Fund.

For three consecutive years, 1978, 1979 and 1980, the Transkei Government had surpluses to the tune of R11 439 308, R167 257 and R30 400 000 respectively. Such unspent revenues involve a tremendous opportunity cost for an economy like Transkeian and its consequence would manifest itself in the form of a decline in the GDP growth rate in subsequent periods.

Linked to the underutilization of revenue is the latter impediment encountered by the Transkei Government, namely the inadequacy of properly trained staff for formulation and execution of development projects. This, in itself an intractable issue, is further compounded by irregular and undependable transfers from South Africa. That is a transfer towards the end of the year is most probably carried to the next year's account as a surplus or unspent sum.

The persistence of a surplus in the Government budgets has aroused the argument that the Transkei economy has a limited absorption capacity. This contention is simplistic and inapplicable to an underdeveloped open economy. The improvement of poor quality education and health services, neglected roads and the transportation system and the basic rural and urban services in Transkei would absorb exorbitant amounts of resources for years to come. In fact surpluses are sometimes developed not because the revenue (the transfer from South Africa) is high *but* because it is not sufficient to finance any project, and thus remains unspent.

Unless the aforementioned bottlenecks are eliminated, or at least alleviated, the contribution of the government sector would remain variable.

2.3 The Manufacturing Sector

The manufacturing sector in the economy of Transkei plays a marginal role. The share of this sector, as defined in the national accounting and estimated in the previous chapter, includes activities in the subsistence economy which are classified as "manufacturing" and economic productions in the market economy classified under the same heading. In the subsistence economy of Transkei, the only manufacturing activity is the production of sorghum beer. This production has very little significance for the discussion here as it neither provides any real potential to the economy, nor is it likely to create any implication for other activities. In fact, the magnitude of this production is more likely to decrease as the economy transforms more to the market economy. The discussion hereinafter is thus focused on the market manufacturing in Transkei. Generally speaking, for the manufacturing sector to establish and expand, certain prerequisites are necessary. In other words, only an economy possessing an already accumulated stock of capital, skilled and semi-skilled labour, efficient basic infrastructure such as telecommunication media, road and transport as well as other administrative facilities, sufficient natural resources and a reasonably developed market, is likely to develop a substantial manufacturing sector. In an open market economy certain factors need not be available locally as they may be obtained from elsewhere. For instance capital, in whatever form, skilled labour and even raw material may be imported. But an economy cannot depend on imports for almost all its industrial requirements. This seems to be the case in Transkei.

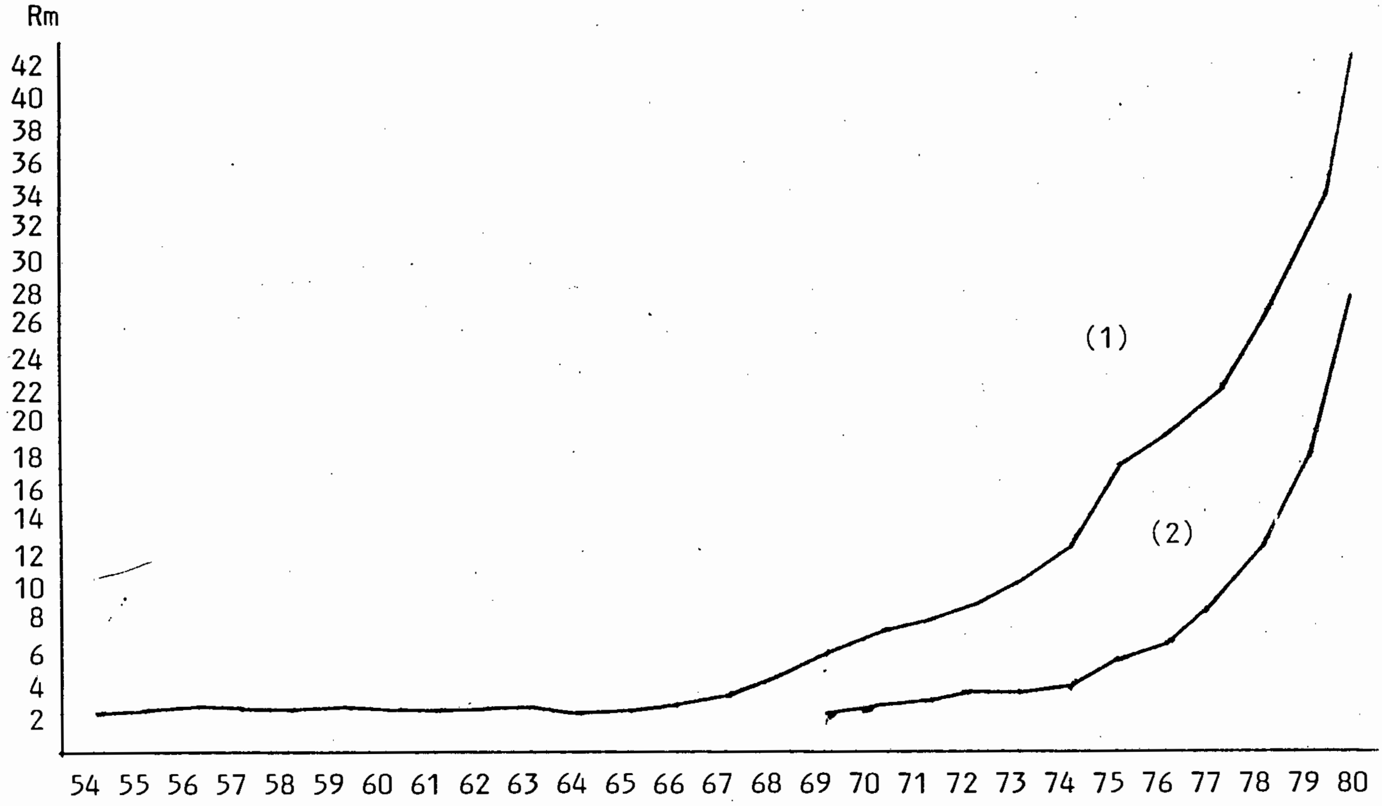
None of the abovementioned prerequisites is adequately available in Transkei. Attempts to establish industrial production have, expectedly, resulted in a sector with a poor performance and an insignificant contribution to aggregate production. The trend of the actual contribution of the manufacturing production as well as its percentage share of the GDP are illustrated below.

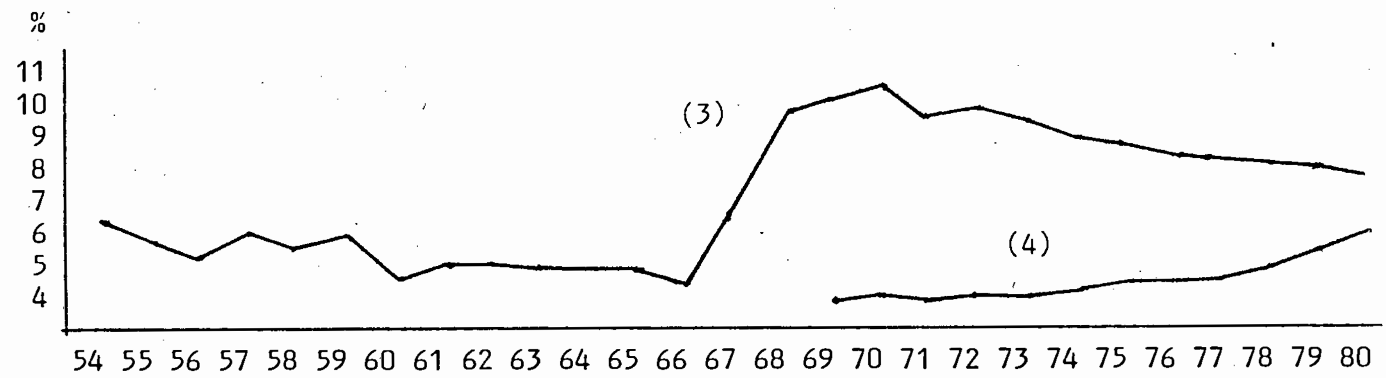
(1) The Contribution of the Manufacturing Sector to the GDP of Transkei 1954-80

(2) The Contribution of the Market Manufacturing Sector to the GDP of Transkei 1969-80

(3) Percentage Share of Manufacturing in the GDP of Transkei 1954-80

(4) Percentage Share of Market Manufacturing in the GDP of Transkei 1969-80





The manufacturing sector of Transkei is largely a product of the industrial decentralisation policy of the South African Government.[1] It was believed, by the policy makers, that the establishment of industries in the 'Black areas' would decelerate the influx of Black labour to the

(1) In 1978, 93,5% of industries in Transkei were decentralised industries, 0,6% privately owned and the rest were owned by the Transkei Development Corporation.

'White areas' and simultaneously would generate income in these areas, stimulating their economic development. Neither of the objectives has been, in any meaningful fashion, realized. The influx of migrants has not been affected mainly because these industries, by very definition of decentralization, have only changed location and not technology. That is, their operation is based mostly on capital intensive advanced technologies with little demand for the type of labour available in the area. Moreover their output is also, usually, marketable only outside the area. Consequently, they not only fail to meet the second objective of the decentralization policy, but these industries also experience the following impediments to their operation:

(i) Their technologies require skilled and/or semi-skilled labour which is not available in Transkei and has to be acquired elsewhere at a higher cost.

(ii) Similarly the type of technical services required have to be attained from outside Transkei at a higher price.

(iii) The transfer of their expertise to the Transkeian labour force is a slow process.

(iv) In the absence of a proper infrastructure the procurement of the required raw materials is lengthy and inefficient.

(v) The Transkei market has little potential for their output and their production has to be marketed elsewhere, adding to the unit cost of their product.

To compensate for the difficulties experienced the Government of South Africa introduced certain incentives, varying from one region to another.

The incentives applicable to Transkei (from 1975), as M. K. C. Jackson summarizes were:(1)

(a) Deductions from income tax payable of 30 per cent of the value of plant and machinery brought to Transkei and 50 per cent of the wages paid to Transkeians for the first seven years of operation.

(b) Loan funds of up to 50 per cent of capital required being provided at heavily subsidised interest rates.

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(1) M.K.C. Jackson: "Development of Industry in Transkei - Strategy Considerations", TDR, Vol. 1, No. 2.

(c) Factory premises and housing provided at subsidised rentals.

(d) Railage rebates of 40 per cent on harbour dues between South African ports.

(e) Removal costs refunded in cash for industries moving from the Reef and Durban-Pinetown areas.

(f) Price preferences of 10 per cent on Transkeian Government tenders and of 50 per cent on South African Government tenders.

These incentives did not change after the independence. In fact according to a pre-independence agreement, which remained valid up to the present, the Transkei Government cannot change these incentives "so as to place Transkei at an advantage compared to other regions with similar incentives".

The industries are however required to sign an Agency Agreement in which they commit themselves to imparting technical and business knowledge to Transkeians, and in which the Transkei Development Corporation is given the option to buy the company after a specified period (usually 20 to 25 years) for resale to Transkeian citizens .

Whilst few industries in Transkei are economically viable, the bulk of the manufacturing sector is dependent on heavy subsidisation, the financing of which is undertaken by the Transkei Government ever since independence. The viability of such subsidisation in terms of its costs and benefits merits serious consideration as an enormous opportunity cost may be incurred, to say the least.

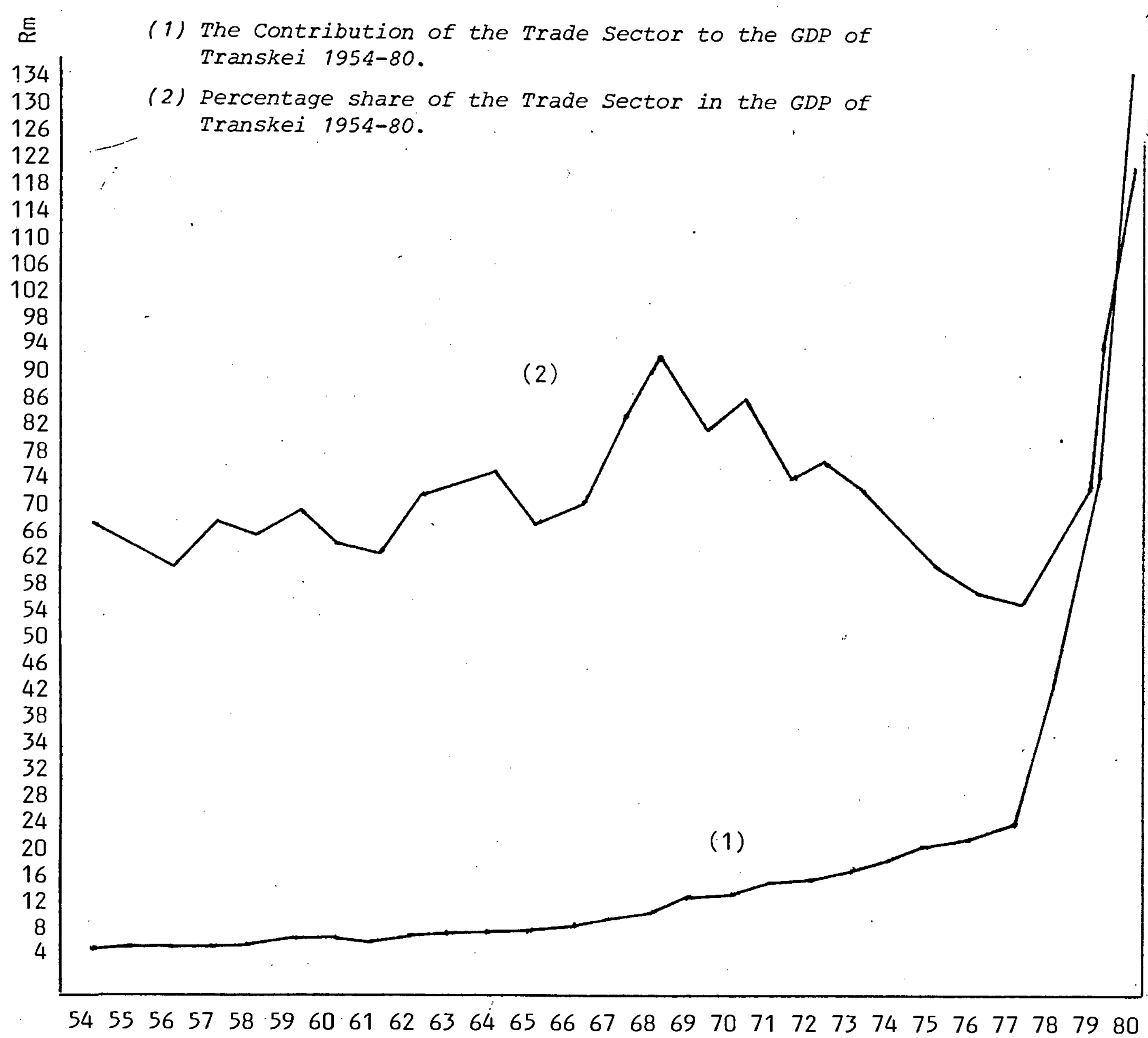
The unsuccessful performance of the present manufacturing sector does not necessarily imply that Transkei could not develop a viable industrial production. Certain changes if made can result in an industrial sector being established which is more Transkei-orientated and Transkei-dependent. For only a series of industries which derive their resources from within the economy of Transkei and mainly rely on the local market potentials can make suitable contribution to the economy.

2.4 The Trade Sector

The sectors discussed so far are somehow constrained by physical, mostly natural, impediments. To the contrary the trade sector in Transkei is not restrained by any structural bottleneck.

The performance of this sector depends mainly on the effective demand in the economy. As the towns are the major trade centres, the contribution of this sector is largely functional to the effective demand of the urban areas. In Transkei, effective demand in the urban areas depends to a large extent on public sector spending and manufacturing sector expenditure.

As regards the whole economy, a major contributing factor to the effective demand of Transkei, is the migrants' remittances. A simultaneous study of the public sector, manufacturing and trade sector, however, shows that the trend of the share of trade is more responsive to the trends in the former two sectors than to the migrants' remittances. The following figure illustrates the trend of the contribution of trade to the GDP (1954-80).



Comparatively the trade sector has had the largest growth rate after independence, i.e. 31% in real term (1970 = 100). This may be attributed to factors such as

(a) trade does not require much capital
(b) it does not demand a complicated expertise, and
(c) it is a familiar activity.

In Transkei like in most underdeveloped economies, the profit rate in the trade sector is high. This is mainly due to higher price mark up resulting from the lack of sufficient competition.

The recent increase in the volume of trade has induced quite a number of new entrants to this sector. This may lead to an increase in competition which if not maintained would develop into an oligopolistic market in the trade sector. There are in fact already signs of this phenomenon in the trade sphere in Transkei. If continued, this may pose serious problems for the further expansion of the trade sector.

2.5 Other Sectors

Apart from the major sectors discussed so far, the other sectors have a marginal contribution to the GDP of Transkei. Further their future trends are unlikely to be very different from the past.

One exception however is the construction sector. Recently, there seems to be a change of taste, from a round hut to a square house; amongst the rural population of Transkei. This, if it prevailed, could open up a large market for a number of goods and services. Further development in this sector should therefore be carefully monitored and preparatory measures be taken accordingly. Otherwise, a number of shortages may ensue for goods like corrugated iron sheets, wooden doors, timber, paint and the like, though in the open economy such shortages are usually short-lived.

CONCLUDING REMARKS

The objectives of national accounting statistics can be summarized as follows:

(i) The presentation of a statistical description of the economy in the form of a set of accounts and tables which can be understood by economists and administrators throughout the world.

(ii) The facilitating of macroeconomic measurement for policy purposes and planning.

To meet these objectives, economists and statisticians have been concerned with a comprehensive, orderly, consistent presentation of the facts of economic life, in which the concepts, definitions and classifications adopted lend themselves to actual measurement and, within this limitation, correspond to those which appear in economic theory and so can be used for economic analysis. As shown in this study, major difficulties may be encountered in designing such a set of accounts. Moreoever, with the constant change of emphasis in the use made of such accounts, the concepts and classifications employed have to be altered. For example, with the realization that an emphasis on economic growth has failed to uplift the living standard of the masses, attention has shifted towards the distribution dimension. Thus, national accounting might have to incorporate distribution variables and concepts. Although attempts have been made to establish such a framework, no generally acceptable system has been introduced so far.(1)

By and large, existing national accounting systems are based on economic theories focusing on secular increases of economic output. As such it is difficult to employ them for distributional analysis. Moreover, being based on the advanced economies of the Western countries, the

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(1) G. Pyatt and A.R. Roc have tried to develop a system of social statistics within which a number of distributional variables are systematically analysed. They have applied their method to Sri Lanka and Swaziland. For details, see their book: Social Account for Development, with Special Reference to Sri Lanka, 1977, Cambridge University Press, U.K.

application of national accounting systems to underdeveloped economies requires alteration of definitions as well as in data collection methods. The resultant estimates inevitably embody a margin of error, even with the use of the most sophisticated statistical methods. Much could, of course, be done to increase the reliability of estimates, in particular with respect to developing economies. Yet, the resultant aggregates conceal the existence and persistence of privileges, inequalities of wealth and social injustices.

Bearing in mind the above qualifications, special care should be taken in using and interpreting national accounting statistics of less developed economies. This applies in particular where national accounting is applied to a regional economy, i.e. where aggregate estimates highlight inter-regional discrepancies in production capacities and living standards within a particular economy. Such macroeconomic statistical data usually shed little light on regional differences in the development potential or non-economic restraints imposed on specific regions by overall political or social forces.

As far as Transkei is concerned, it has been shown in this thesis that Transkei's economy is inextricably interrelated with and dependent upon the rest of the South African economy. Moreoever, its macroeconomic quantification has highlighted that:

a) the meagreness of the current production capacity of the economy of Transkei, i.e. R220.2 per capita GDP in 1980, is partly attributable to the poor factor endowment of the region. The socio-economic policies pursued by the authorities, as discussed previously, have nevertheless been a major contributing factor. These policies, and their consequences for various socio-economic developments, are too numerous to be discussed here.[1] From a national accounting point of view, however, the lack of sufficient local economic resources is aggravated by the population imposed upon the Transkei region. This is particularly important for the future socio-political development in the area.

(1) For a detailed study of the consequences of these policies, see various publications of the South African Institute of Race Relations, i.e. Gerry Maré: African Population Relocation in South Africa, 1980, South African Institute of Race Relations, JHB.

b) The relative feebleness of macroeconomic aggregates of Transkei in comparison with the rest of the South African economy, that is, the GDP per capita in Transkei was 20% of that of South Africa in 1980. A similar ratio existed between other aggregates such as capital formation, aggregate income and the like in Transkei and in South Africa.

These aggregated macroeconomic estimates, however, explain very little about the fact that at its 'independence', Transkei's economy has been saddled with a substantial legacy of development problems. And post-independence economic policies have hardly alleviated - possibly even aggravated - problems like the enormous discrepancies in living standards, underemployment and unemployment, imbalances between urban and rural development and the many other structural problems. Each of these issues merits its own intensive research in order to explore the extent of its prevalence as well as its potential consequences for the future economic development of the Transkeian region.

A statistical study of these problems together with a macroeconomic quantification of the type presented in this thesis would provide the necessary data for a constructive economic development policy formulation. Seen from this perspective national accounting statistics are necessary, but at present not sufficient, for a statistical presentation of the underdeveloped economy of Transkei.

ANNEXURE I

METHODOLOGY AND SOURCES OF DATA FOR THE 1980 ESTIMATES

LIST OF TABLES

METHODOLOGY AND SOURCES OF DATA

The theoretical framework within which the 1980 Transkei national accounting estimates are made, can be characterized as follows:

I. Estimation Method: The economy of Transkei is, by any definition, an underdeveloped economy for which *the Output Method* is best suited. That is, neither of the other two methods, *the Income Method* and the *Expenditure Method*, could be employed, mainly due to the lack of necessary data.

According to *the Output Method*: a) the value added of all economic activities is calculated and, b) depending on the aggregate for which estimation is made, the value addeds of the relevant activities are augmented.
By definition, *value added* refers to *the value generated by an economic activity itself*. In other words, the value which is added to the already existing value.
The value added of an economic activity is, thus, equivalent to the sum of receipts of *the factors of production* involved in the activity. In other words it is the sum of *wages*, interest, rent, and profit generated by an economic activity.

II. Output: Within the abovementioned estimation method, *the Comprehensive Proeuction Concept, (CPC)* is adopted. This is because a) it is assumed, though subjectively, that the CPC is preferable to either *The Material Production Concept*, or the *Restricted Market Production Concept*, and b) it has been adopted in the past to calculate Transkei national accounting estimates and its adoption here would make the estimates comparable.

According to the *CPC*, the estimates include all goods and services that:

a) are produced by human labour and capital;
b) need to be economized due to their relative scarcity;
c) either have a monetary price or could be assigned, one by imputation;
d) either directly or indirectly can satisfy human wants.

Thus the following types of production are included in the estimates:

a) all goods and services produced for the market by the private and public establishments;
b) all services produced for collective use; that of the armed forces, the traditional social administration;
c) all services produced by non-profit institutions, and
d) some goods and services produced by members of the family for self-consumption.

III. Classification: With regard to the abovementioned, the *International Standard Industrial Classification* (ISIC) is applied to classify economic activities as follows:

1- Agriculture, Forestry and Fishing
2- Mining and Quarrying
3- Manufacturing
4- Electricity and Water
5- Construction
6- Wholesale and Retail Trade and Catering and Accommodation
7- Transport, Storage and Communication
8- Financing, Insurance, Real Estate and Business Services
9- Community, Social and Personal Services
   a) Public Administration
   b) Education Services
   c) Health Services
   d) Other Services

IV. Collection of Data: Given the dearth of macroeconomic statistics in Transkei, recourse had to be made to the primary sources of data. The method of data collection, thus, took three forms as follows:

a) Personal Interviews:[1] In the case of government statistics, public corporations, major business and industrial enterprises and agricultural establishments data were collected by interviewing the responsible officers.
   It was assumed that their responses to questions were genuine and no subsequent adjustments were therefore necessary.

b) Business Survey: In order to obtain information for the manufacturing, construction, trade, transport and storage, financing and insurance, and other service sectors, a business survey was conducted in 1981.[2] In June 1981, a number of (economics and statistics) students of the University of Transkei, after a short training course, were sent to the 28 districts of Transkei to interview various economic establishments.

(1) Personal Interviews refers to my own interviewing of various enterprises.

(2) See Annexure 1A for copies of the questionnaires used in the Business Survey.

In each district of Transkei, there is one town where major economic enterprises are located. With the exception of some retailing stores there are no other economic establishments which could be studied in the rural areas.(1) As such, the (student) fieldworkers concentrated on the towns only.
Over a thousand economic enterprises were studied. Of the questionnaires received, only 870 were useable and the rest were deficient. Subsequently the questionnaires were classified in terms of the *ISIC*. Certain activities like brick-making, private transport, insurance and churches had not been covered by the interviewers. Data for these activities were obtained either by personal interviews, i.e. insurance companies, or through the mail.

c) Utilization of available data: The available statistics of other sources/ researchers were used if a) their data proved to be valid and/or not incompatible with the relevant available information; i.e. labour statistics of the Department of Interior of Transkei, and b) there was no other alternative for obtaining information, i.e. statistics of the Department of Local Government on rent received by the Government.
Given the aforementioned general notes, the collection of data and also the computation of the value added of each sector are explained below.

The Agriculture Sector: (A) Crop Production

There are four types of agriculture production in Transkei, as follows:
a) Field (Dry Land) Production
b) Communal Garden Production
c) Home Garden Production
d) Commercial Production

The first three types are basically for self-consumption whereas the fourth one is partly marketed. The commercial production includes the State-aided irrigation projects and also private farming production.

a) Field Production: The Department of Agriculture and Forestry (of Transkei) has assumed responsibility for production and crop estimation of the field production.
For this purpose, Transkei is divided into five agricultural regions as follows:

(1) The predominant activity in the rural areas is agriculture, for which data was obtained through the Department of Agriculture of the Transkei Government.

Table 1:
Transkei Regional Agricultural Offices and Districts Under Their Supervision

Nyanda/ Dalindyebo	Fingo/ Gcaleka	Embo/ Maluti	West. Tembuland	Qaukeni Umzimkulu
Mqanduli	Tsomo	Herschell	Cacadu	Mt Ayliff
Engcobo	Nqamakwe	Mt Fletcher	Cala	Bizana
Umtata*	Butterworth*	Maluti	Cofimvaba*	Umzimkulu
Libode	Centane	Mt Frere*		Flagstaff*
Umzimkulu	Idutywa	Qumbu		Lusikisiki
Ngqeleni	Willowvale	Tsolo		Tabankulu
	Elliotdate			

* shows where the Regional Agriculture Office is located.

Each region has its own *Chief Agriculture Officer* who is stationed in the Department of Agriculture and Forestry in Umtata. Chief Agriculture Officers receive estimates of crop production regularly for the first five months of the year. Crop estimates are made by the *District Agriculture Officers* (DAO) who are not always meticulous and their estimates involve a considerable margin of error. Furthermore, very seldom does a District Agriculture Officer revise his January crop estimates. They seem to be inclined to fill the *standard crop estimation forms* for February, March, April and May on the basis of their January estimates. This practice, given the influence of weather changes on crop yield, could be very misrepresentative.
However, as few District Agriculture Officers do revise their estimates, it is advisable to use their May crop estimates.

The Regional Agriculture Officer, who is in charge of the office in each region, is responsible, inter alia, to make crop estimates for the region as a whole. Regional Agriculture Officers usually add up their DAO's crop estimates to arrive at the estimate for the region. A study of their records showed that very often their aggregation is not done corretly and thus the use of their estimates increases the margin of error of the ultimate crop estimates.
With respect to the abovementioned, in collaboration with the five Chief Agriculture Officers, using all the crop estimates of the DAO's for the month of May, the following estimates were arrived at:

Table 2: Crop Estimation of Field (Land) Production in Transkei 1980-81

Region	Maize			Sorghum			Dry Beans			Peas			Pumpkins			Wheat			Potatoes		
	Area Planted Hec	Yield (Bags)	Y/Hec	Area Planted Hec	Yield (Bags)	Y/Hec	Area Planted Hec	Yield (Bags)	Y/Hec	Area Planted Hec	Yield (Bags)	Y/Hec	Area Planted Hec	Yield (Head)	Y/Hec	Area Planted Hec	Yield (Bags)	Y/Hec	Area Planted Hec	Yield (Pkt)	Y/Hec
1- Fing-Gcaleka	68300	216494	3	5635	14110	2.5	4050	5510	1.4	-		-	5851	5060	0.9	-	-	-	-	-	-
2- Embo-Maluti	50025	100050	2	18162	36324	2	6501	6501	1	400	200	0.5	2159	4318	2	310	930	3	589	11780	2.0
3- West Tembu-land	26750	3921	0.1	4581	2506	0.5	2949	1296	0.4	20	40	2	-	-	-	1818	1818	1	-	-	-
4- Qaukeni/Umzimkulu	105681	380448	3.6	5567	16701	3	5855	11710	2	-	-	-	6163	18489	3	-	-	-	-	-	-
5- Nyanda/Dalindyabo	105633	317154	3	4560	4560	1	10266	20532	2	-	-	-	11081	33243	3	-	-	-	-	-	-
Total*(Tons)	71265			5194			3188			17			367			192			177		

* Bag = 70 Kg., Pkt. : Pocket = 15 Kg., Head = 1,5 Kg.

b) <u>Communal Gardens Production</u>: The output of these Gardens is mainly vegetables.

The Government, through the Regional Agriculture Office, provides farmers with fertilizer and seed. Although information about the expenditure estimates of this type of production is available no record is kept of the output.

Thus, an estimation of production had to be made. To do so, account had to be taken of the yield differential in various districts. A questionnaire was therefore prepared and with the help of the District Agriculture Officers the following estimates were made[(1)]:

Table 3: Estimated Production of the Communal Gardens in Transkei* 1980-81

District	Number of Communal Gardens	Total Production **					
		Potatoes (Kg)	Cabbages (Kg)	Carrots (Kg)	Peas (Kg)	Tomato (Kg)	Onion (Kg)
1- Bizana	9	3 000	2 500	3 500	4 500	3 600	-
2- Butterworth	42	21 000	1 260	6 720	8 400	25 200	-
3- Cacadu	20	5 000	4 000	3 200	160	60	-
4- Cala	5	1 100	660	385	440	495	-
5- Centane	8	2 400	2 000	120	600	-	-
6- Cofimvaba	3	3 240	1 000	150	100	75	-
7- Elliotdale	5	2 000	1 000	200	-	250	-
8- Engcobo	2	500	700	200	160	380	-
9- Flagstaff	14	1 250	1 350	1 800	2 700	2 250	3 375
10- Herschel	11	1 147	485	120	600	100	-
11- Idutywa	21	315	1 260	315	630	168	-
12- Libode	31	5 425	31 000	2 325	3 875	15 500	-
13- Lisikisiki	25	3 375	3 000	4 500	3 600	2 550	-
14- Matatiele	10	2 100	750	160	500	200	-
15- Mt Ayliff	28	1 350	1 460	1 100	1 250	1 000	1 200
16- Mt Fletcher	8	2 500	9 000	12 000	1 250	1 500	-
17- Mt Frere	11	6 375	780	1 320	48 000	16 000	-
18- Mqanduli	4	500	600	-	-	-	-
19- Ngqeleni	8	2 400	8 000	2 600	4 000	4 000	1 000
20- Nqamakwe	4	150	350	80	-	85	-
21- Qumbu	6	360	180	540	240	216	-
22- Tabankulu	24	1 550	1 080	1 100	1 500	1 000	1 000
23- Tsolo	6	240	180	300	120	240	-
24- Tsomo	15	1 440	12 600	4 000	400	5 000	1 140
25- Umtata	18***	4 000	6 000	3 750	400	3 000	-
26- Umzimkulu	75	93 750	85 125	1 100	1 500	10 000	2 000
27- Umzimvubu	5	500	750	375	-	500	-
28- Willowvale	28	33 600	33 000	16 800	11 200	11 000	11 200
Total	446	200 567	210 070	68 760	96 125	104 369	20 915

* Communal gardens differ in size and farmers in different areas have preference for different vegetables, thus no comparison of yields is meaningful.

** There are other vegetables, i.e. spinach, green beans, etc. that are produced in these gardens but their production is relatively negligible.

*** Only 8 gardens are being used, the rest are not useable due to the shortage of water.

(1) A copy of the questionnaire is enclosed. See Annexure IB.

c) <u>Homegarden Production</u>: This production is the result of the economic activities of women and old men in the countryside and its inclusion in the GDP estimates is justifiable.
Unfortunately no research has been done to quantify the level of production or to study the significance of this type of production for rural families in Transkei.
In the absence of any data, a survey was carried out to make estimates for *homegarden production*. In fact questions regarding this type of production were inserted in the questionnaire for *Communal Garden Production*, explained in (b), and through the DAO's information were obtained about:

1) the average output of various products in each homegarden, and
2) the total number of homesteads in each district

The total production then was derived by multiplying *the average output of each homegarden* in a district by the *number of gardens* in a district, e.g.:

Table 4: Estimated Homestead Agriculture Production of Transkei* 1980-81

District	Number of Home-steads	Total Production Mealies (Bags)	Sorghum (Bags)	Pumpkin (Tons)	Potatoes (Tons)	Cabbages (Tons)	Beans (Tons)
1- Bizana	26 200	52 400	13 100	6 550	3 930	4 192	655
2- Butterworth	10 000	20 000	5 000	2 500	1 500	1 600	250
3- Cacadu	22 231	44 462	11 115	5 558	3 335	3 557	556
4- Cala	9 863	19 726	4 931	2 466	1 479	1 578	246
5- Centane	11 503	23 006	5 751	2 876	1 725	1 840	288
6- Cofimvaba	12 000	24 000	6 000	3 000	1 800	1 920	300
7- Elliotdale (Xhora)	8 000	16 000	4 000	2 000	1 200	1 280	200
8- Engcobo	21 100	42 200	10 550	5 275	3 165	3 376	527
9- Flagstaff	16 570	32 540	8 285	4 142	2 485	2 651	414
10- Herschel	15 987	31 974	7 993	3 997	2 398	2 558	400
11- Idutywa	23 040	46 080	11 520	5 760	3 456	3 686	576
12- Libode	29 000	58 000	14 500	7 250	4 350	4 640	725
13- Lusikisiki	12 956	25 912	6 478	3 239	1 943	2 073	324
14- Matatiele	12 355	24 710	6 177	3 089	1 853	1 977	309
15- Mt Ayliff	37 470	74 940	18 735	9 367	5 620	5 995	937
16- Mt Fletcher	38 180	76 360	19 090	9 545	5 727	6 109	954
17- Mt Frere	2 238	4 476	1 119	559	336	358	56
18- Mqanduli	9 600	19 200	4 800	2 400	1 440	1 536	240
19- Ngqeleni	21 000	42 000	10 500	5 250	3 150	3 360	525
20- Nqamakwe	2 210	4 420	1 105	552	331	354	55
21- Qumbu	3 224	6 448	1 612	806	484	516	81
22- Tabankulu	21 081	46 162	10 540	5 270	3 162	3 373	527
23- Tsolo	5 626	11 252	2 813	1 406	844	900	141
24- Tsomo	10 300	20 600	5 150	2 575	1 545	1 648	257
25- Umtata	31 000	62 000	15 500	7 750	4 650	4 960	775
26- Umzimkulu	47 331	94 662	23 665	11 833	7 100	7 573	1 183
27- Umzimvubu	9 432	18 864	4 716	2 358	1 415	1 509	236
28- Willowvale	16 500	33 000	8 250	4 125	2 475	2 640	412
Total	485 997	971 394	242 995	121 498	72 898	77 759	12 148
Total in Tons	-	67 998	17 010	121 498	72 898	77 759	12 148

* Estimations are based on the assumptions that every homestead garden, on average, produces 2 bags of mealies, ½ bag of sorghum, 250 kg of pumpkin, 150 kg of potatoes, 160 kg of cabbages and 25 kg of beans. Various parts of the area, of course, produce different crops with varying productivity and the averages are calculated from surveying all districts.

d) Commercial Production: There are two privately-run farming schemes, i.e. *Magwa Tea Plantation* and *Ncora Irrigation Scheme*, and a few State-administered irrigation schemes of which Qamata, Malenga and Xonxa are the biggest with 2 715, 280 and 330 hectares under cultivation, respectively.

As regards the collection of data, the two private schemes were directly approached to get their production statistics. For the Government irrigation schemes, *the Chief Project Inspector* in the Department of Agriculture and Forestry was consulted to obtain production data. The following table embodies the statistics received from the above sources:

Table 5: Agriculture Production of The Irrigation Schemes in Transkei 1980/81

Type of Produce	Qamata Irrigation Scheme Present Area Cultivated 2718 Hec Potential Area: 4218 Hec						Malenge Irrigation Present Area: 280Hec Potential :280 Hec.			Xonxa Irrig. Present:330 H Potential:3500			Ncora Irr. Present: Potential:			Magwa Tea Project Present Area: Potential:			TOTAL
	Government			Farmers			Farmers			Farmers			Farmers			Farmers			
	Area (Hectare)	Yield*	Y**/H	Area (Hectare)	Yield	Y/H	Area (Hec)	Yield	Y/H	Area (Hec)	Yield	Y/H	Area (Hec)	Yield	Y/H	Area (Hec)	Yield	Y/H	(Kg)
1- Maize (Bags)	5	40	8	578	4624	8	125	7000	56	110	1650	15	618	49443	80	21	770	37	4446890
2- Sorghum (Bags)	-	-	-	3	30	10	-	-	-	-	-	-	349	15954	46	1405	24414	17	2827860
3- Wheat (Bags)	6	120	20	342	6840	20	-	-	-	-	-	-	209	9733	47	-	-	-	1168510
4- Beans (Bags)	0.32	2.6	8	217	1736	8	55	660	12	-	-	-	-	-	-	-	-	-	167902
5- Peas (Bags)	1	8	8	16	128	8	-	-	-	-	-	-	357	10200	29	-	-	-	723520
6- Potatoes (Pkt)	3	900	300	29	8700	300	20	16000	800	-	-	-	24	40000	1667	5	1803	361	1011045
7- Cabbages (Head)	5	4000	800	29	23200	800	14	336000	24000	-	-	-	61	3741333	61333	-	-	-	6156800
8- Pumpkin (Head)	1	800	800	57	45600	800	-	-	-	-	-	-	-	-	-	-	-	-	278400
9- Onion (Pkt)	0.43	172	400	6	2400	400	-	-	-	-	-	-	-	-	-	-	-	-	25720
10- Carrot (Bunch)	1	400	400	0.64	256	400	-	-	-	-	-	-	-	-	-	-	-	-	656
11- Tomato (Case)	0.54	108	200	0.54	108	200	-	-	-	-	-	-	-	-	-	-	-	-	1080
12- Beetroots	0.86	344	400	0.11	44	400	-	-	-	-	-	-	-	-	-	-	-	-	388
13- Spinach (Bunch)	0.21	168	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84
14- Lucern (Bale)	-	-	-	58	5800	100	-	-	-	200	33000	150	-	-	-	-	-	-	970000
15- Barley (Bag)	-	-	-	7	700	100	15	1500	100	-	-	-	-	-	-	-	-	-	154000
16- Tea (Tons)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1405	1709	1.2	1709000

* As there seems to be no standardized units for weighting various products, different businessmen and experts were consulted and the following were to be used:
Maize, Wheat, Peas, Barley and Sorghum: "Bag = 70 Kg"; Carrot: "Bunch = 1 Kg"; Potatoes: "Pocket = 15 Kg"; Cabbages: "Head = 1,5Kg" Spinach: "Bunch = 0,5 Kg"; Tomato:"Case = 5 Kg"; Lucern: "Bale = 25 Kg"; Onion: "Pocket = 10 Kg"; Beetroots: "Bunch = 1 Kg"; Pumpkin: "Head = 5 Kg".

** To calculate 'yield per hectare', the statistics of the Department of Agriculture are used and some statistical manipulation is quite likely, otherwise the figures for 'Government' and 'farmers' would not always be the same.

Furthermore, Transkei Agriculture Corporation (TRACOR) officials were consulted to obtain data for private farming units supported by TRACOR.

As regards crop production in 1980, there were only *73 tons* of maize produced by TRACOR farming units.

Calculation of Value Added:

In the four abovementioned production systems different methods are used and value added, therefore, differs accordingly.

After consultation with a number of District Agriculture Officers, it was concluded that the value of *intermediate goods* in the subsistence agriculture sector was over 40%, in the case of irrigation schemes 45% and the case of tealeaf production it was 35%.

Bearing in mind that:

Value Added = Value of Output - Value of intermediate goods

The value added of crop production in different sectors is as follows:(1)

Type of Sector	Value Added as % of Gross Output
Subsistence Sector	60
Irrigation Schemes:	
Crop production	55
Tea Leaf Production	65

It must be borne in mind that these ratios are based on the assumption that all farmers in the subsistence sector use the same production method, which requires 40% intermediate goods. This assumption may be called into question by individual cases where the value of intermediate goods are as high as 85%.

Having assumed the above ratios the value added of crop production is calculated in the following table:

(1) Development Strategy for the Republic of Transkei (1980-2000) has also arrived at similar ratios. See p.25 of the Development Strategy.

Table 6: Total Value and Value Added of Crop Production in Transkei* 1980-81

Produce	Subsistence Economy			Modern Economy		
	Total Production (Ton)	Total Value (R1 000)	Value Added (R1 000)	Total Production (Ton)	Total Value (R1 000)	Value Added (R1 000)
1- Maize	139 263	16 433	9 860	4 520	533	293
2- Sorghum	22 204	2 332	1 399	2 828	296	163
3- Wheat	192	35	21	1 169	215	118
4- Beans	15 336	7 347	4 408	168	80	44
5- Peas	113	48	29	724	309	170
6- Potatoes	73 276	14 142	8 485	1 011	195	107
7- Cabbages	77 969	5 770	3 462	6 157	456	251
8- Pumpkins	121 865	2 913	1 748	278	67	37
9- Onion	21	7	4	26	7	4
10- Carrots	69	8	5	0	0	0
11- Lucern	-	-	-	970	58	32
12- Barley	-	-	-	154	33	18
13- Tea	-	-	-	1 709	5 965	3 877
14- Others**	110	38	23	2	2	1
Total	-	49 073	29 444	-	8 216	5 115

* This table summarizes the previous four tables of estimation for four types of crop production in Transkei. Included in the subsistence economy are *field production, communal gardens production* and *home garden production,* and the modern crop production includes the output of the irrigation schemes and other private farming units (assisted by TRACOR).

** Included are items like tomatoes and spinach, the production of which is too small to be itemized separately.

To arrive at the money value of crop production, the *producer prices* of the Department of Agriculture of South Africa were used. Theoretically, and as recommended by the U.N. National Accounting Manual, certain adjustments in prices were necessary to compensate for the quality differential between *marketed agriculture product* in South Africa and *production for self-consumption in Transkei.* As there was no basis by which the quality differential could be quantified and hence incorporated in the price adjustment, no alterations were made in the prices. This may imply a slight over-estimation of the total value of crop products in Transkei.

B) Livestock Farming

Whilst livestock farming is by far the most prevalent activity in Transkei, a peculiar amalgamation of economic and socio-tribal elements has obscured the real economic role of this activity in Transkei. This, in turn, complicates the quantification of the value added of this sector. This is further aggravated by the lack of a reliable check on the movements of livestock across the border which makes the estimation of the amounts of slaughtering, hides and skins, increasingly difficult.
To calculate the value added of livestock farming the share of the following items had to be measured:

a) Meat
b) Hides and skins
c) Wool and Mohair
d) Milk
e) Eggs

a) Method: In this case the offtake rate must be calculated first and depending on the prevailing price the value added be estimated.

The following formula was used to calculate the offtake rate:

$$\text{Offtake} = S_B + \text{Birth} - (S_E + \text{Exports})$$

where

S_B: Number of stock at the beginning of the year
S_E: Number of stock at the end of the year

Evidently dead stock are consumed by the people and thus no provision for that was necessary.

The Veterinary Section of the Department of Agriculture and Forestry was contacted to obtain statistics on the number of stock at the beginning and end of the year, as well as data on the export and birth of livestock. Using the Veterinary Section statistics in the abovementioned formula, the following table resulted:

Table 7: Offtake Ratio in Transkei 1979/80 and 1980/81

Livestock	Offtake Rate		No. of Stock 1980/81
	1979/80	1980/81	
Cattle	8%	12% *	221 865
Sheep	19%	19%	503 827
Goats	18%	19%	344 480
Pigs	-	-	2 001**
Fowls	25%	12%	151 798

* The sharp increase is due to the death of 70 000 due to drought in 1980/81.
** Pigs slaughtered in the abattoirs only.

To estimate the value of consumed livestock, the following table was drawn up after consultation with the Transkei Meat Industries:

Table 8: Value Added of Various Livestock in Transkei 1980/81

Livestock	Average Weight Per Unit (Kg)	Average Price accrued to the supplier per Kg.	Total Value added per unit (R)
Cattle	170	R1.80	306
Sheep	12	R1.90	23
Goats	15	R1.90	29
Pigs	10	R1.10	77
Fowls	1.50	R1.50	2.60

Using the two above tables, the following table estimates the total value added of livestock meat in 1980/81:

Table 9: The Value Added of Livestock Meat in Transkei 1980/81

Stock	Offtake	Value Added per unit (R)	Total Value Added (R)
Cattle	221 865	306	67 890 690
Sheep	503 827	23	11 588 021
Goats	344 480	29	9 989 920
Pigs*	6 001	77	462 077
Fowls	151 798	2.60	394 675
Total Value Added	-	-	90 325 383

* This includes an estimated 4000 pigs slaughtered in the countryside, i.e. not brought into the abattoirs.

b) Hides and Skins: The Agriculture Products Brokers (APB), located in Butterworth, is the main buyer of hides and skins in Transkei. There is, however, a considerable sale of hides and skins which are not made through the APB. This phenomenon is prevalent mostly in the Northern Transkei where 43% of the potential amount of hides and skins in Transkei are produced. Only 11% of this area's hides and skins is sold to the APB.

Using the APB data on the number of hides and skins and the income received by the farmers, the following table shows the value added of these products. A 30% addition to the APB was assumed to cover that part of production which had not been traded through the APB.

Table 10: The Value Added of Hides and Skins in Transkei 1980/81

Hides		Sheep Skins		Goat Skins		Total Value Added through APB	Total Value Added After Adjustment (R)
Mass (Kg)	Value (R)	Mass (Kg)	Value (R)	Mass (Kg)	Value (R)		
851 292	248 822	286 811	164 342	79 716	36 533	449 697	584 606

In the above table the value accrued to farmers is assumed to be equivalent to the value added, mainly because the farmers incur almost no cost before selling their hides and skins.

c) Wool and Mohair: Wool, like hides and skins, is purchased by the APB. The statistical data were therefore obtained from the APB according to which the following table was constructed:

Table 11: The Value Added of Wool and Mohair Production in Transkei 1980/81

Year	Wool		Mohair*		Total value Added (R)
	Weight (Kg)	Value (R)	Weight (Kg)	Value (R)	
1980/81	3 008 489	2 922 165	20 000	108 200	3 030 365

* Mohair is not handled by the APB and these figures are estimates by the APB officers.

As in the case of hides and skins, it was assumed that what accrued to the farmers was tantamount to the value added.

d) <u>Milk</u>: There are two types of milk production in Transkei, i.e.

a) Commercial milk production

b) Milk produced and consumed in the rural areas.

As regards (a) the TRACOR was consulted and statistics were obtained which are included in the table below.

In the case of (b), an estimate was made by assuming that

(i) 60% of cattle in Transkei were cows, i.e.
1 425 533 x 60% = 855 320

(ii) 25% of cows calved every year, i.e. 855 320 x 25% = 213 830

(iii) each cow, if calved, would produce 100 litres of milk, e.g. 213 830 x 100 = 21 383 000.

Statistics on the number of cattle, and the cow/cattle ratio, were obtained from the Venterinary Section of the Department of Agriculture of Transkei.

Using the TRACOR data on commercial milk production and the above estimates for self-consumption milk production, the following table was constructed to estimate the total value added of the milk production in Transkei in 1980:

Table 12: The Total Value Added of Milk Production in Transkei 1980/81

Type of Production	Price per litre (cents)	Total Production (Litre)	Total Value Added (R)
Commercial	35.5	2 392 736	849 421
Self-Consumption	28.4	21 383 000	607 277
Total	-	23 775 736	1 456 698

35.5 cents was the producer price in 1980 obtained from the TRACOR and due to the quality differential between commercial and self-consumption milks a 20% adjustment in the price was assumed to be necessary, e.g.:

$$35.5 - 20\% \times 35.5 = 28.4$$

e) Eggs: Egg production was estimated by assuming that:

(1) 75% of fowls are hens, e.g. 1 249 777 x 75% = 937 108

(ii) each hen lays 50 eggs per annum

(iii) total number of eggs produced was therefore:

937 108 x 50 = 46 855 400

(iv) at a price of 4 cents each, the total value (added) of this item was derived, i.e. *R1 874 216*.

C. Forestry

The quantifiable contributions of forests in Transkei are

(i) the supply of timber to the saw mills and furniture factories,

(ii) the provision of various plantations and camping sites

(iii) the supply of firewood to the rural population.

The Forestry Section of the Department of Agriculture and Forestry was approached to obtain the data pertaining to the value added of the above productions. Usually the value added of such activity would include:

a) wages and salaries
b) interest
c) rent
d) profit

In the case of Transkei where the forests are owned by the government and their capital investments are financed by the government, the only item to take into account is (a) above.
The Forestry Section estimated a sum of *R1 025* for the wages and salaries paid in its subsistence sector and *R1 784* in its modern sector.

D. Fishing

There are two fishing companies in Transkei, i.e. The Wild Coast Export Co. Ltd., and the Sea Harvest Co. Ltd.
The two companies were interviewed and the value added of their activities, including *wages and salaries, interest* and *profit*, amounted to *R82 000*.

It was further assumed that the value added of fishing by the rural people of the coast was 68% of the value added of the two companies. This ratio was arrived at after consultation with the two fishing companies.

Thus the value added of fishing in the subsistence sector became *R56 000*.

The sum of A, B, C, and D represented the total value of the *Agriculture Forestry and Fishing,* which is summarized below:

Table 13: Total Value Added of the Agriculture Sector by Type of Production 1980/81

Type of Production	Subsistence (R1 000)	Modern Economy (R1 000)	Total (R1 000)
A) Crop Pruduction	29 444	5 115	34 559
B) Livestock			
(a) Meat	90 325	1 454	91 779
(b) Hides and Skins	-	585	585
(c) Wool and Mohair	-	3 030	3 030
(d) Milk	607	849	1 456
(e) Eggs	1 874	-	1 874
C) Forestry	1 025	1 784	2 809
D) Fishing	56	82	138
Total	123 331	12 899	136 230

2. <u>Mining and Quarrying</u>:

As regards this sector, there are only three quarries in Transkei, one of which is exclusively used by the contractors, of the *Department of Works and Energy*. The other two, called the Transkei Quarries, are actually Transkei Development Corporation (TDC) companies. That is, they both have the same name and are run by the same management, though one is located in Umtata and the other in Butterworth.

As TDC-owned companies, these quarries pay no rent and their capital requirements are provided by the TDC. Thus their value added included only *wages and salaries* and *profit* (in fact they have sustained losses ever since they were established). *No account of rent had to be taken because an estimate for the imputed rent of the entire business and residential units will be made under the Finance and Real Estate Sector.*

The value added of the two quarries amounted to R211 562 for 1980/81.

3. The Manufacturing Sector: Industries in this sector may be classified as follows:

(i) industries which are owned by the TDC.
(ii) industries which are subsidized by the TDC.
(iii) small private industrial establishments, and
(iv) subsistence sector manufacturing activities.

(i) TDC-owned industries: In 1980, there were 12 manufacturing establishments owned by the TDC. The value added of these establishments included:

a) wages and salaries
b) profit (if they had any).

The capital requirements of these establishments were provided by the TDC and thus no interest was paid by these industries.

(ii) Industries which are subsidized by the TDC: These industries were mostly established on the Agnecy Basis, mainly as a result of the *Decentralisation Policies* of the South African Government. The value added of these industries included:

a) wages and salaries
b) profit
c) interest, *though most of them received interest subsidized loans.*

(iii) Small Private Industrial Establishments: There were very few private manufacturing units not included in (ii) above. Bakeries were the most important private manufacturing units. Like category (ii), the value added of these industries included *wages and salaries, profit,* and *interest.*

Note 1: Method of Calculation of the Value Added

The following method was used to estimate the value added of all the manufacturing enterprises:

a) The value added of one establishment was derived by adding wages and salaries, profit, and interest together.
Wages and salaries and interest paid were stated in the questionnaire filled in by the establishments.

The questionnaire did not have any question on 'profit' but it included questions about the '*total sales*' or '*annual revenue*'. From total sales or annual revenue, profit was derived by assuming the following profit ratios:

Annual Revenue (Total Sales)(R1 000)	% Profit
Between 100 - 200	15
200 - 500	17
500 - 600	18
600 - 900	19
900 and above	21

b) The Average Value Added (AVA) of the Sample was derived:

$$AVA = \frac{\text{(TVAS) Total Value Added of the sampled units}}{\text{n (number of units sampled)}}$$

c) The Total Value Added (TVA) of the sector was derived by multiplying the AVA by the total number of establishments (N): e.g.

$$TVA = AVA \times N$$

Using the above method, the value added of private industrial units (bakeries) was obtained as follows:

a) In the survey there were 10 bakeries sampled. Thus the TVAS was calculated to be 2 741 170.

b) The AVA was derived, i.e. 2 741 170 : 10 = 274 117.

c) According to the Business Licence Section of the Departmentof Commerce, Industry and Tourism of Transkei, there were 25 bakeries in Transkei in 1980, i.e. N = 25.
The TVA thus was arrived at, i.e. 25 x 274 117 = 6 852 925

Likewise, the total value added of categories (i) and (ii) was estimated to be R12 539 000 (rounded figure).
The total value added of the manufacturing sector derived from *the sample* became:

12 539 000 + 6 853 000 = 19 392 000

Adjustments:

(a) As admitted by the officials of both the TDC and the *Statistics Section* of the Department of Commerce, Industry and Tourism, their data concerning the total number of manufacturing establishments were not comprehensive. Accordingly a 25% upward adjustment seemed to be necessary, e.g.

19 392 000 + (25% x 19 392 000) = 24 240 000

(b) Transkei, as an underdeveloped region, has a fairly considerable informal sector for manufacturing items such as bricks, handicrafts, and so on.(1) To make an estimate for these activities, a further 14.5% was added to the above estimate, i.e. 3 515 000.

The final estimate for the manufacturing production in the modern sector was arrived at, e.g.

24 240 000 + 3 515 000 = 27 755 000

which after rounding off was 27 800 000.

(iv) Subsistence Sector Manufacturing: The quantification of this type of production in Transkei is bound to have a high margin of error. This is mainly because:

a) There is very little known about the nature of manufacturing activities in the subsistence economy of Transkei. In other words whilst there is no doubt that carpenters, brick-layers and blacksmiths do exist in the rural areas, there is no concrete evidence to indicate their production functions from which an estimate for the value added of each activity could be derived.

b) It is hard to draw a demarcation line between industries in the subsistence economy and modern economy.

In the computation of *1980 estimates* no attempts were made to identify the manufacturing activities of the subsistence sector in any detail. It was assumed that the total value added of these activities would not be worth estimating.
One production which was, however, included in the estimates was the

(1) The informal sector differs from the subsistence sector. In the former, money is used as means of exchange whereas in the latter exchange of goods and services takes place on a reciprocal basis.

brewing of sorghum beer which is by far the most prevalent manufacturing activity in the rural areas of Transkei.
In order to make an estimate of the value added of sorghum beer the following were assumed:

a) Sorghum beer was mainly consumed during festivities, i.e. weddings, birth parties, after-ploughing celebrations.

b) Each household had, on average, four celebrations per year.

c) Assuming a 100 litres beer consumption each time, the average annual consumption came to 400 litres per household.

d) According to a survey conducted through the Department of Agriculture and Forestry (referred to already under homegarden production), there were 485 997 households in Transkie in 1980. The total production of sorghum beer was derived as follows:

485 997 x 400 = 194 398 800

e) The labour requirements (the only factor of production involved) for fetching water and brewing 100 litres of sorghum beer were assumed to be 4 days, i.e. 4 x 1.85 = 7.40 → R7.50

f) The total value added of this activity was then derived as follows:

194 398 800 x 7.5 = 1 457 991 000 cents

or

R14 579 910 → R14 580 000

4. <u>The Electricity and Water Sector</u>:

A. <u>Electricity</u>

In 1980 Transkei's electricity was supplied by:

(i) Privately-owned generators, mainly for self-consumption

(ii) the Department of Works and Energy which was mainly responsible for the supply of electricity to hospitals, police stations and schools in certain parts of Transkei where no other source of electricity existed.

(iii) the Transkei Electricity Supply Corporation (TRESCOR) which was to take over from ESCOM South Africa.

(iv) a number of municipalities which had their own generators. (Of course, not every town in Transkei had electricity.)

The value added of the above was calculated as below:

(i) No value added was derived for privately-owned generators, basically because these generators were run by the owner and no remuneration was involved.

(ii) The Department of Works and Energy had 100 electricity generators, 124 pumping plants, 33 boilers, 71 burners and 60 sewerage and filtration plants,[(1)] operating in Transkei. The only factor payment involved in the above operation was wages paid to the labourer employed. (This was because neither interest nor profit were involved, though the interest was paid by the central government under the vote for the Department of Works and Energy.) Data on Wages and salaries paid by the Department for the provision of water and electricity were obtained from the responsible section (project section) of the Department of Works and Energy. The total amount was *R534 000*.

(iii) and (iv) The TRESCOR was approached for its statistics on a) wages and salaries, and (b) interest paid during 1980. These two items formed the value added of the supply of electricity by the TRESCOR. (See table below).
As regards the supply of electricity by municipalities, the Department of Local Government was contacted. Also the Municipalities of Umtata and Butterworth were consulted to extract data pertaining to the supply of electricity in their respective areas.

The data supplied by TRESCOR and the municipalities were used to derive the following table:

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(1) Strictly speaking the value added of filtration plants and sewerage should be calculated under 'water', but it makes no difference in the ultimate estimate.

Table 14: Value Added of Electricity Supply Through Municipalities in Transkei 1980/81

Municipality	Electricity Supply			Year for which data is available*
	Wages and Salaries	Interest	Total (R)	
1. Bizana	2 278	58	2 336	1978
2. Butterworth	88 248	26 102	114 350	1979
3. Cala	1 766	-	1 766	1980
4. Cofimvaba	2 686	352	3 038	1978
5. Engcobo	14 958	6 282	21 240	1980
6. Elliotdale	-	-	-	1977
7. Ezibeleni	-	-	-	-
8. Flagstaff	-	-	-	1978
9. Idutywa	0	0	0	1978
10. Kentane	-	-	-	1978
11. Lady Frere	2 280	60	2 340	-
12. Libode	-	-	-	1977
13. Lusikisiki	15 915	4 281	20 196	1979
14. Mt Ayliff	-	-	-	1978
15. Mt Fletcher	-	-	-	-
16. Mt Frere	8 060	84	8 144	1979
17. Mqanduli	-	-	-	1977
18. Nqamakwe	-	-	-	1978
19. Ngqeleni	-	-	-	1977
20. Port St Johns	1 350	4 841	6 191	1980
21. Qumbu	-	-	-	1978
22. Sterkspruit	0	0	0	-
23. Tabankulu	-	-	-	1978
24. Tsolo	-	-	-	1977
25. Tsomo	0	0	0	-
26. Umtata	107 616	114 287	221 903	1980
27. Umzimkulu	0	0	0	1978
28. Willowvale	0	0	0	1978
Sub-Total	245 157	156 347	401 504	-
TRESCOR	140 082	66 172	207 097	-
Grand Total	386 082	222 519	608 601	-

Sources: Records of the Department of Local Government of Transkei and the TRESCOR.

* Estimates for 1980 wages and salaries were made, if they were not available on the basis of an 11% increase per annum. For towns for which no data were available, a similar-sized town's data were used instead.

B. Water Supply

The value added of this activity may be divided into two parts, e.g.

(i) Water supply in Town by the municipalities, and

(ii) fetching of water in the rural areas.

The method of calculation for 1980 estimates was as follows:

(i) The Department of Local Government and the municipalities of Umtata and Butterworth were consulted to derive the following statistics:

Table 15: Value Added of Water Supply in Urban Areas of Transkei 1980/81

Municipality	Electricity Supply			Year for which data is available*
	Wages and Salaries	Interest	Total (R)	
1. Bizana	2 094	1 700	3 794	1978
2. Butterworth	49 376	88 418	137 794	1979
3. Cala	2 219	-	2 219	1980
4. Cofimvaba	2 204	-	2 204	1978
5. Engcobo	2 051	161	2 212	1980
6. Elliotdale	641	40	681	1977
7. Ezibeleni	3 400	-	3 400	-
8. Flagstaff	2 861	336	3 197	1978
9. Idutywa	2 364	5 400	7 764	1978
10. Kentane	-	-	-	1978
11. Lady Frere	2 100	-	2 100	-
12. Libode	1 480	-	1 480	1977
13. Lusikisiki	2 506	1 363	3 869	1979
14. Mt Ayliff	3 596	-	3 596	1978
15. Mt Fletcher	3 500	-	3 500	-
16. Mt Frere	4 401	391	4 792	1979
17. Mqanduli	2 214	-	2 214	1977
18. Nqamakwe	1 102	336	1 438	1978
19. Ngqeleni	2 374	27	2 401	1977
20. Port St Johns	3 000	1 691	4 691	1980
21. Qumbu	557	15	572	1978
22. Sterkspruit	560	-	560	-
23. Tabankulu	759	3 851	4 610	1978
24. Tsolo	2 448	-	2 448	1977
25. Tsomo	3 600	-	3 600	-
26. Umtata	83 587	229 304	312 891	1980
27. Umzimkulu	2 516	372	2 888	1978
28. Willowvale	2 769	-	2 769	1978
Total	190 279	333 405	523 684	-

Sources: Records of the Department of Local Government of Transkei and the Municipalities of Umtata and Butterworth.

* Estimates for 1980 wages and salaries were made, if they were not available, on the basis of 11% increase per annum. Towns for which no data were available, a similar-sized town's data were used instead.

(ii) The fetching of water for households in the rural areas is an inevitable laborious activity, its labour requirement varies in terms of locality. For the 1980 statistics, an estimate for the value added of this activity was made by assuming:

(a) on average, a member of a household spent 1.5 hours per day to fetch water.

(b) with 485 997 households in Transkei in 1980, the total number of labour-hours spent was:

$$485\ 997 \times 1.5 = 728\ 495$$

(c) at R1.8 per day - which is a woman's wage in the rural areas - the value added of this activity was arrived at, e.g:

$$\frac{728\ 995 \times 1.8}{8} = 164\ 024 \text{ Rand}$$

The total value added of the *Electricity and Water Sector* was:

$$534\ 000 + 608\ 601 + 523\ 684 + 164\ 024 = 1\ 830\ 309 \text{ Rand}$$

5. Construction

Construction activities in Transkei could be divided into two types:

(i) construction in the rural areas
(ii) construction in the urban areas.

The value added of each type was estimated as follows:

(i) Construction in the rural areas:

As recommended in Paragraph 4.143 of the United Nations document ST/ESA/STAT 77 of 9 May 1975, for estimating the value of own-account construction of the traditional dwellings, "the value of the buildings should be estimated at actual costs of materials purchased plus an imputed value of labour used, based on the number of man-hours spent and the average agricultural wages in the area. No attempt should be made to estimate the value of materials used which are usually not marketed, but the imputed value of labour used should cover the time spent in gathering these materials."

Based on this principle, only an estimate had to be made for the average number of man-hours required for the construction of the hut and preparation of the necessary materials.

Thus the following assumptions were made according to which the value added of this sector was arrived at:

(a) On average, the construction of a hut would need two months labour which at the rate of R60 per month would add up to R120;

(b) the average life-span of a hut was assumed to be 20 years;

(c) each household had, on average, 3 huts. Given the 485 997 households in Transkei in 1980, this meant 485 997 x 3 = 1 457 991;

(d) given assumption (b), each year 1 457 991 : 20 = 72 899 — 72 900 were built, i.e. in 1980;

(e) the total value added was derived by multiplying (a) and (d), e.g.:

72 900 x 120 = 8 748 000 Rand

Note 2: The above procedure may need to be amended if the construction method in the rural areas keeps changing towards a type which requires more marketed materials. It was noticed in 1981 that people in the rural areas began to build "square houses" (as opposed to the round mud huts) with corrugated iron roofs, metal or wooden windows and doors. Such a trend, if continued, would alter the above assumptions.

(ii) Construction in the urban areas

This type of construction in Transkei included:

(a) construction financed by the government and undertaken by private contractors,

(b) construction financed and undertaken by the TDC,

(c) construction financed and undertaken by the private sector.

As regards (a), the Department of Works and Energy, which is the only Department responsible for construction works, was contacted to obtain data on its 1980 construction expenditure.
The total government expenditure on construction in 1980 was R25 475 000. After discussion with the officials of the Department of Works and Energy it was concluded that on average 40% of the total costs of a construction

project would accrue to the factors of production in the form of wages and salaries, interest and profit.

Thus the value added of the government construction expenditure in 1980 was arrived at, i.e.:

$$25\ 475\ 000 \times 40\% = \mathit{10\ 190\ 000}$$

Concerning (b), data was obtained from the *TDC Builders Division* according to which the only source of value added was labour remuneration equivalent to *R37 282.*

The value added of (c) was derived from the survey. The total factor payments of this type of construction were estimated to be *R1 673 000.* (This includes the statistics of the University of Transkei construction expenditure).

The total value added of construction in the modern sector was therefore derived, e.g.:

$$10\ 190\ 000 + 37\ 000 + 1\ 673\ 000 = \mathit{11\ 900\ 000}$$

6. Wholesale and Retail Trade, Catering and Accommodation Services

For the calculation of the contribution of this sector, data was obtained through the *1981 Business Survey*. The Survey focussed mostly on the urban areas of Transkei where the bulk of the trading, catering and accommodation services are centred. The method of calculation of the value added was similar to that of the manufacturing sector, though profit ratios were assumed to be different.

In other words, the average value added of the sample was calculated and then inflated by the total number of enterprises in the business.

For the '*total number*', the data of the *Statistics Section* of the Department of Commerce, Industry and Tourism were used.

As mentioned earlier, the bench mark data of *the Statistics Section* was incomplete and thus a 25 to 30 per cent adjustment seemed justifiable.

The types of business sampled and the derivation of the value added of this sector are summarized in the following table.

Table 16: Value Added of the Trade Sector in Transkei 1980/81

Type of Business	Profit Rate Assumed %	AVA derived from the Sample	Number Sampled	Total Number of Enterprises in the Business	TVA Derived from the Sample	TVA after Adjustment
Agriculture Firms	5	3555	3	28	99540	99540
Dressmakers	15	934	5	10	9340	1675
Leatherwork	15	3018	1	4	12072	15090
Carpentry	15	9681	2	11	106491	133114
Printers	18	40733	3	4	162932	162932
Number Plates	15	17928	1	1	17928	17928
Furnishers	15-18	94871	9	15	1423072	1778839
Plate Glass	15	135090	1	4	540360	675450
Typewriter Co's	15	108057	1	1	108057	108057
Butcheries	15	21560	12	171	3686760	4515891
Dairy Co's	15	7225	2	20	145500	145500
Fruit Shops	15	11056	4	26	287456	287456
Bottle Stores	15-21	21265	6	32	680480	949476
Clothing Shops	15-21	52297	9	29	1516515	2012341
Shoe Shops	15	3174	1	4	12696	15870
Book Shops	15-18	37168	6	10	371680	380972
Jewellers	17	109920	1	2	219840	219840
Sports Requisites Shops	15	9500	2	5	47500	47500
Pharmacies	15	41779	3	6	250674	250674
Hardware Shops	15-21	167349	5	10	1673496	1728131
Garages	15-21	62662	17	66	4865305	6605346
Cafés	15	17209	28	485	8346365	10432956
Hotels	15-21	76976	10	89	59271520	69882484
Photographers	15	1693	3	46	77878	77878
Curio Shops	15	3481	2	5	17405	17405
Opticians	15	3511	1	1	3511	3511
Wholesalers	19	1185255	15	15	17775828	17775828
General Dealers I	19	563010	17	17	9572696	9572696
General Dealers II	16	48825	53	53	2587702	2587702
General Dealers III	14	14283	29	32	455615	455615
General Dealers IV	10	5751	70	84	483048	483048
General Dealers V	9	1941	47	96	186336	186336
TDC-Owned Business	15-21	253576	11	11	2789333	2789333
Total Value Added						134426418

In the above calculation, profit rates were assumed to be correlated to the annual turnover. For various levels of annual turnover the following profit ratios were assumed:

Turnover R	% Profit
Under 400 000	15
Between 400 000-700 000	16
Between 700 000-900 000	19
Above 900 000	21

In the case of General Dealers, however, a somewhat different classification was made, e.g.:

Type	Turnover (R1 000)	% Profit
General Dealer I	500 and above	19
General Dealer II	100 - 500	16
General Dealer III	50 - 100	14
General Dealer IV	10 - 50	10
General Dealer V	1 - 10	9

Note 3: It should be borne in mind that the calculation of the value added of various industries is not merely a mechanical procedure by which the estimator can follow a certain formula sequentially. To the contrary, it requires a reasonably deep knowledge of the operation mechanism of the industry under consideration and/or the market structure within which a commodity or service is provided.
This is particularly relevant when the total value added is derived by sampling methods. In such cases, the estimator has to constantly compare the sampled cases with the actual structure of the industry in the economy and make an effort to minimize the margin of error by eliminating potential inconsistencies.

For example, in estimating the value added of the Hardware Industry for 1980, 5 enterprises were sampled, two of which were *Job Hardware* and *Buffalo Hardware*. These two enterprises were by far the two largest among the 10 (hardware) enterprises.

Obviously, their inclusion would make the sample unrepresentative of the real situation, i.e. they would increase the Average Value Added of the sample from 7 805 to 337 821. Thus they were taken out of the sample, then the AVA of the sample was calculated on the basis of the remaining cases, i.e. 3. To arrive at the total value added of the Hardware, Companies

a) the AVA was multiplied by 8, i.e. 54 635
b) the value added of *Jobs Hardware* and *Buffalo Hardware* was computed, i.e. 1 673 496
c) the total value added was: (a) + (b), i.e. 1 728 131

Similar exercises were carried out in the case of 'Hotels', Bottle stores and anywhere where the available knowledge of the situation made it necessary.

7. Transport, Storage and Communication

The value added of this sector includes the factor payments of the following:

(a) Transport Companies
(b) Private Taxis
(c) Transkei Airways
(d) The Railways Transport (SAR & H)
(e) The Communication network.

The derivation of the value added of each of the above, for the 1980 estimates, was as follows:

(a) Transport Companies: In the Survey, six companies were sampled. The AVA of the sample was thus calculated, i.e. 55 001. The total number of transport companies, according to the Statistics Section of the Department of Commerce, Industry and Tourism, was 105. The total value added of this activity was therefore *5 775 175*.

Note 4: There were four transport companies, like T.R.T.C. Ltd., Railway Buses, for which a separate estimate had to be made because the size of their activities was not by any means comparable to the rest. By sampling one of these companies, i.e. T.R.T.C. Ltd., a value added of 5 116 792 was estimated for the four companies.

The total value added of this section of Transport was estimate to be

5 775 174 + 5 116 792 = *10 891 967*

(b) Private Taxis: Collecting data for this type of transport proved to be most difficult. This was mainly because a) none of the taxi owners were co-operative enough to respond to the questionnaire and b) the *Statistics Section* had no record of the number of taxis. Bearing in mind that there existed a considerable number of "informal taxis", particularly in the rural areas, it was assumed that the value added of this type of transport would be 20% of the value added of the transport companies classified under (a), e.g.

10 891 967 x 20% = 2 178 393

(c) Transkei Airways: The value added of this corporation included wages and salaries, and interest, the sum of which, according to the data received from the corporation, became *640 256*.

(d) Railway Transport: The only factor payment of South African Railways Transkei branch, was wages and salaries for which an estimate of *600 000* was made by the Personnel Manager of the Railways Office in Umtata.

(e) The Communication Network: Communication services are provided by the Department of Post and Telecommunication, the value added of which consists of *wages and salaries* paid by the Department. Ideally the interest paid by the government for the provision of communication services should be also included in the value added of this sector. For the 1980 estimates no account of the interest paid was taken and the value added of this sector, consisting of wages and salaries of the Department of Post and Telecommunication, was estimated to be *2 778 196*.

The total value added of the Transport, Storage and Communication was thus arrived at, e.g.

10 891 967 + 2 178 393 + 640 256 + 600 000 + 2 778 196
= 17 088 812 or when it was rounded off: *17 089 000*.

8. Financing, Insurance, Real Estate and Business Services:

The value added of this sector includes the factor payment of the following activities:

(a) Commercial Banks
(b) Building Societies
(c) Insurance Companies
(d) Real Estate
(e) Accountants and Auditors
(f) Attorneys and Notaries

For the 1980 estimates the value added of each of the above was calculated as follows:

(a) Commercial Banks: There were 30 banks in Transkei. They were divided into three groups, depending on their annual revenue, i.e.

(a.1) large banks including the Bank of Transkei, Africa Bank, Barclays Bank and Standard Bank, all located in Umtata. The value added of these banks, as derived from their own data amounted to *3 373 212*.

(a.2) Medium-size banks which included banks located in Idutywa, Port St Johns, Lusikisiki, Mt Frere and Umzimkulu. Two of these banks were sampled according to which an AVA of 142 287 was arrived at and the value added of the medium-size banks was derived to be *711 435*.

(a.3) Small banks which included 21 banks in various towns in Transkei. Three of these banks were sampled from which an AVA 3 878 was derived. Accordingly the value added of these banks was estimated, i.e. *81 438*.

The total factor payments of the banking system was then arrived at, e.g.

3 373 212 + 711 435 + 81 438 = 4 166 085

(b) Building Societies: There were four building societies, two of which were sampled and an AVA of 688 718 was arrived at. The total value added of this activity was thus *1 377 436*.

(c) Insurance Companies: There were three insurance companies in Transkei in 1980, i.e. Old Mutual, Prosperity Insurance Co. Ltd., and Transkei Insurance Brokers. These, of course, had their branches in various towns of Transkei.
Two of the above companies were sampled and an AVA of 250 165 was arrived at. This meant a total value added of *750 495* for this activity in 1980.

(d) Real Estate: Income from home ownership is usually imputed. In Transkei two separate imputations should be done for

(d.1) home ownership in the urban areas, and

(d.2) ownership of the traditional dwellings.

For the 1980 estimate, the following method was used to impute the above values:

(d.1) Urban area home ownership: The following formula was used to estimate the total imputed rent for a town.

Total Annual Imputed Rent = Total Number of Erfs x Monthly Imputed Rent x 12

For example, in Bizana there were 175 erfs; Montly Imputed Rent was estimated to be R69 and thus

Total Annual Imputed Rent for Bizana = 175 x 69 x 12 = 144 900

A similar procedure was adopted for each town and thereby the total annual imputed rent for the urban areas was estimated.
Data on the number of erfs in each town were obtained from Rosmarin ELS & Taylor, Town and Regional Planners in Umtata. Also the Department of Local Government and the municipalities of Umtata and Butterworth were consulted.
The above sources were also consulted to estimate the *monthly imputed rent* for each town.

The total annual imputed rent for the urban areas was estimated to be R10 594 000 in 1980.

(d.2) Ownership of traditional dwellings: The imputation of the income derived from home ownership in the subsistence economy is based on the concept that the value added, derived from the traditional dwellings, must be equal to the *current maintenance cost* and a provision for replacement.
In Transkei's traditional construction, there is little purchased material and thus no need for an estimation of *interest on funds invested*.

For 1980, the total rent imputed for the rural areas of Transkei was estimated by assuming:

(i) The cost of building a hut was R120.
(ii) The economic life span of a hut was 20 years
(iii) The labour cost of the maintenance of a hut was tantamount to the annual depreciation of a hut, i.e. R120 over 20 years which meant R6 per year.
(iv) There were 485 977 households, each having 3 huts. This meant 485 977 x 3 = 1 457 931.
(v) The total annual imputed rent was therefore estimated to be:

1 457 931 x 6 = 8 747 946

or when it was rounded off: *8 748 000*.

The total imputed rent for the entire economy was the sum of (d.1) and (d.2), e.g.:

10 594 000 + 8 748 000 = *19 342 000*.

e) Accountants and Auditors: According to the *Statistics Section* of the Department of Commerce, Industry and Tourism, there were 6 firms in this sector. Four of these firms were sampled in 1980 and an AVA of 51 004 was derived from the sample.
Accordingly, the total value added of this sector was *306 024* for 1980.

f) Attorneys and Notaries: In this sector, there were 37 firms of which 6 were sampled. The AVA of the sample was 40 052 according to which the total value added of this sector amounted to *1 482 924* for 1980.

The calculations in (a), (b), (c), (d), (e) and (f) above are summarized in the following table:

Table 17: Value Added of Financial, Insurance, Real Estate, Transkei 1980/81

Type of Activity	Modern Economy (R1 000)	Subsistence Economy (R1 000)
(a) Commercial Banks	4 166	-
(b) Building Societies	1 377	-
(c) Insurance Companies	750	-
(d) Real Estate	10 594	8 748
(e) Accountants and Auditors	306	-
(f) Attorneys and Notaries	1 483	-
Total Value Added	18 676	8 748

9. Community, Social and Personal Services

Included in this sector are:

(9.1) Public Administration
(9.2) Education Services
(9.3) Health Services
(9.4) Other Services

The calculation of the value added of each of the above services requires a study of the circumstances within which the service is provided. For instance depending on whether the educational services are provided by the private sector or the public sector, or both, the derivation of its value added would differ, mainly because factor payments would differ. The same is true of the health services. Even the Public Administration sector requires a clear definition, that is, whether it includes public corporations or not.
In Transkei, education services are provided mainly by the government and health services are supplied by both the private and public sectors. The Public Administration sector in Transkei includes the Central Government, the Local Authorities and the Transkei Development Corporation.
Other 'services' usually include economic services which are provided in the economy but not included in any of the sectors discussed thus far.

In 1980, the value added of each of the above services was estimated as discussed below:

(9.1) Public Administration:

As regards this sector, the following aggregates had to be estimated:

(a) the value added of the Central Government;
(b) the value added of the Local Authorities;
(c) the value added of the Transkei Development Corporation (TDC).

(a) The Value Added of the Central Government:

The value added of the government includes:

(i) salaries and wages paid to the civil servants from subhead 'A' in each vote;
(ii) salaries and wages paid from subheads other than 'A';
(iii) interest paid by the government on loans.

Data pertaining to items (i) and (ii) were obtained from the *Expenditure Section* of the *Auditor-General Office*. Information on (ii) was received by approaching the accountant sections of all the government departments.(1)

The statistics received were as follows:

Table 18: The Value Added of The Central Government of Transkei 1980/81

Source of Factor Payments	Amount (R1 000)
1. Salaries and Wages paid from Subhead 'A'*	32 846
2. Salaries and Wages paid from Other Subheads	10 081
3. Interest on Public Debt	12 536
Total	55 463

* This excludes salaries and wages of the Department of Education and the Department of Health and Welfare as they are included in their respective sector below.

(b) The Value Added of Local Authorities:

As concerns the Local Authorities (ii), the Department of Local Governments were contacted where data on most Municipalities were obtained. The Municipalities of Umtata and Butterworth were consulted directly to receive their relevant statistics.
According to these sources, the table below estimated the contribution of the Local Authorities in 1980:

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(1) See Annexure IC for copies of questionnaires used.

Table 19: The Value Added of The Local Authorities in Transkei 1980/81

Municipality	General Services			Year for which data is available*
	Wages and Salaries	Interest	Total (R)	
1. Bizana	30 183	1 050	31 233	1978
2. Butterworth	499 339	44 830	544 169	1979
3. Cala	27 789	23	27 812	1980
4. Cofimvaba	38 817	-	38 817	1978
5. Engcobo	25 869	3 761	29 630	1980
6. Elliotdale	5 201	398	5 599	1977
7. Ezibeleni	26 500	-	26 500	-
8. Flagstaff	34 524	136	34 660	1978
9. Idutywa	56 536	15 308	71 844	1978
10. Kentane	7 898	-	7 898	1978
11. Lady Frere	30 200	-	30 200	-
12. Libode	19 121	63	19 184	1977
13. Lusikisiki	58 429	4 554	62 983	1979
14. Mt Ayliff	27 702	-	27 702	1978
15. Mt Fletcher	27 000	-	27 000	-
16. Mt Frere	41 445	6 519	47 964	1979
17. Mqanduli	11 360	-	11 360	1977
18. Nqamakwe	8 641	941	9 582	1978
19. Ngqeleni	14 812	-	14 812	1977
20. Port St Johns	64 007	6 840	70 847	1980
21. Qumbu	16 619	1 711	18 330	1978
22. Sterkspruit	16 620	-	16 620	-
23. Tabankulu	15 705	-	15 705	1978
24. Tsolo	34 592	-	34 592	1977
25. Tsomo	27 700	383	28 083	-
26. Umtata	952 995	180 870	1 133 865	1980
27. Umzimkulu	19 169	2 067	21 236	1978
28. Willowvale	6 792	-	6 792	1978
Total	2 145 565	269 454	2 415 019	-

Source: Records of the Department of Local Government and data obtained from the Municipalities of Umtata and Butterworth.

* Estimates for 1980 wages and salaries were made, if they were not available, on the basis of an 11% increase per annum.

(c) <u>The Value Added of the TDC</u>:

The value added of the TDC included:

1- Wages and salaries paid by the TDC

2- Interest paid by the TDC.

As included in 'TDC 1980 Annual Report', the above factor payment amounted to R7 815 000 in 1980.

The total value of the Public Administration in Transkei was therefore arrived at as follows:

Table 20: Value Added of Public Administration in Transkei 1980/81

Source of Factor Payments	Amount (R1 000)
1. Salaries and Wages paid from Subhead 'A'*	32 846
2. Salaries and Wages paid from other Subheads	10 081
3. Interest on Public Debt	12 536
4. Factor Payments of Local Authorities	2 415
5. Factor Payments of the TDC	7 815
Total	65 693

* This does not include salaries and wages of the Department of Education and Department of Health and Welfare as explained before.

Note 4: Whilst on the issue of the government sector, the following data should be extracted from the government accounts, for their subsequent use in the derivation of some national accounting aggregates, e.g.:

(i) the total indirect taxes collected by the government,
(ii) the total subsidies paid by the government
(iii) the total transfers paid to the households,
(iv) the total transfers received from the households
(v) the total direct taxes collected by the government.

For the 1980 estimates, data on (i), (iv) and (v) were received from the *Revenue Section* of the *Auditor General's Office* and statistics on (ii) and (iii) were obtained from the *Expenditure Section* of the same office.
In 1980 the above aggregates were estimated to be:

(i) Indirect Taxes:

Table 21: Total Indirect Taxes Received by the Transkei Government 1980/81

Source of Tax	Amount (R)
1. Quitrent	83 861
2. Stamp duties and fees	509 249
3. Estate duties	86 933
4. Transfer duties	41 421
5. Motor Vehicle Tax	1 644 632
6. General Sales Tax	11 226 444
7. Customs and Excise*	119 704 000
Total	133 296 540

Source: Data obtained from the *Revenue Section* of the *Auditor-General's Office*

* Owing to the functioning of the Common Custom, this item is more of a transfer from abroad.

(ii) Subsidies:

Table 22: Total Subsidies Paid to the Production Units by Transkei Government 1980/81

Vote	Subhead	Amount (R)
2	Assistance to farmers	654 656
5	Assistance to State-aided special schools	769 364
11	Assistance to Municipalities	331 032
12	Incentive to Industries	3 934 154
	Total	5 689 206

(iii) Transfer to the Households:

Table 23: Total Transfers to Households in Transkei 1980/81

Vote	Department	Expenditure
1	Prime Minister	739 957*
2	Agriculture and Forestry	654 739
5	Education	401 535
8	Health and Welfare	8 532 858
9	Interior and Social Services	30 604 930
10	Justice	265 062
16	Public Service Commission	13 928
	Total	41 213 009

Source: Data obtained from the Expenditure Section of the Auditor-General of the Government of Transkei

* This is basically salaries and presentations to chiefs and headmen.

(iv) Transfers Received from Households:

Table 24: Total Transfers Received from Households by the Government of Transkei* 1980/81

Source	Amount (R)
1- General Tax	260 073
2- Local Tax	2 395 123
3- Fines and Forfeitures	569 172
4- Special Tax	1 570 482
Total	4 794 852

Source: Data obtained from the Revenue Section of the Auditor-General's Office of Transkei Government

* This category includes all transfers enacted on an ad hoc basis.

(v) Direct Taxes

Table 25: Total Direct Taxes Received by the Transkei Government 1980/81

Source	Amount (R)
1- Employee's Tax	7 789 801
2- Provisional Tax	10 527 759
3- General Levy	2 701 105
4- Licences	228 788
5- Immovable Property Tax	811 449
6- General Stock Tax	1 996 718
7- Income Tax	358 705
Total	24 414 328

Source: Data obtained from the Revenue Section of the Auditor-General of the Transkei Government

(9.2) Education Services: The factor payments of the Department of Education, mainly wages and salaries, together with that of the University of Transkei made up the total value added of this sector in 1980, e.g.: R55 900 000.

(9.3) Health Services: According to the Department of Health and Welfare there were 60 private medical doctors and 294 doctors who were employed by the government working in the hospitals in 1980. Of the former group, 8 were sampled according to which an AVA of 62 869 was calculated and the resultant total value added was *37 721 140*.
The value added of the latter group was included in the factor payments of the Department of Health and Welfare, i.e. *23 102 987*.

Additionally there were 4 herbalists, all of whom were sampled and a total value added of 160 917 was derived.

The total value added of Health Services was therefore

3 772 000 + 23 103 000 + 161 000 = *27 036 000*

(9.4) Other Services: The estimation of value added of this sector was made in accordance with the formula explained previously (see Note 1).

The services included and the method of derivation were as summarized in the following table:

Table 26: Value Added of Other Services in Transkei, 1980/81

Type of Services	Profit rate assumed %	AVA derived from the Sample	No. sampled	Total No of enterprises in the business	TVA derived from the Sample	TVA after adjustment
1- Undertakers	15	14 396	5	12	172 752	215 940
2- Hairdressers	15	3 780	3	15	56 700	70 875
3- Dry-cleaners	15	20 682	2	7	144 774	144 774
4- Panel-beaters	15	51 773	1	4	207 092	207 092
5- Watch Repair Shops	15	2 712	3	4	10 848	10 848
6- Mechanical Repairs	15-21	121 923	4	15	1 828 845	2 286 056
7- Shoe Repair Shops	15	11 572	2	4	46 288	57 860
8- Radio Repair Shops	19	2 400	1	8	19 200	19 200
9- Plumbers	15	129 124	1	5	645 620	807 025
10- Clubs	15	34 752	1	1	34 752	34 752
11- Churches	-	24 102	13	30	723 057	723 057
12- Broadcasting Services	-	813 500	2	2	1 627 000	1627 000
Total Value Added (rounded)						6 302 000

As regards the subsistence sector, many services like hairdressing, beauty treatment, traditional rituals and feasts, funeral and mutual assistance are practised on a reciprocal basis, and thus no estimates for them were made.

Having made the aforementioned estimates for the 9 sectors, the following aggregates could be estimated.

I - The Gross Domestic Production (GDP): The sum of the factor payments of the 9 sectors would represent the GDP of the economy.

For 1980, the GDP of Transkei was:

Table 27: The GDP of Transkei by Type of Economic Activity 1980

Type of Activity	Subsistence Economy (R1 000)	Market Economy (R1 000)	Total GDP (R1 000)
1. Agriculture, Forestry and Fishing	135 664	12 899	148 653
2. Mining and Quarrying	-	212	212
3. Manufacturing	14 580	27 800	42 380
4. Electricity and water	164	1 666	1 830
5. Construction	8 748	11 900	20 648
6. Wholesale and Retail trade and catering and accommodation services	-	134 426	134 426
7. Transport, Storage and Communication	-	17 089	17 089
8. Financing, Insurance, Real Estate and Business services	8 748*	18 676	27 424
9. Community Social and Personal services			
a) Public administration**	-	65 693	65 693
b) Education services	-	55 900	55 900
c) Health services	-	27 036	27 036
d) Other services	-	6 302	6 302
Total	167 904	379 599	547 503

* This indicates only home ownership in the rural areas
** The value added of the TDC is also included.

II - The Gross National Product (GNP):

By definition, the GNP is:

GNP = GDP + Foreign Factor Receipts - Foreign Factor Payments

The foreign factor receipts of Transkei consisted mainly of migrant labour earnings and commuters' earnings.

Using the statistics of the Department of Interior of Transkei, as published in the Transkei Development Review 1981, Vol. 1, No. 2, an estimate was made for the 1980 migrants' earnings. Also, an estimate for 1980 commuters was made by adjusting 1979 BENSO data on the number of Transkei commuters.

The following table resulted from the above estimates:

Table 28:
Transkei Factor Receipts from the Republic of South Africa 1980

Source of Receipt	Month of Employment p.a.	Average Wage p.m. (R)	Annual Earning (R)	Total No. of Workers	Total Receipts (R1 000)
1- Migrant Labour	9.5	175	1662.5	345 116	573 755
2- Commuters	12	65	780	9 968	7 775
Total	-	-	-	355 084	581 530

Source: (a) Number of Migrants obtained from the Transkei Development Review 1981, Vol. 1, No. 2.
(b) Length of employment and average wage were provided by the labour recruiting organisations in Umtata.
(c) Number of Commuters were estimated on the basis of the 1980 BENSO Statistics.

As regards foreign factor payments estimates had to be made for the following payments:

(i) Private sector foreign factor payments
(ii) Public Corporation foreign factor payments, and
(iii) Public sector foreign factor payments.

In the questionnaire of the Business Survey, there were questions concerning the foreign factor payments of the firm. Thus an estimate was made on the basis of the sampled cases in each sector. Of course not all the economic activities had foreign factor payments.

However, the industries for which foreign factor payments were estimated, together with the foreign factor payments of the public operations and the government sector were as follows:

Table 29: Transkei Foreign Factor Payments to South Africa 1980

Source of Payment	Amount (R)
I- Private Sector:	
1- Manufacturing	164 357
2- Wholesalers	147 420
3- General Dealers I	38 306
4- Others	83 161
II- Public Corporations	
1- Capital Radio	443 824
2- Transkei Airway Corporation	246 689
III- Public Sector	
1- Interest on Public Debt	12 535 554
Total	13 659 311
Total after 10% adjustment	13 769 000

A 10% addition to the total estimate was necessary to compensate for the underestimation and/or exclusion of public sector payments to the foreign factors.

Having estimated foreign factor payments and receipts, the GNP was estimated as below:

		GDP (R1000)	Foreign Factor Receipts (R1000)	Foreign Factor Payments (R1000)	
GNP	=	547 503	+ 581 530	- 13769	= 1 115 264

This was the GNP at factor cost. To arrive at the GNP at market price the following formula was used, e.g.:

$$GNP_{mp} = GNP_{fc} + \text{Indirect Taxes} - \text{Subsidies}.$$

(iii) Concerning the private sector, a question was put in the questionnaire pertaining to the 'investment expenditure' of the firm. Similar to the calculation of the total value added of an industry, an estimate was made for the gross fixed investment of the industry. In other words:

a) the *average gross fixed capital formation* of the sampled cases was calculated, and then

b) inflated by the total number of firms in the industry.

In this way, private sector gross fixed capital formation in 1980 was estimated to be *R80 304 000*.

The sum of (i), (ii), and (iii) made up the total GFCF in Transkei in 1980, e.g.:

$$10\ 526\ 000 + 5\ 845\ 000 + 80\ 304\ 000 = 96\ 675\ 000$$

Net Fixed Capital Formation is, by definition, the difference between the GFCF and Capital Consumption Allowances, e.g.

$$96\ 675\ 000 - 34\ 952\ 000 = 61\ 723\ 000$$

Thus the GNP at market price for 1980 was:

	GNP_{fc} (R1000)	Indirect Taxes (R1 000)	Subsidies (R1 000)	(R1 000)
GNP_{mp} =	1 115 264	+ 133 297	- 5689	= 1 242 872

'Indirect taxes' and 'subsidies' were already estimated under the Government sector. (See Note 4).

III. The National Income: The national income or net national product is, by definition, equal to:

NNP = NI = GNP - Capital Consumption Allowances (or Depreciation)

Obviously, the national income could be expressed in either 'market price' or at 'factor cost' depending on whether the *net indirect taxes* are included or not.

In Transkei the total capital consumption allowances include:

(i) the depreciation of the capital stock used by the government sector,

(ii) the depreciation of the capital stock used by the public corporations,

(iii) the depreciation of the capital stock used by the private sector.

To make estimates for the above items for the 1980 estimates, the following assumptions were made:

(a) It was assumed that the maintenance expenditure in *the government accounts* was equivalent to the depreciation of capital stocks used by the government, i.e. *R26 962 000*.

(b) Similarly the repair outlays of the public corporations, as revealed in their accounts, were taken as equal to their capital consumption allowances, i.e. *R377 000*.

(c) An estimate was made for the 'wear and tear' of the private sector stock of capital based on the data obtained in the Business Survey, i.e. R7 613 000.

The total capital consumption allowances for 1980 were estimated to be:

26 962 000 + 377 000 + 7 613 000 = *34 952 000*

The national income for 1980 was derived as follows:

	GNP at market price (R1000)	Capital Consumption allowances (R1 000)	R1 000
National Income (at market price) =	1 242 872	- 34 952	= 1 207 920

and

	GNP at factor cost (R1 000)	Capital Consumption allowances (R1 000)	R1 000
National Income (at factor cost) =	1 115 264	- 34 952	= 1 080 312

IV. Gross Fixed Capital Formation (GFCF): As in the case of 'capital consumption allowances', estimates for the following three sectors have to be made:

(i) GFCF by the public sector
(ii) GFCF by the public corporations, and
(iii) GFCF by the private sector.

The method of estimation for each of the above estimates was as follows:

(i) Government expenditure of a capital nature (or of a non-recurrent nature) was assumed to constitute the GFCG of the public sector. Examples of this type of expenditure were expenditure on a new plantation area by the Department of Agriculture and Forestry, the erection of hospitals and schools by the Department of Works and Energy.

In 1980, government expenditure of a capital nature amounted to *R10 526 000*.

(ii) As regards the public corporations, the GFCF was derived from their statistics made available in the Business Survey.
For 1980 *R5 845 000* was the total GFCF of the public corporation in Transkei.

TES 81/1-BES

ANNEXURE IA - 1

Republic of Transkei

BUSINESS AND EMPLOYMENT SURVEY - 1981

1 GENERAL

No.	1					
Mag. Distr.						
Adm. Area						
Est. Code		1				
Date distrib.					81	
Fieldworker						

1.1 Name of establishment ____________________

1.2 Postal address ____________________

____

1.3 What year did the business start ____________________

1.4 Ownership and control (mark with X):

1	2	3	4	5	6	7
Individual	Partnership	Private Company	Public Company	Non-profit Institution	Public Corporation	Other: ________

.5 Activities of establishment - complete, and mark relevant box(es) with X:

1 Commercial		2 Financial		3 Industrial		4 Professional		5 Services		6 Other	
Wholesale	[ ]	Bank	[ ]	Textile	[ ]	Medical Dr.	[ ]	Hotel	[ ]	Agriculture	[ ]
General Dealer	[ ]	Insurance Agency	[ ]	Pottery	[ ]	Attorney	[ ]	Restaurant	[ ]	________	[ ]
Supermarket	[ ]	Building Society	[ ]	Builder	[ ]	________	[ ]	Repairshop	[ ]	________	[ ]
Butcher	[ ]	________	[ ]	________	[ ]	________	[ ]	Taxi	[ ]	________	[ ]
________	[ ]	________	[ ]	________	[ ]	________	[ ]	Transport	[ ]	________	[ ]
________	[ ]	________	[ ]	________	[ ]	________	[ ]	________	[ ]	________	[ ]

BUSINESS EXPENDITURE DURING LAST FINANCIAL YEAR - From __________ till __________

.1 Total salaries and wages: Monthly average R __________ OR 12-month total R __________

.2 Salaries/wages paid to persons outside Transkei 12-month total R __________

	12-month total spending	
	Outside Transkei	Inside Transkei
2.3 Purchase of plant, machinery, equipment, fittings, tools, working material	R ________________	R ________________
2.4 Maintenance and repair work	R ________________	R ________________
2.5 Payments to building contractors	R ________________	R ________________
2.6 Expenditure on self-constructed buildings	R ________________	R ________________
2.7 Purchase of goods for resale/processing or local assembly	R ________________	R ________________
2.8 Rental for land/buildings/plant	R ________________	R ________________
2.9 Interest paid on borrowed capital/money	R ________________	R ________________

3 BUSINESS TURNOVER DURING LAST FINANCIAL YEAR	Monthly Average		12-month Total
3.1 Total sales or revenue from business activities	R ________________	OR	R ________________
3.2 Sales to/revenue from customers outside Transkei	R ________________	OR	R ________________

4 BUSINESS ASSETS (appr. value) - at end of financial year (or September 1980)

4.1 Land/property . . . . . R ____________

4.2 Buildings . . . . R ____________

4.3 Plant, machinery, etc. R ____________

4.4 Vehicles . . . . R ____________

4.5 Other fixed assets . . R ____________

4.6 Merchandise stock . . . R ____________

P T O

ANNEXURE IA - 2

Republic of Transkei

EXPENDITURE AND EMPLOYMENT SURVEY - 1981

No.	2				
Mag. Distr.					
Adm. Area					
Est. Code		2			
Date of distrib.					81
Fieldworker					

1 GENERAL

1.1 Name of establishment --

1.2 Postal address --

1.3 What year was this establishment started? ------------------------------

1.4 Control (mark with X):

1	2	3	4	5	6	7
Government Department: ------------	Municipality	Other Local Authority	Public Corporation	Church Organisation	Other Non-profit Institution	Other (specify): ------------

1.5 Activities of establishment - complete, and mark relevant box(es) with X:

1 Educational		2 Health		3 Branch Offices		4 Welfare Inst.		5 Church Organisations		7 Sports Organisations	
Primary	☐	Hospital	☐	Post Office	☐	------------	☐	------------	☐	------------	☐
Secondary	☐	Clinic	☐	Magistrate	☐	------------	☐	------------	☐	------------	☐
Tertiary	☐	--------	☐	Municipality	☐	------------	☐	6 Cultural Organisation		8 Other (specify):	
------------	☐	--------	☐	------------	☐	------------	☐	------------	☐	------------	☐
------------	☐	--------	☐	------------	☐	------------	☐	------------	☐	------------	☐

2 EXPENDITURE DURING LAST FINANCIAL YEAR - From ------------ till ------------

2.1 Total salaries and wages: Monthly average R ---------------- OR 12-month total R ----------------

2.2 Salaries/wages paid to persons outside Transkei . . . . 12-month total R ----------------

	12-month total spending	
	Outside Transkei	Inside Transkei
2.3 Purchase of plant, machinery, equipment, fittings, tools, working material	R ----------------	R ----------------
2.4 Construction, maintenance, repair work	R ----------------	R ----------------
2.5 Purchase of goods for resale	R ----------------	R ----------------
2.6 Other expenditures (interest, insurance, rentals, etc.)	R ----------------	R ----------------

3 BUSINESS ASSETS (appr. value) - at end of financial year (or September 1980)

3.1 Land, property	R ----------------	3.4 Vehicles	R ----------------
3.2 Buildings	R ----------------	3.5 Other fixed assets . .	R ----------------
3.3 Plant, machinery, etc.	R ----------------	3.6 Merchandise stock . . .	R ----------------

4 EMPLOYMENT - indicate average number during last financial year (or September 1980)

Total Employment	Present Employment: Male part-time	Male full-time	Female part-time	Female full-time	Vacancies at present Male/female (number)	Will you need more labour in 1-2 years? No	Yes How much?
4.1 Owner/Manager							
4.2 Professional staff							
4.3 Skilled workers (artisans/trained) . . .							
4.4 Semi-skilled (operator, clerk, sales ass.)							
4.5 Unskilled/labourers							
Age of employees							
4.6 Younger than 20 years							
4.7 21 to 40 years							
4.8 41 to 60 years							
4.9 Older than 60 years							

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e Secretary, Institute for Management and Development Studies, University of Transkei, Privat Bag X 5092, Umtata.
r any queries please contact the Institute at Tel. (0471)-2151, extensions(s) 295, 308 or 258.

(bth)

ANNEXURE IB

INGENISO YAMAXABISO EZILIMO

RETURN OF CROP ESTIMATES

Isithili: Isiphaluka: Inyanga:
District: .... Region: .... Month: ....

A. INGENISO YEMIZI / HOMESTEAD PRODUCTION

Umyinge wexabiso lomzi ngamnye umi ngoluhlobo:
The average estimate for each homestead is as follows:

	Umbona Mealies	Amazimba Sorghum	Ithanga Pumpkin	Ikhaphetshu Cabbage	Iitapile Potatoes	Ezinye izilimoba-lula Other crops Specify
1) Indawo etyaliweyo Area planted (ha)						
2) Isivuno (Iingxowa) Yield (Bags/kg)						

3) Inani lemizi esithilini:
Total No. of homesteads in the district: ....

B. INGENISO LEYADI ZEMIZI / COMMUNAL GARDEN PRODUCTION

Umyinge wexabiso legadi nganye yomzi umi ngoluhlobo:
The average estimate for each garden is as follows:

	Iitapile Potatoes	Ikhaphetshu Cabbage	Imingathe Carrots	I-erintyisi Peas	Itumato Tomato	Ezinye izilimoba-lula Other crops Specify
1) Indawo etyaliweyo Area planted (ha)						
2) Isivumo Yield (kg)						

3) Inani legadi zemizi esithilini:
Total No. of communcal gardens in the district: ....

C. AMANQAKWANA/REMARKS : ....

....

Umhla:
Date: ....

....
Imbalo yeGosa loLima
Signature : Agricultural Officer

ANNEXURE IC - 1

VOTE 1 : PRIME MINISTER

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

	Subhead for item	Code		Expenditure Progressive Total from 1 April 198...
A	Salaries, wages and allowances			....
B	Subsistence and Transport			....
C	Postal, telegraph & telephone services			....
D	Printing, advertisements & publications			....
E	Miscellaneous expenses (Total)			....
	1. Levies and registration fees			....
	2. Others			....
F	Legislative Assembly			....
G	Financial Assistance to Lower Authorities			....
	1. Regional Authorities			....
	2. Tribal Authorities			....
H	Salaries and Presentations to chiefs, etc			....
	1. Salaries			....
	2. Presentations			....
I	Money granted to Security Intelligence			....
	TOTAL VOTE 1			....

ANNEXURE IC - 2

VOTE 2 : AGRICULTURE AND FORESTRY

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

	Subhead for item	Code	Expenditure Progressive Total from 1 April 198...
A	Salaries, wages and allowances		....
B	Subsistence and Transport		....
C	Postal, telegraph & telephone services		....
D	Printing, advertisements & publications		....
E	Miscellaneous expenses (Total)		....
	1. Levies & registration fees		....
	2. Others		....
F	Plant, machinery & equipment : Forestry		....
	1. Purchase & replacement of plant, machinery, etc.		....
	2. Maintenance & operating expenses		....
G	Extension and training		....
H	Agricultural planning & development & processing of crops		....
	1. Improvement & maintenance of livestock		....
	2. Project experiment& improvement processing of crops		....
	3. Assistance to farmers		....
	4. Eradication of noxious weeds & control of pests & other plant diseases		....
	5. Land reclamation services		....
	6. Compensation resulting from reclamation planning		....
	7. Establishment of woodlots		....
	8. Economics and marketing		....
	9. Plant, Pest and Seed Control and Laboratory Services		....
	10. Rural Development Project Ncora		....

ANNEXURE IC - 2

Vote 2 (continued)

	Subhead for item	Code	Expenditure Progressive Total from 1 April 198...
J	Agricultural Engineering Services(Total)		....
	1. Development & maintenance of irrigation scheme		....
	2. Development & Maintenance of water sources		....
	3. Soil conservation works		....
	4. Auxiliary dipping services		....
K	Veterinary Services		....
	1. Expenses in combating the incidence & spread of stock diseases		....
	2. Purchase & maintenance of clinical laboratory and surgical requisites		....
	3. Compensation for loss of stock		....
L	Forest Management (Total)		....
	1. Development of forests & plantations		....
	2. Protection of forests & plantations		....
	3. Exploitation		....
	4. Reclamation of driftsands & conservation		....
	5. Construction & maintenance of forest roads		....
	6. Preservation & installations		....
M	Fauna, flora and camping sites		....
	1. Protection of wild life		....
	2. Extermination of vermin		....
	3. Maintenance of camping sites		....
	4. Research on fish farming		....
	TOTAL VOTE 2		

ANNEXURE IC - 3

VOTE 3 : AUDITOR GENERAL

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

	Subhead or item	Code		Expenditure Progressive Total from 1 April 198...
A	Salaries, wages and allowances			....
B	Subsistence and transport			....
C	Postal, telegraph & telephone services			....
D	Printing, advertisements & publications			....
E	Miscellaneous expenses : (Total)			....
	1. Levies & registration fees			....
	2. Office equpment & mechanical labour saving devices			....
	TOTAL VOTE 3			....

ANNEXURE IC - 4

VOTE 4 : DEFENCE

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

Subhead for item	Code		Expenditure Progressive Total from 1 April 198...
A Salaries, wages and allowances			....
B Subsistence and transport			....
C Postal, telegraph & telephone services			....
D Printing, advertisements and publications			....
E Miscellaneous expenses : (Total)			....
1. Levies & registration fees			....
2. Other			....
F Rations, general stores, ordinance stores, equipment and repairs (Total)			....
1. Rations			....
2. Other			....
G Vehicles			....
H Medical services			....
J Fuel, oil and lubricants			....
TOTAL VOTE 4			....

ANNEXURE IC - 5

VOTE 5 : EDUCATION

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

	Subhead for item	Code	Expenditure Progressive Total from 1 April 198...
A	Salaries, wages and allowances		....
B	Subsistence and transport		....
C	Postal telegraph and telephone services		....
D	Printing, advertisements and publications		....
E	Miscellaneous expenses : (Total)		....
	1. Levies and registration fees		....
	2. Other		....
F	Supplies and services		....
G	Bursaries to pupils		....
H	Financial assistance to State-aided special schools		....
J	Financial assistance to State-aided special schools for capital services		....
K	Subsidies to State-aided hostels		....

ANNEXURE IC - 5

	Subhead for item	Code		Expenditure Progressive Total from 1 April 198...
L	Grant to Transkei University (Total			....
	1. Grant for recurrent expenditure			....
	2. Grant for capital expenditure			....
	3. Grant for bursaries & Loans			....
M	Examination Expenses			....
N	General Maintenance of National Museum			....
O	Promotion of National Sport and Recreation			....
P	General Maintenance of National Libraries			....
	TOTAL VOTE 5			....

ANNEXURE IC - 6

VOTE 6 : FINANCE

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

Subhead for item	Code	Expenditure Progressive Total from 1 April 198...
A Salaries, wages and allowances		....
B Subsistence and transport		....
C Postal, telegraph and telephone services		....
D Printing, advertisements and publications		....
E Miscellaneous expenses ; (Total)		....
1. Levies and registration fees		....
2. Other		....
F Expenditure in connection with Loans (Total)		....
1. Payment of interest		....
2. Redemption of capital		....
3. Other		....
G Supplementing of Transkeian Development and Reserve Fund		....
H Public Debt Commission		....
TOTAL VOTE 6		....

ANNEXURE IC - 7

VOTE 7 : FOREIGN AFFAIRS

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

Subhead for item	Code		Expenditure Progressive Total from 1 April 198...
A Salaries, wages and allowances			....
B Subsistence and transport			....
C Postal, telegraph and telephone services			....
D Printing, stationery, advertisements and publications			....
E Miscellaneous expenses (Total)			....
TOTAL VOTE 7			....

ANNEXURE IC - 8

VOTE 8 : HEALTH AND WELFARE

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

	Subhead for item	Code		Expenditure Progressive Total from 1 April 198...
A	Salaries, wages and allowances			....
B	Subsistence and transport			....
C	Postal, telegraph and telephone services			....
D	Printing, advertisements and publications			....
E	Miscellaneous expenses (Total)			....
	1. Levies and registration fees			....
	2. Other			....
F	Supplies and services			....
G	Medical supplies and services			....
H	General maintenance and repairs			....
J	Services rendered by private medical practitioners including district surgeons			....
K	Health officers employed by local and tribal authorities			....
L	Other comprehensive health services			....
M	Isolation of lepers			....
	TOTAL VOTE 8			

ANNEXURE IC - 9

VOTE 9 : INTERIOR AND SOCIAL SERVICES

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

	Subhead for item	Code		Expenditure Progressive Total from 1 April 198...
A	Salaries, wages and allowances			....
B	Subsistence and transport			....
C	Postal, telegraph and telephone services			....
D	Printing, stationery, advertisement and publications			....
E	Miscellaneous expenses (Total)			....
	1. Unemployment Insurance Act			....
	2. Other			....
F	Pensions, Financial assistance, etc			....
G	Government contributions to pension funds			....
H	Civil pensioners' allowances & bonuses			....
J	Repatriation and settlement of Transkeian citizens			....
K	Expenses in connection with elections and registration of voters			....
L	Social services, i.e. pauper relief, drought scheme)			....
	TOTAL VOTE 9			

ANNEXURE IC - 10

VOTE 10 : JUSTICE

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

Subhead for item	Code		Expenditure Progressive Total from 1 April 198...
A Salaries, wages and allowances			....
B Subsistence and transport			....
C Postal, telegraph and telephone services			....
D Printing, advertisements and publications			....
E Miscellaneous expenses (Total)			....
1. Levies and registration fees			....
2. Other			....
F Allowances to witnesses and expenses incidental to the production of exhibits			....
G Legal expenses			....
H Service of process and attendance of sheriffs' deputies			....
J Advocates' fees and expenses			....
K Assessors' fees and expenses			....
L Casual interpreting and reporting including mechanical recording equipment			....
TOTAL VOTE 10			....

ANNEXURE IC - 11

VOTE 11 : LOCAL GOVERNMENT AND LAND TENURE

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

	Subhead or item	Code		Expenditure Progressive Total from 1 April 198...
A	Salaries, wages and allowances			....
B	Subsistence and transport			....
C	Postal, telegraph and telephone services			....
D	Printing, advertisements and publications			....
E	Miscellaneous expenses (Total)			....
	1. Levies and registration fees			....
	2. Other			....
F	Purchase of land and improvements			....
G	Land survey			....
H	Financial assistance to Municipalities			....
J	Administration of townships			....
K	Town planning services			....
L	Rent, rates, water, electricity and other municipal services			....
	TOTAL VOTE 11			

ANNEXURE IC - 13

VOTE 13 : POLICE

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

Subhead or item	Code		Expenditure Progressive Total from 1 April 198...
A Salaries, wages and allowances			....
B Subsistence and transport			....
C Postal, telegraph and telephone services			....
D Printing, advertisements and publications			....
E Miscellaneous expenses (Total)			....
1. Levies and registration fees			....
2. Other			....
TOTAL VOTE 13			....

ANNEXURE IC - 14

VOTE 14 : POSTS AND TELECOMMUNICATIONS

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

	Subhead or item	Code		Expenditure Progressive Total from 1 April 198...
A	Salaries, wages and allowances			....
B	Subsistence and transport			....
C	Postal, telegraph and telephone services			....
D	Printing, advertisements and publications			....
E	Miscellaneous expenses (Total)			....
	1. Levies and registration fees			....
	2. Other			....
F	Conveyance of mail			....
G	Postal stores			....
H	Maintenance of telecommunications network			....
J	Interest (Savings Bank)			....
K	Furniture and fittings			....
L	Telecommunications development (Total)			....
	1. Transport costs			....
	2. Other			....
	TOTAL VOTE 14			....

ANNEXURE IC - 15

VOTE 15 : PRISONS

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

Subhead or item	Code		Expenditure Progressive Total from 1 April 198...
A Salaries, wages and allowances			....
B Subsistence and transport			....
C Postal, telegraph and telephone services			....
D Printing, advertisements and publications			....
E Miscellaneous expenses (Total)			....
1. Medical services members			....
2. Other			....
G Workshops (Total)			....
1. Purchase of mahcinery			....
2. Other			....
H Agriculture (Total)			....
1. Purchase of machinery and implements			....
2. Irrigation equipment, etc			....
3. Other			....
TOTAL VOTE 15			....

ANNEXURE IC - 16

VOTE 16 : PUBLIC SERVICE COMMISSION

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

Subhead or item	Code		Expenditure Progressive Total from 1 April 198...
A Salaries, wages and allowances			....
B Subsistence and transport			....
C Postal telegraph and telephone services			....
D Printing, stationery, advertisements and publications			....
E Miscellaneous expenses (Total)			....
1. Training aids			....
2. Government service awards			....
F Government Service Bursary Scheme			....
TOTAL VOTE 16			....

ANNEXURE IC - 17

VOTE 17 : TRANSPORT

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

	Subhead or item	Code		Expenditure Progressive Total from 1 April 198...
A	Salaries, wages and allowances			....
B	Subsistence and transport			....
C	Postal, telegraph and telephone services			....
D	Printing, advertisements and publications			....
E	Miscellaneous expenses (Total)			....
	1. Levies and registration fees			....
	2. Other			....
F	Government Motor Transport (Total)			....
	1. Purchase of vehicles			....
	2. Purchase of plant and technical equpmt			....
	3. Maintenance and operating cost			....
G	Plant, Machinery, equipment & tools (Total)			....
	1. Purchase, installation & replacement			....
	2. Other			....
H	Road safety services			....
	TOTAL VOTE 17			....

ANNEXURE IC - 18

VOTE 18 : WORKS AND ENERGY

Return for Quarter/Financial Year ended ....

(i) EMPLOYMENT

Number of persons employed at the end of the quarter :

	Paid from this vote	Lent Officials
Subhead A	....	
Other subhead	....	....

(ii) EXPENDITURE

The total expenditure as from 1 April 198... until the end of the quarter/financial year (i.e. progressive totals) must be given. In case the trial balance shows a debit as well as a credit balance for expenditure subheads only, the net expenditure must be given.

Subhead or item	Code	Expenditure Progressive Total from 1 April 198...
A Salaries, wages and allowances		....
B Subsistence and transport		....
C Postal, telegraph and telephone services		....
D Printing, advertisements and publications		....
E Miscellaneous expenses (Total)		....
1. Levies and registration fees		....
2. Other		....
F Furniture, safes and appliances		....
G Roads and Bridges (Total)		....
1. Maintenance & repair of national roads		....
2. Maintenance & repair of other roads		....
3. Other		....
H Purchase and hire of plant, machinery, equipment and tools (Total)		....
1. Plant		....
2. Equipment and tools		....
3. Other		....

ANNEXURE IC - 18

Subhead or item		Code	Expenditure Progressive Total from 1 April 198...
J	Building Services - major works (total)		....
	1. Schools (primary and secondary)		....
	2. Hospitals		....
	3. Clinics, various services		....
	4. Umtata Hospital		....
	5. Umtamvuna Border Post		....
	6. Umtata Police Station		....
	7. Mount Frere Prison		....
	8. New Gaol Complex, Lusikisiki		....
	9. Umtata, New Prison		....
K	Building Services - minor works and alterations and primary school classrooms		....
	1. Education (schools, etc)		....
	2. Other buildings		....
L	General maintenance		....
M	Rent, rates, municipal services, etc		....
N	Maintenance and repair of plant machinery, equipment and tools (Total)		....
	1. Roads and bridges		....
	2. Other		....
O	Planning and development of and maintenance services in townships and provision of infrastructure (Total)		....
	1. Planning and development		....
	2. Maintenance services		....
	TOTAL VOTE 18		

State amounts of work allocated to:

White contractors R ....

Black contractors R ....

Purchases of bricks from brickyards owned by Blacks R.............

ANNEXURE IC - 19

(ii) TRANSKEIAN DEVELOPMENT AND RESERVE FUND

(a) Balance Sheet at .... 19 ..

Liabilities	Rand	Assets	Rand
Balance of fund brought forward	....	Investments	....
<u>Less</u>: Excess expenditure over income	....	Advances:	
		Meat Processing and Marketing Scheme	....
<u>Add</u>: Excess income over expenditure	....	Agricultural co-operatives	....
		Ploughing Scheme	....
		Cash	....
Total liabilities		Total assets	

(b) Income and Expenditure during the quarter/financial year ended ....

Expenditure	Rand	Income	Rand
Capital projects: (specify)		Interest on investments	....
....	....	Interest on advances to co-ops.	....
....	....	Interest on ploughing scheme	....
....	....	Other (specify)	
....	....	....	....
Salaries	....	....	....
Excess income over expenditure	....	Excess expenditure over income	....
Total expenditure		Total income	

ANNEXURE IC - 20

REVENUE

Receipts during the quarter/financial year ended ....

Head of Revenue	Amount Paid (Rand)
1. General Tax (3501)	....
1.1 Poll tax	....
1.2 Employees' tax (3502)	....
1.3 Provisional tax (3503)	....
1.4 R.S.A. General tax	....
1.5 Post Office Employees' tax	....
2. Local tax (3601)	....
3. Quitrent (3701)	....
4. General levy (3801)	....
5. Licences (3901)	....
6. Stamp duties and fees (4001)	....
7. Estate duties (4101)	....
8. Fines and forfeitures (4201)	....
9. Rent of state property (4301)	....
10. Forest Revenue (4401)	....
11. Transfer duty (4501)	....
12. Motor vehicle tax (4601)	....
13. Immovable property tax (4701)	....
14. Tea revenue (4801)	....
15. Phormium tenax revenue (4901)	....
16. Interest (5001)	....
17. General stock tax (5401)	....
18. Special tax (5501)	....
19. General sales tax (5601)	....
20. Rand currency circulation (5701)	....
21. Custom and Excise (5801)	....
22. Post Office Revenue (7101)	....
23. Income Tax (7201)	....
24. Dept and Miscellaneous Receipts (7301)	....
25. Budgetary Assistance from RSA (8201)	....
TOTAL	....

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B. UNPUBLISHED REFERENCES

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1. The Department of Finance
2. The Department of Agriculture and its regional offices
3. The Department of Commerce, Industries and Tourism
4. The Department of Works and Energy
5. The Department of Local Government
6. The Department of Education
7. The Department of Health