

Consulting Economists

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Water Research Commission

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SOCIO-ECONOMIC IMPACT OF THE KOMATI RIVER BASIN DEVELOPMENT PROJECT WITH SPECIAL REFERENCE TO IRRIGATION AGRICULTURE

Prepared for the Water Research Commission

by

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The Social Account Matrix for the Project Development Area is also available on the WRC's website address: http://www.wrc.org.za

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ABBREVIATIONS

KOMATI RIVER BASIN DEVELOPMENT

UNITS AND ABBREVIATIONS

ADS	-	Agricultural Development Strategy
CBA	-	Cost-Benefit Analysis
DBSA		Development Bank of Southern Africa
GDP	-	Gross Domestic Product
GGP		Gross Geographic Product
Gibb-Report		The review and feasibility study for Komati River
		Basin Development carried out by Sir Alexander Gibb
		& Partners (1992), also referred to as Gibb Study.
IRR	-	Internal Rate of Return
IYSIS	-	Inyoni Yami Swaziland Irrigation Scheme
JWC	-	Joint Working Commission
KOBWA	-	Komati Basin Water Authority
KRBDP	-	Komati River Basin Development Project
MAR	-	Mean Annual Runoff
M.A.S.L	-	Metres above sea level
0 & M	-	Operation and maintenance cost
PDA	-	Potential (or Project) Development Area
RSA	-	Republic of South Africa
SADC	-	Southern African Development Community
SAM	-	Social Accounting Matrix
SARB	-	South African Reserve Bank
SSA	-	Statistics South Africa
VAT		Value Added Tax

Water Research Commission

Cubic metres

WRC

 M^3

EXECUTIVE SUMMARY

1. INTRODUCTION AND BACKGROUND

Since the formal start of the Komati River Basin Development Project (KRBDP) in 1990, questions were raised whether certain objectives of the project can be obtained and the effectiveness thereof. In particular, more certainty was required i.r.o. the prospective benefits to the communities that were initially targeted for development purposes.

The governments of the Republic of South Africa (RSA) and the Kingdom of Swaziland were always sensitive towards these issues and supported several research projects to re-evaluate the overall economic and development feasibility of the KRBDP. The most recent elaborate study in this regard was commissioned by the Government of the Kingdom of Swaziland in cooperation with the Development Bank of Southern Africa (DBSA).

The aforementioned study basically re-evaluated the Agricultural Development Strategy (ADS) proposed by the GIBB-report (1992) as well as other important macroeconomic and development objectives of the KRBDP. Due to the nature of Cost-Benefit Analysis (CBA), the overall socio-economic developmental impact of such a huge irrigation project only forms part of the overall accounts of costs and benefits. The need was therefore expressed for a more explicit analysis of the social and economic impacts on the rural areas and communities primarily affected by the irrigation project.

For the economic and socio-economic development of the Nkomati River Basin a number of planning reports were compiled. The impacts of the KRBDP are based on such reports. It is important to note that the impacts which are analysed in this report are only to be realised if all the projects are implemented as planned in the aforementioned planning documents. Accordingly all forecasts of impacts are subject to the full implementation of the KRBDP.

OBJECTIVES

Given the above background, the Water Research Commission (WRC) funded Conningarth Consultants to specifically investigate the importance of irrigation agriculture as a vehicle to develop rural areas and communities. Furthermore, a Social Accounting Matrix (SAM) was to be constructed for the direct economic impact area, including the Product Development Area (PDA) and used as an analytical tool not only to quantify the developmental impacts but also to determine major impediments/opportunities to a sustainable developmental process.

In more explicit terms, the consultants' brief is as follows:

 The main aim of the research was to establish the importance of irrigation agriculture in the development of rural areas and communities.

The secondary aims were to:

- Analyze the socio-economic impact of the Komati River Basin Development in both the Kingdom of Swaziland and the RSA.
- ii) Compile a SAM. (The SAM did not only function as an econometric tool to analyse the social economic impact of the Komati River Basin Development, but also played an important role in identifying gaps in the demand and supply structure of the Komati Region. This helps maximize the value-added process of the specific development in the filling of certain supply gaps.)
- Establish a methodology that could be used for the analysis of future projects of a similar nature.

In short, the purpose of the study was thus to determine the overall socioeconomic impact of the KRBDP.

3. GENERAL DESCRIPTION OF THE KOMATI RIVER BASIN

The Komati River Basin is a major component of the Inkomati River Basin, both of which qualify as international drainage basins of concern to the Kingdom of Swaziland, the Republic of South Africa (RSA) and the Republic of Mozambique. The Lomati River is the largest tributary of the Komati River.

The natural mean annual runoff (MAR) of the Komati River Basin is 1 420 million cubic metres (m³), which represents 39,6 % of the natural MAR of the Inkomati River Basin. The total area of the Komati River Basin is 11 090 square kilometres (km²) of which 23 % and 77 % are within the Kingdom of Swaziland and the RSA respectively.

The entire basin is situated within the summer rainfall region of Southern Africa. The Lowveld region has a virtually frost-fee sub-tropical climate and is ideally suited for growing a large variety of sub-tropical and other crops, provided that sufficient irrigation water is available.

The estimated population of the Komati River Basin was 539 000 persons in 1991. There are no cities or large proclaimed towns within the Komati River Basin. Large numbers of people in the RSA however, reside in semi-urban villages situated in the Mswati and Nkomazi Regions adjoining the Kingdom of Swaziland. The towns of Barberton in the RSA and Mhlume in the Kingdom of Swaziland also receive their water supplies from the Komati River Basin.

Water requirements from the Komati River Basin during 1991 have been estimated in the recently completed curtailed Joint Inkomati Basin Study and are as follows:

-	Domestic and Industry	159 million m ³ /a
	Livestock	6 million m ³ /a
-	Irrigation	447 million m3/a
	Afforestation	142 million m ³ /a
	Total	754 million m ³ /a

This is almost identical to that which existed in 1982, although there has been a slight increase and decrease in domestic and irrigation water requirements respectively. Developed areas of irrigation supplied with water from the basin amounted to approximately 43 700 ha in 1991.

The water that may have to be supplied to Mozambique from the Komati River and water required for maintenance of the riverine ecosystems has not been included in the figures above.

4. <u>DESCRIPTION</u> OF PROPOSED WATER RESOURCE DEVELOPMENT

The estimated potential future water demands from the Komati River Basin in terms of locality, quantum and timing are as follows:

- The long-term future water requirements are largely determined by the demand for irrigation water.
- The main potential water use sectors and their localities are as follows:
 - a) Afforestation in the Highveld and Middleveld regions.
 - Domestic and industrial (thermal power station) use in the RSA upstream of the Kingdom of Swaziland.
 - Domestic and irrigation use in the Lowveld region of both the Kingdom of Swaziland and the RSA.

The construction of the Driekoppies Dam took place in South Africa while the construction of the Maguga Dam is currently (1999) underway in Swaziland. The following is a concise exposition of certain important facts surrounding the Komati River Basin Development Project:

 The capital costs for Sub-phase 1A (Driekoppies) and Subphase 1B (Maguga) in 1996 prices are as follows:

	Total (R million)	Swaziland (R million)	SA (R million)
Maguga Dam	663	251	412
Sugar Mills	382	2	380
Hyropower Installation	55	55	
Irrigation Development	160	160	
Permanent Accommodation of Main Contractor			
Resettlement: reservoir and Project	48	18	30
Development Area	17	16	1
Total Maguga	1325	502	823
Driekoppies Dam(RSA)	488	-	488
Weirs	30	-	30
RSA Mills	403	-	403
Irrigation: Nkomazi Area (Komati)	97		97
Irrigation: Nkomzi (Lomati)	31	-	31
Total Driekoppies	1049		1049
Total Project	2374	502	1872

- After completion of both these dams it is expected that domestic and industrial water requirements will be supplied at a 98 % assurance.
- iii) Full irrigation water requirements will on average be supplied for 80 % of the time, after completion of the above-mentioned dams.
- iv) The main purpose of storage and release from these dams, is in fact, to support the development of irrigated agriculture in the Komati Area. The most important crops under irrigation are:
- Sugar cane
- Sub-tropical orchards
- Bananas
- Summer and winter grain
- Summer and winter vegetables
- Tobacco
- After completion of the Driekoppies Dam the total area under irrigation in the RSA will be 31 327 hectares.
- vi) The number of hectares to be irrigated from the Maguga Dam will cover 7 393 hectares of which 3 082 hectares will be sugar cane and the remainder will be mainly citrus.

METHODOLOGY

The main aim was to make use of the Social Accounting Matrix (SAM) as an analytical tool to quantify the impact of the irrigation projects on the social and economic aggregates that forms part of the economy. The SAM is well-known for displaying a wide range of social, institutional, demographic, financial and economic aggregates as well as their fundamental economic interrelationships.

The SAM is a relatively recent development in the field of National Accounting. This development is of particular significance since the SAM provides a framework within the context of the national accounts in which the activities of households are accentuated and distinguished prominently. Households and enterprises are indeed basic units where significant decisions are taken on important economic variables such as, *inter alia*, expenditure and saving. By combining households into meaningful groups, the SAM makes it possible to clearly distinguish between, and study the effect on, interaction between and the economic welfare of each group.

The development of the SAM, with the household as focus point, must also be seen in the light of the fact that conventional national accounts often do not provide sufficient information, nor a framework to scientifically investigate and address important policy issues regarding aspects such as income distribution, personal saving, employment, etc.

Since the SAM provides a detailed description of the economy under discussion in quantified terms, it can also serve as an effective economic model for planning and policy analysis purposes. The SAM's modelling attributes are based on the fact that its composition has an intrinsic matrix form. This allows the researcher to re-arrange its components into exogenous (independent) and endogenous (dependent) sections. Its dynamic nature can be further enhanced by adding more equations to the core matrix. An example of the extension of the SAM-structure is the so-called semi-Input-Output where labour and capital equations were added to the SAM-structure. A SAM normally forms the basis of a General Equilibrium Model.

A SAM framework identified the following entities:

- i) Activities
- Commodities
- iii) Factor payments (i.e. Gross Operating Surplus and Labour)
- iv) Enterprises
- v) Households
- vi) Government
- vii) Capital (Investment and Savings)

The economic impact will be quantified in terms of the following economic variables:

- Production/Output
- Income/GDP
- Employment
- Income distribution (individuals)
- Industry Impact
- Regional Impact

As mentioned previously, the purpose of the study was to determine the overall socio-economic impact of the KRBDP with specific reference to the project development area using a SAM.

Three different regions were distinguished in the course of the project:

Region 1: Komati River Basin - RSA

Region 2: Komati River Basin - Kingdom of Swaziland

Region 3: The rest of RSA

The rest of the Kingdom of Swaziland

The rest of the world

6. MAIN FINDINGS: SOCIO-ECONOMIC IMPACT OF THE PROJECT

As indicated earlier, the KRBDP is a very large project, with a total capital cost (1996 prices) of over R2 billion. This should be seen in the context of the size of the entire study area where in 1993 the GGP amounted to slightly less than R3 billion of which agriculture made a significant contribution.

MAJOR ECONOMIC IMPACTS

Given the above relative magnitudes, it is no surprise that according to the SAM-analysis, the major growth has occurred in especially the agricultural sector and agricultural processing industries after the KRBDP came into operation. For example the economy of the study area (in real terms) has expanded by R408 million (1996 prices) which is an increase of 15 %. As could be expected the agricultural sector together with the agricultural processing developments in both regions experience even larger expansions. In the case of the Swaziland region, a near doubling (\pm 79 %) of agricultural activities occurs.

Due to the low base as well as the limited industrialized structure of the two economies, the huge upsurge in agricultural and related production does not really filter through to other sectors and commodities. The only exceptions are the electricity and water sectors, but this also occurs from low bases.

The conclusion can therefore be drawn that despite the size of the project, it does not lead to the diversification of the economies in question as one would hope for.

SOCIO-ECONOMIC IMPACTS

For the purpose of this analysis, it was decided to focus on some economic variables which in practice would more closely resemble the social implications of the project.

ENTERPRISES

The incremental impact of the project on the various enterprises is as follows, [R'000]:

Enterprises	Impact of	f Project	Percentage magnitude	
	Incremental Value	Percentage structure	of change (1993 base year)	
Large commercial farmers	116,313	55.86 %	26 %	
Small commercial farmers	39,255	18.85 %	166 %	
Subsistence farmers	-1,957	-0.94 %	-39 %	
Agro-industries/sugar, citrus & other	12,726	6.11 %	18 %	
Forestry & other capital	41,887	20.12 %	7 %	
TOTAL	208,224	100 %	19 %	

The study undoubtedly shows that small commercial enterprises would benefit the most from the project. Even the large commercial enterprises benefit handsomely, throughout the regions' economies. The contribution of subsistence farmers will decrease as a result of KRBDP. This could be attributed to the fact that a considerable amount of subsistence farmers will now become small commercial farmers, hence this negative impact on subsistence farmers. From a socio-economic point of view, the substantial increase in the number of small enterprises in agriculture, will do much to promote a sustained process of development affecting a wide range of interest groups such as informal/formal trade businesses and traditional financial and business services. Due to the fact that most of the new small irrigation farmers, were previously engaged in subsistence farming and other informal activities, their increased cash income will enlarge the market for locally produced food and other basic needs.

HOUSEHOLDS

As discussed above, households perform a pivotal role in any economy's growth performance. The SAM's major contribution is to model the interaction of the household sector with the other major stakeholders in the economy. The main development thrust of the project is shown to filter

through the household sector. This is achieved by the increase in real labour remuneration of the KRBDP of 12 % and 18 % for semi-skilled and unskilled workers in the two regions respectively (SA and Swaziland) as a result of the KRBDP. This in turn is brought about by the large increase in the number of small commercial farmers' units, especially in Swaziland where a 79 % increase is registered.

It is also important, from a development point of view, to note that apart from an above average increase in commercial farmers' households (small units), the project also stimulates the formation and growth in traditional households by 13 % and urban and other households by 10 %.

Viewed from a skill-level perspective, the KRBDP should be viewed as labour intensive due to the fact that \pm 80 % of the employment/income thrust will accrue to the semi- and unskilled levels of labour (incl. domestic workers).

Due to the nature of the project i.r.o., its impact on industries, commodities and factor remuneration (levels of income per households), the project on balance favours in absolute terms the high and medium income. The impact on households will be as follows:

	Incremental proj		Percentage magnitude of	
	Incremental Value R'000	Percentage Structure	change (1993 base year)	
High income groups	97,656	35.4 %	11 %	
Medium income groups	138,831	50.3 %	23 %	
Low income groups	39,542	14.3 %	21 %	
Total	276,029	100.0 %	16 %	

However, income distribution is not defined in terms of how much happened in absolute terms, but relatively. From the above figures it is also evident that the medium and low income groups, benefit (percentagely) much more than the high income group. This in turn revolves around the exceptionally rapid growth of the medium income group of commercial farmers being specifically targeted by the project from a development point of view. The upliftment of the lesser developed part of each sub-region via this process can therefore be regarded as successful.

GOVERNMENT

All levels of government play, of course, important roles as initiators of public projects, as well as providing the necessary supporting economic and social services that would ensure the optimal distribution of project benefits to the relevant communities. The CBA that was done for the Government's income/expenditure flows showed a positive internal rate of return (IRR) of

4.36 % and 4.57 % for SA and Swaziland respectively (See tables in text). Although the IRR is still below the standard 8 % real cut-off rate, the achieved IRRs indicate that there is a considerable inflow of income which accrues from the project to the government sector. Governments provide collective services which mostly serve a broad objective, the benefits of which accrue to the population in general and cannot be measured in strict "economic return on investment" terms.

SAM AS AN ECONOMIC TOOL

The terms of reference provide for the construction of the relevant SAM as well as establishing a methodology for using the SAM to analyse the social impact of future projects.

Usually, when the socio-economic impact of a proposed large irrigation project such as the KRBDP, is measured, use is made of either macro-economic impact studies with the help of input-output tables or cost-benefit studies.

The SAM, as a logical expansion of the traditional methods of analysis (CBA; Input-Output etc.), in this study has proved that it does have a more powerful analytical ability than the previously mentioned models to address the socio-economic issues.

It must be remembered that by compiling a regional SAM, a wealth of information and data that was previously unknown about the region in focus, was brought forward.

The SAM is the most detailed set available of structured national accounting and other socio-economic information. The following examples will illustrate this:

- Demand/supply equations of a wide range of commodities and services. Incorporated are quantified data on possible gaps in local supply/demand situations that may warrant commercial exploitation by local and foreign investors. The role of transport to provide mobility of goods and people can also be deduced from the commodity flows.
- The household sector contains a vast amount of information on levels of income as well as spending patterns of the various income groups. Included are data on savings and tax payments by households. This information is valuable to identify possible commercial projects that could piggy-back on the original project. Especially small business opportunities, e.g. the maintenance of equipment and commercial outlets where local communities can be involved.
- The Government's role in the process of development can also be analysed using information generated by a SAM, for example the investments required in the study area in order to maximize the

benefits to the poor of the project i.e. access roads, electricity supply, etc. The SAM's information can therefore be used by various spheres of government to plan and prioritize their own services.

- On the <u>labour side</u>, the demand for various levels of skills will enable the stakeholders to plan for the necessary training requirements.
- Lastly, the flow of capital funds from where it is generated to where
 it is needed, also provides information to the financial sector
 (developed and traditional) for the purpose of identifying commercial
 opportunities.

The SAM is, however, not without its shortcomings. It remains a comparative-static model which implies that in many cases it cannot provide for flexibility and dynamism in economic relationships that change over time. In less developed situation, where a dualistic economic situation is prevalent, structural changes can occur quickly which may affect the linkages in the economy significantly. Further research is required to model and quantify the relationships of the informal and subsistence parts of the economy with the developed section. In this study attempts were made to address this issue, but with mixed success. It is, however, on par with similar studies that were done in other parts of the world.

8. CONTRIBUTION OF RESEARCH

The success of the research is mainly proven by the future use of its results and developed methodology. Currently the following technology transfer actions are already taking place.

- a) A Social Accounting Matrix for the total study area was handed over to the Government of the Kingdom of Swaziland at their request. This information is currently being used for the downstream development i.r.o. the Maguga Dam.
- b) The framework of the Social Accounting Matrix (SAM) that was developed by this project forms the basis of the Thukela Water Project commissioned by the Department of Water Affairs and Forestry.
- c) The methodology of the SAM developed for the KRBDP also forms the basis for Economic Development Conservation Finance and Environmental Sustainability: Analysis of Economic Linkages and Policy Options for Nature Tourism in northern Kwazulu Natal, a project funded by the World Bank. The World Bank has also accepted the multi regional SAM framework as it was developed for the KRBDP.

Interest is shown by the Lesotho Government to construct a SAM on the same basis for the Lesotho Highlands Scheme area. This is in respect of an economic model in support of Lesotho Highlands Tourism development.

9. FURTHER RESEARCH AND TECHNOLOGY TRANSFER

The Social Accounting Matrix has generated a vast source of results and data. Until now only those results that depict the macroeconomic impact of the water development have been highlighted. Further research could fruitfully be undertaken in the following areas:

- Multiplier analysis Calculation of multipliers for activities, enterprises and households.
- Calculation of the nature and magnitude of cross-regional impacts e.g. calculating the impact of what is happening in Region 2 as a result of stimuli in Region 1; and
- Capital and labour impacts Estimation of labour and capital coefficients for activities.

Most of the primary data as well as a detailed explanation of the methodology used, are taken up in the report. The report should therefore be used as a method to store both data and the applied methodologies. This will also serve as a primary method of transferring information, methodology and results.

A major data base specifically for the Nkomati Region (South Africa and Swaziland subregions) is taken up in the Social Accounting Matrix. Each copy of the report will be accompanied by a computer disk. This will be the only way to deal with data for the Social Accounting Matrix of such magnitude.

1. INTRODUCTION AND BACKGROUND

Since the formal start of the Komati River Basin Development Project (KRBDP) in 1990, questions were raised whether certain objectives of the project can be achieved and the effectiveness thereof. In particular, more certainty was required i.r.o. the prospective benefits to the communities that were initially targeted for development purposes.

The Republic of South Africa (RSA) and the Kingdom of Swaziland governments were always sensitive towards these issues and supported several research projects to re-evaluate the overall economic and development feasibility of the KRBDP. The most recent elaborate study in this regard was commissioned by the Government of the Kingdom of Swaziland in cooperation with the development Bank of Southern Africa (DBSA). This study was conducted by Conningarth Consultants in 1996.

The aforementioned study basically re-evaluated the Agricultural Development strategy (ADS) proposed by the Sir Alexander Gibb-report (1992) as well as other important macroeconomic and development objectives of the KRBDP. Due to the nature of Cost-Benefit Analysis (CBA), the overall socio-economic developmental impact of such a huge irrigation project only forms part of the overall balance sheet of costs and benefits. The need was therefore expressed for a more explicit analysis of the social and economic impact on the rural areas and communities primarily affected by the irrigation project.

1.1 OBJECTIVES OF THIS RESEARCH PROJECT

Given the above background, the Water Research Commission (WRC) funded Conningarth Consultants to specifically investigate the importance of irrigation agriculture as a vehicle to develop rural areas and communities. Furthermore that a Social Accounting Matrix (SAM) be constructed for the direct economic impact area, including the Project Development Area (PDA) and used as an analytical tool to not only quantify the developmental impacts, but also to determine major impediments/opportunities to a sustainable developmental process.

In more explicit terms, the consultants' brief is as follows:

 The main aim of the research was to establish the importance of irrigation agriculture in the development of rural areas and communities. The secondary aims were to:

- Analyze the socio-economic impact of the Komati River Basin Development in both the Kingdom of Swaziland and the RSA.
- ii) Compile a SAM. (The SAM did not only function as an econometric tool to analyse the social economic impact of the Komati River Basin Development, but also played an important role in identifying gaps in the demand and supply structure of the Komati Region. This helps maximize the value-added process of the specific development in the filling of certain supply gaps.)
- Establish a methodology that could be used for the analysis of future projects of a similar nature.

Thus, in short, the purpose of the study was to determine the overall socioeconomic impact of the KRBDP.

1.2 LIMITATIONS

The following limitations should be taken into account when the report is evaluated:

- SAM Model
- Verification of the correctness of Model
- Delineation of Swaziland subregion
- Defining the KRBDP
- Analyses based on planned economic activities

1.2.1 SAM Model

A SAM approach was used as the basis for the analysis. The SAM model, as in the case of any other economic model, rests upon assumptions made and conditions which must be complied with in order to make the model useful for economic analyses.

The fundamental assumption with regard to the compilation of the SAM model, as well as the use of this model for analytical purposes, is, <u>firstly</u>, that it is possible to group all production-activities in the economy in homogeneous sectors. <u>Secondly</u>, it is necessary that the mutual inter-dependence of sectors which features in the model can be expressed in meaningful input functions. This basic assumption mainly allows for additional assumptions to be made concerning the economic validity of the application of a SAM model as an economic analytical tool.

Firstly, the classification of a number of industries in a specific sector rests upon further assumptions in respect of the inputs of each industry in that sector, namely:

- Each product or a group of products is supplied by a single sector.
- Each sector's inputs are only a function of the specific sector's production. A more general assumption is usually made, namely, that the input function of the different sectors is linear.

Secondly, if the SAM model is used as an economic forecasting model, the assumption is made that the technical coefficients remain constant for the period over which the projection is made (reasonable period). The afore-mentioned assumption implies the following two additional assumptions with regard to the inputs of each industry in a particular sector, namely:

- there will be no input substitution resulting from a price change in a particular industry, and
- there will be no change in technology affecting the production structures.

A further consequence of the relevant assumption is that the SAM model does not take into account import substitution effects that could become viable, because of the magnitude of the relevant capital project. For instance because of the relatively underdeveloped area there are no engineering facilities in the study area. However, the huge demand for such facilities that could result from the project, could lead to the start-up thereof. This dynamic development impact is not taken into account.

1.2.2 Verification of the model

As a result of the fact that the KRBDP was not fully operational at the time of the impact analysis, it is very difficult to verify the correctness of the results of the SAM model. In practical terms one is not able to compare a pre-project situation with post project situation.

At the start of the research is was envisaged to do a verification analysis for 1996 to verify the correctness of the model. The construction of the Driekoppies dam would have been finalized in 1996 and the subsequent irrigation development would also have been nearly completed. Although the theory of this control analysis is explained in this report the control analysis as such could not be exercised. This is mainly due to the fact that the relevant regional data are not available. Regional data, in general, are to a large extent neglected in South Africa.

1.2.3 Delineation of the Swaziland subregion

It is important that the impacted area should be demarcated in economic terms with regard to the direct influence sphere of the capital project. Due to the fact that Swaziland is demarcated in only four districts it was very difficult to apportion economic data from a district basis to a Swaziland study area.

1.2.4 Defining the KRBDP

The KRBDP description is fluid in the sense that changes are made on an ongoing basis during the implementation phase. In other words in reality its impact could in the end be different from what was planned originally. For example this could imply a change in irrigated hectares as well as the composition of crops to be planted.

Despite the above limitations, the results are still regarded as being reliable for taking broad socio-economic decisions.

1.2.5 Analyses based on planned economic activities

For the economic and socio-economic development of the Nkomati River Basin a number of planning reports were compiled. The impacts of the KRBDP are based on such reports. It is important to note that the impacts which are analysed in this report are only to be realised if all the projects are implemented as planned in the aforementioned planning documents. Accordingly all forecasts of impacts are subject to the full implementation of the KRBDP.

2. OVERVIEW OF THE KOMATI RIVER BASIN DEVELOPMENT PROJECT

For the most part, this section of the report is a descriptive prelude to the methodology and analysis that follow. It is intended to provide a broad framework that sets the analysis in context by sketching the regional characteristics of the study area.

2.1 REGIONAL SETTING - MAIN CHARACTERISTICS

2.1.1 General description of the Komati River Basin

The Komati River Sub-Basin is a major component of the Inkomati River Basin, both of which qualify as international drainage basins of concern to the Kingdom of Swaziland, the RSA and the Republic of Mozambique. The Lomati River is the largest tributary of the Komati River.

The natural mean annual runoff (MAR) of the Komati River Basin is 1 420 million cubic metres (m³), which represents 39,6% of the natural MAR of the Inkomati River Basin. The total area of the Komati River Basin is 11 090 square kilometres (km²) of which 23% and 77% are within the Kingdom of Swaziland and the RSA respectively.

The Komati River rises in the RSA at an altitude of 1 940 metres above sea level (m.a.s.l.) in the vicinity of Belfast. The altitude at Komatipoort, where it joins the Crocodile River, is only 120 m.a.s.l. There are three distinct topographical regions referred to as the Highveld, Middleveld and Lowveld regions. The Highveld and Lowveld regions in the west and northeast respectively, generally have a flat to gently undulating topography. The Middleveld region occupies the central portion of the basin and is generally more mountainous and includes the Drakensberg Mountains, Silotwane Hills and Barberton Mountains. The Driekoppies Dam is situated in the Lowveld region while the Maguga Dam will be situated in the Middleveld region. Both of these dams are a result of the KRBDP.

The entire basin is situated within the summer rainfall region of Southern Africa. The Lowveld region has a virtually frost-fee sub-tropical climate and is ideally suited for growing a large variety of sub-tropical and other crops, provided that sufficient irrigation water is available.

Population

There are no cities or large proclaimed towns within the Komati River Basin. Large numbers of people in the RSA however, reside in semi-urban villages situated in the Mswati and Nkomazi Regions adjoining the Kingdom of Swaziland. The towns of Barberton in the RSA and Mhlume in the Kingdom of Swaziland also receive their water supplies from the Komati River Basin.

The estimated population of the Komati River Basin was 539 000 persons in 1991. Of these, 373 000 persons resided downstream of and would have benefited directly from the Driekoppies and Maguga Dams. The population of the basin is expected to increase to between 900 000 persons and 1 150 000 persons by 2015.

2.1.2 Existing Land use

Livestock

The livestock and game population of the basin was estimated to be 340 500 equivalent large stock units in 1992. Game only constituted 2 800 equivalent large stock units.

Afforestation

Afforestation intercepts runoff and therefore causes the river flows to decrease. The total afforestation in the basin amounted to 97 100 ha in 1991. Permits already issued will allow this to increase to 122 700 ha, as provided for in the Kingdom of Swaziland/the RSA Treaty.

Irrigation

Developed areas of irrigation supplied with water from the basin amounted to approximately 43 700 ha in 1991. Of this about 400 ha and 9 500 ha are situated in the adjoining Crocodile and Mbuluzi River catchments respectively. About 5 200 ha of the developed area was found to be fallow, much of it due to inadequate water supplies.

A further 4 710 ha is already developed, under development or approved for development in the RSA north of the Kingdom of Swaziland in anticipation of the completion of the Driekoppies Dam. This additional area is expected to have increased to 7 480 ha by the time the Driekoppies Dam has been completed. In some cases the Driekoppies Dam is also referred to as Lake Matsamo. In actual fact the Dam wall is referred to as the Driekoppies Dam and the water inside the dam is Lake

Matsamo. The water supply to some of this area will be at high risk (lower assurance than normally accepted) because the decision to proceed was taken to comply with the request of the local communities and on the basis that the period of high risks will be of short duration - only until completion of the Maguga Dam. In the Kingdom of Swaziland 7 393 ha of new irrigation is expected to be developed after completion of the Maguga Dam.

Game and Nature Reserves

A number of game and nature reserves exist in the basin. The most significant are however the Malolotja Nature Reserve in the Kingdom of Swaziland and the Songimvelo Reserve in the RSA. Both these reserves are situated in the mountainous region west of the Maguga Dam. The Malolotja Nature Reserve is the only proclaimed nature reserve in the Kingdom of Swaziland and is also the largest nature reserve in the country.

Mining

Present mining activity within the basin is limited. The most significant mines are collieries in the vicinity of Breyten, Carolina and Mangweni. all in the RSA, asbestos mines at Mtsoli and Bulembu and small gold mines in the area between Piggs Peak and the mountains east of Barberton.

Industries

The Komati sugar mill in the RSA, with a current capacity of 1 300 000 tons sugarcane per annum or about 170 000 tons sucrose per annum was completed during 1994 on a site between Tonga and Komatipoort. The mill is to be supplied with sugarcane to be grown with the more assured and increased water supplies that will be provided by the Driekoppies and Maguga Dams. Some of the existing sugarcane in the Komati River Basin will continue to be supplied to the Malelane mill in the RSA. It is estimated that the Malelane mill yields 2 million tons of sugar cane per annum.

The Mhlume sugar mill in the Kingdom of Swaziland, with a current capacity of 1 250 000 tons sugarcane per annum or also about 170 000 tons sucrose per annum is supplied with sugarcane grown from water derived from the Komati River Basin. It can be expanded to process all the additional sugarcane that will be grown in the Kingdom of Swaziland after completion of the Maguga Dam.

All other industries in the basin are relatively small and mainly comprise a few saw mills and service industries located in and near the towns.

Hydroelectric power generation within the basin is confined to a few small run-of-river installations.

Large quantities of water are supplied from the Vygeboom and Nooitgedacht Dams to certain large thermal power stations in the RSA west of Carolina and outside the basin.

Storage Dams

The only significant storage dams in the Komati River Basin are the following:

- Nooitgedacht and Vygeboom Dams on the Komati River in the RSA upstream of the Kingdom of Swaziland. The total net storage capacity is 129 million m³. These dams supply water mainly to the Eskom power stations outside the basin.
- Sand River Dam in the Kingdom of Swaziland, which is an off-channel storage dam supplied with water pumped from the Komati River. The net storage capacity is 44 million m³. The dam was intended to provide peak water requirements to the IYSIS (Inyoni Yami Swaziland Irrigation Scheme) irrigators and would not have carry-over storage from one year to the next. However, this is a secondary function performed by the dam during droughts.
- Barberton and Shiyalongubo Dams on the upper Lomati River and its tributaries in the RSA, west of the Kingdom of Swaziland. The total net storage capacity is 7,4 million m³. These dams supply water to the adjacent Crocodile River Catchment for the Barberton municipality and for irrigators respectively.
- Driekoppies Dam on the Lomati River in the RSA north of the Kingdom of Swaziland, recently completed. The total net storage capacity will be 237 million m³. The dam will mainly provide water for irrigation, but it can also supply all domestic and industrial water requirements from the Lomati and Lower Komati Rivers.
- Existing small weirs in the Komati River and the Masibekela (Figtree) off-channel storage dam supplied with water pumped from the Komati River, all in the RSA north of the Kingdom of

Swaziland. The total net storage capacity will be 25 million m³. The weirs and the dam will mainly supply water for irrigation, but will also supply domestic water upstream of the confluence of the Lomati River. It has been accepted that the weir designs are such that no significant sedimentation will occur that will reduce their effectiveness to store and regulate flow.

2.1.3 Existing Water Use

Water requirements from the Komati River Basin during 1991 have been estimated in the recently completed curtailed Joint Inkomati Basin Study and are as follows:

	Domestic and Industry	159 million m ³ /a
-	Livestock	6 million m ³ /a
-	Irrigation	447 million m3/a
	Afforestation	142 million m ³ /a
	Total	754 million m ³ /a

This is almost identical to that which existed in 1982; although there has been a slight increase and decrease in domestic and irrigation water requirements respectively.

The water that may have to be supplied to Mozambique from the Komati River and water required for maintenance of the riverine ecosystems has not been included in the figures above.

The water requirements for domestic and industrial use (excluding any additional allocations for Eskom) are expected to increase by about 51 million m³/a between 1991 and 2015. The irrigated areas are largely determined by the water allocations for irrigation and the availability of capital to develop new irrigation because at this stage the presence of irrigable soils and the desire to develop additional land is not yet a limiting factor. With the water allocations made from the first phase development the irrigation water requirements are expected to increase by about 171 million m³/a.

2.1.4 Key Economic Indicators and Map

For purposes of developing a SAM for the Komati River Basin Area, certain key economic and socio-economic indicators were necessary. These are summarized in Table 1.

TABLE 1: SALIENT ECONOMIC AND SOCIO-ECONOMIC INDICATORS FOR THE STUDY AREA, 1993

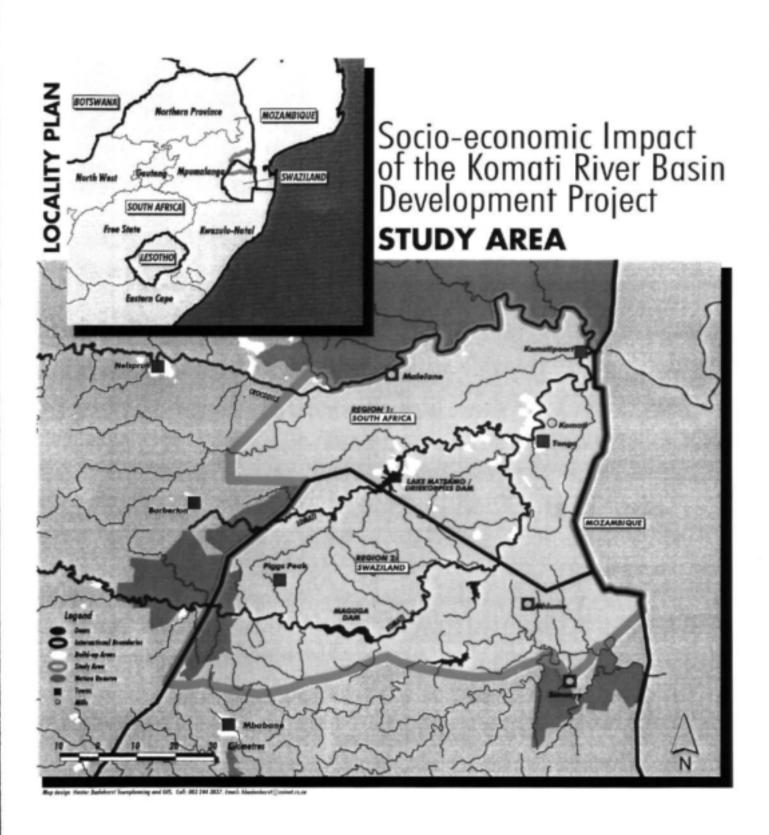
	Indicators	Onderberg	Nkomazi	Total RSA (Region 1)	Swaziland (Region 2)	Total
Population:	Rural		284481	284481	176731	461212
	Urban/Commercial11	60585		60585	30665	91250
	Total	60585	284481	345066	207406	552462
Gross Geograp	ohic Product [R million]	701	435	1136		2018
Per Capita Ho	usehold Income [Rand]	7408	1311	2382	19831)	
Commercial ac	ctivity (size)					
Total RSA =	100			100	44	
Total Area (ha)				280000	
Area under irri	igation (ha): Total	40743	2811	43554	24554	68108
Sugar		23113	1184	24297	23255	47552
Other		17630	1627	19257	1299	20556
Forestry				15350	25000	40350
Cattle: Large	Stock Units			69500	69500	139000
Small	Stock Units				17491	

Rural based on Nkomazi.

A map for the study area is included to provide a spatial perspective of the area under investigation. As can be seen from the map the study area comprise of two regions. The first region is the Nkomazi/Onderberg region of South Africa. This portion of the study area will be referred to as Region 1. The other region comprise of Northern Swaziland and is referred to as Region 2. In some cases Region 1 and Region 2 are respectively abbreviated as R1 and R2. Key aspects shown in the map are as follows:

- Demarcation of the study area.
- National Borders.
- Major towns.
- Driekoppies and Maguga Dams.
- Lomati, Komati and Crocodile rivers.
- Sugar Mills.

MAP 1: STUDY AREA



2.2 KOMATI RIVER BASIN DEVELOPMENT INITIATIVES

2.2.1 Institutional Aspects

During 1991 at Piggs Peak the three ministers responsible for water affairs in the Kingdom of Swaziland, the RSA and Mozambique agreed inter alia that:

- A joint study of the water resources, demands and development potential on the whole Inkomati River Basin be undertaken.
- Construction of the Driekoppies and Maguga Dams may proceed.
- As an interim measure, a flow of 2 cubic metres per second (m³/s) must cross the border between South Africa and Mozambique in the Inkomati River at Komatipoort.

During May 1995 a Protocol on Shared Watercourse Systems in the Southern African Development Community (SADC) Region was prepared in Maseru. The Kingdom of Swaziland, the RSA and Mozambique are signatories to this protocol, which was prepared because the need was recognized for co-ordinated and environmentally sound development of the resources of shared watercourses in the SADC Region in order to support sustainable socio-economic development.

2.2.2 Description of Proposed Water Resource Development

The estimated potential future water demands from the Komati River Basin in terms of locality, quantum and timing are as follows:

- The long-term future water requirements are largely determined by the demand for irrigation water.
- ii) The main potential water use sectors and their localities are as follows:
 - Afforestation in the Highveld and Middleveld regions.
 - Domestic and industrial (thermal power station) use in the RSA upstream of the Kingdom of Swaziland.
 - Domestic and irrigation use in the Lowveld region of both the Kingdom of Swaziland and the RSA.

The construction of the Driekoppies Dam took place in South Africa while the construction of the Maguga Dam is currently underway in Swaziland. The following is a concise exposition of certain important facts surrounding the KRBDP:

i) The capital costs for Sub-phase 1 A (Driekoppies) and Sub-phase 1B (Maguga) in 1996-prices are as follows:

	Total (R million)	Swaziland (R million)	SA (R million)
Maguga Dam	663	251	412
Sugar Mills	382	2	380
Hyropower Installation	55	55	
Irrigation Development	160	160	
Permanent Accommodation of Main Contractor	48	18	30
Resettlement: reservoir and Project Development Area	17	16	1
Total Maguga	1325	502	823
Driekoppies Dam (RSA)	488		488
Weirs	30	-	30
RSA Mills	403	-	403
Irrigation: Nkomazi Area (Komati)	97	-	97
Irrigation: Nkomazi (Lomati)	31	-	31
Total Driekoppies	1049		1049
Total Project	2374	502	1872

- ii) After completion of both these dams it is expected that domestic and industrial water requirements will be supplied at a 98% assurance.
- iii) Full irrigation water requirements will on average be supplied for 80% of the time, after completion of the above-mentioned dams.
- iv) The main purpose of storage and release from these dams, is in fact, to support the development of irrigated agriculture in the Komati Area. The most important crops under irrigation are:
 - Sugar cane
 - Sub-tropical orchards
 - Bananas
 - Summer and winter grain
 - Summer and winter vegetables
 - Tobacco

- v) After completion of the Driekoppies Dam the total area under irrigation in the RSA will be 31 327 hectares.
- vi) The number of hectares to be irrigated from the Maguga Dam will cover 7 393 hectares of which 3 082 hectares will be sugar cane and the remainder will be mainly citrus.

A detailed exposition of the Komati River Basin Development Project will be provided in Section 5 of this report.

3. METHODOLOGY

In this study an attempt is made to analyse and quantify the changes that take place in an economy over time. In this particular case it mainly concerns the economy of the KRBDP Area that will be affected by the Komati River Basin Irrigation Projects.

The main aim is to quantify the impact of the irrigation projects on the social and economic aggregates that form part of the economy through the use of the SAM as an analytical tool. The SAM is well-known for displaying a wide range of social, institutional, demographic, financial and economic aggregates as well as their fundamental economic interrelationships.

Comparing SAM's over time will provide insights into important changes in the economy under investigation as well as possible explanations for the source of these changes that gave rise to growth and development. The first step in this project therefore was to construct a SAM for the economic impact area, including the study area before the implementation of the irrigation projects and compare it with a position that would have transpired after completion of the projects. The difference in aggregate levels and structure of these SAMs would provide indications of how these irrigation projects in fact impacted on the targeted economy by way of structural adjustments and other direct and indirect growth and development stimuli.

The following sections will shed more light on the methods employed to *inter alia* compile an applicable range of SAMs for the study area as well as how the SAM was used for analytical purposes.

3.1 THEORY OF THE SAM

3.1.1 Background

The SAM is a relatively recent development in the field of National Accounting. This development is of particular significance since the SAM provides a framework within the context of the national accounts in which the activities of households are accentuated and distinguished prominently. The household is indeed the basic unit where significant decisions are taken on important economic variables such as, *inter alia*, expenditure and saving. By combining households into meaningful groups the SAM makes it possible to clearly distinguish between, and study the effect, interaction and the economic welfare of each group.

The development of the SAM, with the household as focus point, must also be seen in the light of the fact that conventional national accounts often do not provide sufficient information, and also no framework to properly investigate and address important policy issues regarding aspects such as income distribution, personal saving, employment, etc.

3.1.2 Interpretation of the SAM

Once a SAM has been developed, it becomes a powerful econometric tool that can be used to conduct various economic analyses.

Using the SAM, a Leontief inverse (I - A)⁻¹ can be calculated in the same manner as for the Input/Output (I/O) Table. Isolating the endogenous variables within the SAM, subtracting them from an identity matrix and inverting the result, provides a matrix that can be used to determine and interpret various impacts on the economy.

This inverted matrix contains all the direct as well as indirect and induced impacts that changes in any sector's output will have on the economy as a whole. When stimulated ("kicked") by changes in the exogenous part of the economy, it quantifies the various impacts of such changes on the economy.

3.1.2.1 The SAM as a modelling tool

Since the SAM provides a detailed description of the economy under discussion in quantified terms, it can also serve as an effective economic model for planning and policy analysis purposes. The SAM's modelling attributes are based on the fact that its composition has an intrinsic matrix form. This allows the researcher to re-arrange its components into exogenous (independent) and endogenous (dependent) sections. Its dynamic nature can be further enhanced through adding more equations to the core matrix. An example of the extension of the SAM-structure is the so-called semi-Input-Output Model by Wang and Mullins (1988) where labour and capital equations were added to the SAM-structure. A SAM normally forms the basis of a General Equilibrium Model.

The economic impact will be quantified in terms of the following economic variables:

- Production/Output
- Income/GDP
- Employment
- Income distribution (individuals)
- Industry Impact

Regional Impact

3.1.3 The Regional SAM

As mentioned previously, the purpose of the study was to determine the overall socio-economic impact of the KRBDP Project with specific reference to the project development area using a SAM.

Normally a regional Input/Output Table is compiled to capture the impacts of such developments due to forward and backward linkages. For the purpose of this study a specifically dedicated Regional SAM was proposed instead. Although much more comprehensive, the SAM is based on the same principles as the conventional Input/Output Table and to some extent is a logical extension of it. The SAM however, differs from the Input/Output Table in a few important respects. Besides information on the inter-dependence between the different sectors of the economy, which is also part of the Input/Output Table, the SAM also includes detailed information on the income and spending patterns of households.

The SAM therefore lends itself much more useful to quantify the income distribution effect in respect of various institutions and income categories of a specific development initiative such as an irrigation expansion project. In the process, provision must be made for cross-border flows of income and commodities and services. The SAM therefore provides a more holistic framework to analyse the economy in its functional context. It can thus serve as a useful tool for planning and policy analysis purposes.

Three different regions were distinguished in the course of the project:

Region 1: Komati River Basin – RSA

Region 2: Komati River Basin – Swaziland

Region 3: The rest of RSA

The rest of Swaziland The rest of the world

A more detailed discussion regarding the regional SAM follows in the next section. At this stage, it will suffice to say that a regional SAM was developed for the Komati Area for 1993.

3.2 DECOMPOSITION OF THE SOURCES OF CHANGE

In this section, firstly a dissection is made of the KRBDP in terms of its capital assets i.e. dams, canals, etc. as well as the planned utilization of the relevant

water. These developments are regarded as exogenous to the model which implies that they are quantitatively analysed outside the model.

Secondly, the indirect impacts on the relevant regional economies as a result of the linkages that exist in these economies are analysed. These impacts are derived from the SAM model and therefore seen as endogenous of the analysis.

To understand the economic rationale of the above exogenous and endogenous impacts of the KRBDP, these impacts could also be described as direct, indirect and induced effects. For example, the impact of the additional irrigated hectares should be viewed as follows:

- The direct impact occurs on the additional farming land by means of increased crops, payment of remuneration to employees and an increase in gross operating surplus.
- The indirect impacts refers to impacts on industries that provide inputs to the agriculture sector and other backward linked industries.
- The induced effect or income effect refers to a further round of economic activity that takes place in the economy because of additional consumer spending as a result of the additional salaries and wages throughout the study area.

For purposes of testing the validity of the model (which was not done for reasons as described previously) another exogenous economic change should be calculated. This refers to the estimated economic growth from 1993 to 1996 for the exogenous variables of the model. These variables are exports, capital investment and current government spending in the study area.

In this Study, three matrices were therefore developed to reflect the exogenous stimuli of the KRBDP on the economy of the study area. These matrices are referred to as Final Demand Matrices since the builder of the SAM model usually regards final demand as exogenous to the model. Detailed expositions of these three matrices are presented in Annexure A.

i) Final Demand Matrix 1: Changes in exogenous variables.

This matrix was developed to reflect the normal growth of the exogenous variables in the 1993 SAM from 1993 - 1996. An example of this, is the expected change in exports, capital investment and government consumption expenditure over this period.

ii) Final Demand Matrix 2: Impact of the KRBDP in 1996.

This matrix contains the impact of the Driekoppies Dam (since this was the only part of the KRBDP in 1996) on the study area and takes into account the capital cost, operating and maintenance costs and the benefits of this part of the development on the economy of the Komati Basin.

iii) Final Demand Matrix 3: Impact of the KRBDP at optimum level

Here, the impacts of both dams (Driekoppies and Maguga) are reflected in order to determine how large the impact of the entire KRBDP will be at optinum level on the total study area.

Each of the above-mentioned final demand matrices was developed in such a manner as to explicitly reflect each aspect of the KRBDP. This implies that every possible cost and benefit emanating from the Project was handled separately in order to accurately determine the sectors that would be stimulated due to the development.

The resulting final demand matrices clearly show the extent to which each sector or economic entity will be impacted due to the KRBDP, as well as normal growth taking place in the economy. Using these matrices to stimulate the SAM-model exogenously, one can gain insights as to the economic and socio-economic impacts of the Project.

3.3 CHANGES TO THE ENDOGENOUS STRUCTURE

As can be expected, the development of the Komati River Basin caused structural changes within the endogenous portion of the 1993 SAM.

The most notable change is the shift in the relationship between large commercial farmers and small commercial farmers. Due to these developments, a definite increase was allowed for the amount of hectares irrigated by small commercial farmers. This change was reflected within the endogenous structures of both models i.e. for 1996 and for the optimum level. The ultimate impact on other economic aggregates such as consumption expenditure, savings, taxes, etc. will be discussed later.

3.4 CONSTRUCTING SCENARIO'S FOR 1996 AND 2008

3.4.1 Scenario 1996

The original objective of Scenario 1996 was to test the reliability of the model's analysis. The methodology anticipated to do this calculation was a forecast of the impact in the year 1996 making use of the SAM model and to compare this with the real situation in 1996. The estimate for 1996 entails the analysis of the real impact of the proposed development as it culminated in 1996.

To this result the activity in 1993, the so-called normal growth that has happened in the period 1993 to 1996, should be added. The normal 1993 to 1996 growth data are shown in Annexure A (Final Demand Matrix 1) as well as the actual impact of the KRBDP in 1996 (Final Demand Matrix 2).

Unfortunately no reliable comparison could be made between the estimate for the year 1996, and the real situation as in 1996. This is due to the fact that no regional economic data exist at present. The DBSA is currently the only organisation in South Africa that publishes regional data on a regular basis and only 1994 data are available on a district level.

Constructing a scenario for 1996, entailed the calculation of two different inverse matrices for 1993 and 1996 using the SAM.

The socalled model (I-A)⁻¹ is developed by firstly dividing the SAM into endogenous and exogenous portions. Secondly one has to develop a coefficient matrix (A) of the endogenous portion which is then subtracted from an unity matrix (I). The model is then the inverted matrix (I-A)⁻¹.

The 1996 inverse differs from the 1993 inverse with respect to the ratio of small commercial farmers to large commercial farmers in Region 1. After the development Project commenced, a definite increase could be detected in the numbers of small commercial farmers in the area.

By multiplying each of these inverse matrices (I-A)⁻¹ with the appropriate Final Demand Matrices as described in the previous section, a scenario could be developed for 1996.

The following formulas provide a brief explanation of this process:

Level 1: This could be regarded as a control simulation.

Impact in 1993

 Level 2: Multiply the Leontief inverse of the 1993 SAM by Final Demand Matrix 1.

Normal growth from 1993 to 1996

 Level 3: Multiply the Leontief inverse of the SAM, after adjusting its endogenous structure to reflect the changes up to 1996, with Final Demand Matrix 2.

Impact of the project up to 1996

Level 1 formed the base from which the various impacts were measured. The summation of Levels 1.2 and 3 provided a picture of the situation in 1996 taking into account the normal economic growth and the impact of the KRBDP up to 1996.

3.4.2 Scenario 2008

While Scenario 1996 was a control measure to determine the accuracy of the SAM-model, Scenario 2008 was constructed to measure the impact of the KRBDP in 2008 after completion of this project.

It is important to note that the scenario for 2008 reflects only the impact that the Development Project will have on the economy and not the economic situation of the study area in 2008. This implies that no provision was made for normal economic growth within the Komati Area for Scenario 2008.

The process of developing scenario 2008, entails the calculation of an inverse matrix after adjusting the 1993 SAM to reflect the necessary endogenous changes to the structures captured in the SAM. These changes, as with Scenario 1996, are mainly due to the increase in the number of small commercial farmers in both Region 1 and Region 2.

The following explains the construction of the scenario for 2008, briefly:

 After adjusting the SAM to reflect the necessary endogenous changes, multiply the Leontief inverse with Final Demand Matrix 3.

Impact of the project in 2008

A discussion on the outcome of these calculations, is provided later in the report.

4. COMPILING A SAM FOR THE STUDY AREA FOR THE BASE YEAR 1993

As mentioned earlier, it was decided to compile a regional SAM for 1993 due to the fact that at that time the construction of the project had not started yet. Hence, the 1993 regional SAM formed the basis from which the impacts on the economy, due to project developments in the Komati Area, were measured against.

4.1 SAM FRAMEWORK FOR THE PROJECT

The first step in developing a SAM is to determine all possible interactions/transactions (flows) between the different sectors and economic role players in the designated area. These flows must also take into account the different regions specified for purposes of this study and the fact that inter regional flows will be the order of the day.

The following economic entities were identified:

- i) Activities
- ii) Commodities
- Factor payments (i.e. gross operating surplus and labour)
- iv) Enterprises
- v) Households
- vi) Government
- vii) Capital (investment and savings)

The following framework provides a theoretical/illustrative description of the flows of economic entities which also take the regional aspect into account. The glossary that follows directly afterwards will aid the reader in understanding the framework. The glossary has two parts that describe the relationships within the SAM:

- Komati River Basin RSA (Region 1)
- Komati River Basin Kingdom of Swaziland (Region 2)

For purposes of easy reference, the glossary follows directly after Table 2. A concise description of each matrix within the framework is provided and is useful in understanding the interlinkages between the different entities in the economy.

TABLE 2: A SAM FRAMEWORK FOR THE STUDY AREA

SAM 1	Region 1 Komati - RSA					Region 2	Komati – Kingdom of Swaziland					R3					
	expenditures receipts	Activ 1	com 2	factors 3	enterp 4	househ 5	govern 6	capital 7	activ 1	com 2	factors 3	enterp 4	househ 5	govern 6	capital 7	rest of the world	
	activities	1-	P''		-	-	Sub _E	-		P12	-	-	-	-	-	-	g`
	commodities	2 X11			-	C11	G11	In	-			-				E ¹³	q¹
tegion 1	factors payments	3 Wa ¹¹				Wh ¹¹	Wg ¹¹		-			-					e¹
	enterprises	4-		Q ¹¹	-		Trg _€ "		-		Q12	-		Trg _E ¹²	-		Z _u ¹
	households	5 -		L"	Qv ¹¹	Trh _H ¹¹	Trg _H ¹¹		-		L12	Qv ¹²	Trh _H 12	Trg _H ¹²		Trr _H ¹³	Z _H ¹
	government	6 Ti ¹¹	Ta ¹¹	Tf ¹¹	Tu ¹¹	Td ¹¹			-	Ta ¹²	Tf ¹²	-	Td ¹²			-	Z _G ¹
	capital	7 -			Quv ¹¹	Sh ¹¹	Sg ¹¹		-	-		-	Sh ¹²		Sa ¹²	Sa ¹³	Zc1
	activities	1-	P ²¹		-	-			-	P ²²		-		Sub _E ²²	-		g²
	commodities	2 -			-			-	X ²²	-		-	C^{22}	G^{22}	122	E ²³	q^2
Region 2	factors payments	3 -			-		-		Wa ²²	-			-	Wg^{22}		-	e ²
	enterprises	4 -	-	QZ	-		Trg _E ²¹	-	-	-	Q ²²	-		Trg _E ²²		-	Z_U^Z
	households	5 -		L21	Qv ²¹	TrhH ²¹	Trg _H ²¹		-		L^{22}	Qv ²²	Trh _H ²²	Trg _H ²²		Trr _H ²³	Z _H ²
	government	6 -	Ta ²¹	Tf ²¹	-	Td ²¹	-		Ti ²²	Ta ²²	Tf ²²	Tu ²²	Td^{22}	-		-	Z _G ²
	capital	7-			-	Sh ²¹	-	Sa ²¹	-	-		Quv ²²	Sh ²²	Sg ²²		Sa ²³	Zc2
Region 3	rest of the world	-	M ³¹	W ³¹	-	Trh _H ³¹	Trg _H ³¹	Sa ³¹	-	M ³²	W ³²		Trh _H ³²	Trg _H ³²	Sa ³²	-	ZA
TOTAL		g¹	q°	e¹	Z _U 1	ZH1	Z_G^1	Zc	g ²	q ²	e ²	Z_0^2	Z _H ²	Z_0^2	Zc ²	ZA	

GLOSSARY: KOMATI RIVER BASIN – RSA (REGION 1)

COLUMN 1: ACTIVITIES

X¹¹: Intermediate consumption; Commodities required by Activities in

Region 1 as inputs.

Wa¹¹: Remuneration of Labour and Capital in Region 1.

Ti¹¹: Indirect Taxes raised on Activities.

COLUMN 2: COMMODITIES

P¹¹: Production of Commodities by each activity in R1 and sold in R1.

Ta¹¹: Indirect taxes on products in R1 (VAT).

P²¹: Imports of R1 from R2.

Ta²¹: Indirect taxes on products in R2 (VAT).

M³¹: Imports from the a) rest of RSA

rest of Kingdom of Swaziland.

c) rest of the world

COLUMN 3: FACTORS

Q¹¹: Dividends and interests to Region 1.

L¹¹: Salaries and wages to Households in Region 1.

Tf11 Indirect taxes (tax on Capital and Labour) to Government in Region 1.

O²¹: Dividends and interest to Region 2.

L²¹: Salaries and wages to Households in Region 2.

Tf21: Indirect taxes (tax on Capital and Labour) to government in Region 2

from Region 1.

W³¹: Salaries and wages to Households in the a) rest of RSA

 rest of Kingdom of Swaziland

rest of the world

COLUMN 4: ENTERPRISES

Qv¹¹: Profits distributed to Households in Region 1.

Tu¹¹: Enterprise taxes
Ouv¹¹: Undistributed Profits

Qv²¹: Profits from R1 distributed to Households in Region 2.

COLUMN 5: HOUSEHOLDS

C¹¹: Private consumption expenditure by Households in Region 1.

Wh11: Remuneration of labourers by Households in Region 1.

TrhH¹¹: Transfers from Households in R1 to Households in Region 1.

Td¹¹: Direct taxes and transfers paid to the Government in Region 1.

Sh¹¹: Household savings in Region 1.

TrhH21: Transfers from Households in R1 to Households in Region 2.

Td21: Direct taxes and transfers paid to the Government in Region 2.

Sh²¹: Household savings in Region 2.

Trha31: Transfers from Households in Region 1 to Households in the

a) rest of RSA

b) rest of the Kingdom of Swaziland

rest of the world

COLUMN 6: GOVERNMENT

Subsidies on Activities (exports).

Government consumption expenditure

Wg¹¹: Remuneration of government employees.

TRg_E¹¹: Transfers to Enterprises in Region 1.
TRg_H¹¹: Transfers to Households in Region 1.

Sg¹¹: Government savings

TRg_E²¹: Transfers to Enterprises in Region 2.
TRg_H²¹: Transfers to Households in Region 2.

TRgH³¹: Transfers to Households in the a) rest of RSA

b) rest of the Kingdom of

Swaziland

c) rest of the world

COLUMN 7: CAPITAL

I¹¹: Gross investment in Region 1.

Sa²¹: Capital flow from Region 1 to Region 2.

Sa³¹: Capital flow from Region 1 to a) rest of RSA

rest of the Kingdom of

Swaziland

c) rest of the world

GLOSSARY: KOMATI RIVER BASIN – SWAZILAND (REGION 2)

COLUMN 1: ACTIVITIES

X²²: Intermediate consumption; Commodities required by Activities as

inputs in Region 2.

Wa²²: Remuneration of Labour and Capital in Region 2.

Ti²²: Indirect Taxes raised on Activities.

COLUMN 2: COMMODITIES

P²²: Production of Commodities by each activity in Region 2 and sold in

Region 2.

Ta²²: Indirect taxes on commodities in Region 2 (VAT).

P¹²: Imports of Region 2 from Region 1.

Ta¹²: Indirect taxes on commodities in Region 1 (VAT).

M³²:

Imports from the

- rest of RSA
- b) rest of the Kingdom of Swaziland
- rest of the world

COLUMN 3: FACTORS

Q²²:

Dividends and interests to Region 2.

L22:

Salaries and wages to Households in Region 2.

a)

Tf22

Indirect taxes (tax on Capital and Labour) to Government in Region 2.

O12:

Dividends and interest to Region 1.

L12:

Salaries and wages to Households in Region 1.

Tf12:

Indirect taxes (tax on Capital and Labour) to government in Region 1.

W32:

Salaries and wages to Households in the

a) rest of RSA

b) rest of the Kingdom

of Swaziland

c) rest of the world

COLUMN 4: ENTERPRISES

Ov22:

Profits distributed to Households in Region 2 from enterprises.

Tu22:

Enterprise taxes.

Ouv22:

Undistributed Profits.

Ov12:

Profits from Region 2 distributed to Households in Region 2.

COLUMN 5: HOUSEHOLDS

C22.

Private consumption expenditure by Households in Region 2.

Wh²²:

Remuneration of labourers by Households in Region 2.

Trhe22:

Transfers from Households in Region 2 to Households in Region 2.

Td22:

Direct taxes and transfers paid to the Government in Region 2.

Sh22:

Household savings in Region 2.

Trhe12:

Transfers from Households in Region 2 to Households in Region 1.

Td12:

Direct taxes and transfers paid to the Government in Region 1.

Sh12:

Household savings in Region 1.

TrhH32:

Transfers from Households in Region 2 to Households in the

a) rest of RSA

b) rest of the Kingdom of Swaziland

c) rest of the world

COLUMN 6: GOVERNMENT

Sube22:

Subsidies on Activities (exports).

G22:

Government consumption expenditure.

Wg²²: TRg_E²²: Remuneration of government employees. Transfers to Enterprises in Region 2.

INGE .

Transfers to Households in Region 2.

TRgH²²: Sg²²:

Government savings.

TRgE12:

Transfers to Enterprises in Region 1.

TRgH12:

Transfers to Households in Region 1.

TRg_H³²: Transfers to Households in the a) rest of RSA

 rest of the Kingdom of Swaziland

rest of the world

COLUMN 7: CAPITAL

I²²: Gross investment in Region 2.

Sa¹²: Capital flow from Region 2 to Region 1.

Sa³²: Capital flow from Region 2 to a) rest of RSA

b) rest of the Kingdom of

Swaziland

b) rest of the world

The entities mentioned above were all sub-divided into different components. Each entity has its own set of components. For instance, when reference is made to the activities, it is a collective referral to the 36 different activities (production sectors) that were identified for purposes of constructing the SAM.

Annexure B contains a list of how each entity is made up of its constituent components. However, a brief overview in this regard will be helpful.

The following is an inventory of the number of components that each entity is made up of:

i) Activities - 36 components (Region 1)
- 33 components (Region 2)
ii) Commodities - 40 components

iii) Factor payments: Labour - 4 components
iv) Factor payments: Capital - 8 components
v) Enterprise - 8 components
vi) Households - 9 components

vii) Government - 5 components (Expenditure side)
- 16 components (Income side)

viii) Capital - 2 components

This implies that each of the entries in the SAM framework (See Table 1) may be either matrices or vectors or, in certain instances, a single figure.

The matrices depicted in the SAM framework formed the basic building blocks from which the regional SAM was constructed. This will be explained in the next section.

4.2 CONSTRUCTING A SAM FOR 1993

The construction of a SAM is an endeavor that requires patience, knowledge of the nature of relationships that exist in an economy in general, and that of the focus area in particular.

In this section an attempt will be made to explain the entire process of constructing a SAM that takes the relationships developed in previous sections into consideration. To assist in understanding the principles and concepts used, use will be made of applicable illustrations.

An important aspect is that a distinction can be made between two types of entities. Certain entities can be directly sub-divided and others are induced.

The entities that can be sub-divided directly are:

- i) Activities
- ii) Households
- iii) Government
- iv) Capital

The remaining entities are induced using the entities that were directly distributed; namely:

- Commodities
- Factor Payments
- iii) Enterprise

4.2.1 Directly Allocated Entities

When an entity's core elements are directly calculated, it implies that the interactions between this specific entity and other entities in the SAM, can be laid down before the rest of the SAM has been put together.

This method usually entails the calculation of the column totals of an entity and then using structures to allocate (sub-divide) these totals between the various entities influenced.

4.2.1.1 Activities

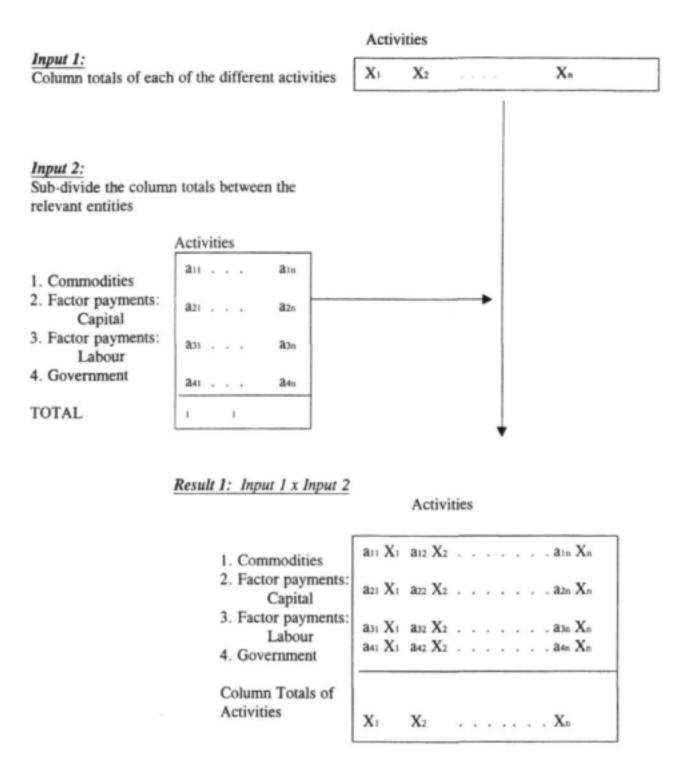
The activities reflected in the SAM, can be viewed as the core drivers behind most of the important relationships in the SAM. The nature and magnitude of the activities in a certain region, sets the pace for the economic energy generated within that region.

Thus, the activities form the basis from which many of the other entities are developed. If the SAM framework developed in the previous section is inspected, it becomes clear that the activities have a direct impact on four other entities. These are:

- i) Commodities
- ii) Factor payments: Capital
- iii) Factor payments: Labour
- iv) Government

The following is a schematic representation of the development of the activity columns.

FIGURE 1: SCHEMATIC REPRESENTATION OF THE DEVELOPMENT OF THE FUNCTIONAL STRUCTURE OF THE ACTIVITIES COLUMNS



Inputs 3 - 6:

These structures are necessary for disaggregating the figures in Result 1 between the components of each of the above-mentioned entities.

Input 3: Commodities structure (Coefficients)	Input 4: Factor payment: Capital structure (Coefficients)	Input 5: Factor payment: Labour structure (Coefficients)	Input 6: Government structure (Coefficients)
Activities	Activities	Activities	Activities
b11 b1n	C11 C1n	d11 d1n	e11 e1n
			1
	-		
bm1 bmn	Cm1 Cmn	dm1 dmn	em1 emn
11	1 1	1 1	1 1

Result 2: Result 1 x Input 3

Activities

Result 3: Result 1 x Input 4

Result 4: Result 1 x Input 5

Activities

All the different labour factor payments

d11 (a31	X1)		$d_{\text{in}}\;(a_{3n}\;X_n)$
dm1 (аз1	X1)		dmn (a3n Xn)

Total labour factor payments emanating from each activity

Result 5: Result 1 x Input 6

Activities

All the different payments to the government

Total payments

	d141	X1)	,	e _{in}	(a4n	Xn)
-1	(241	X1)		ė _{mo}	(a4n	X.)

to the government by each activity

By combining the matrices generated in Results 2, 3, 4 and 5, the columns for each of the different activities were developed.

Final Result:

Activities

1. Commodities	b11 (a11 X1) b1n (a1n Xn)
	b _{m1} (a ₁₁ X ₁) b _{mn} (a _{1n} X _n)
Factor Payments: Capital	$c_{11}\;(a_{21}\;X_1)\;\;.\;\;.\;\;.\;\;c_{1n}\;(a_{2n}\;X_n)$
	Cm1 (a21 X1) Cmn (a2n Xn)
 Factor Payments: Labour 	d11 (a31 X1) d1n (a3n Xn)
	dm1 (a31 X1) dmn (a3n Xn)
Government	e11 (a41 X1) e1n (a4n Xn)
	emi (a41 X1) emn (a4n Xn)
Column Totals: Activities	X1 X2 Xn

The final result provides a clear indication of the different structures and monetary values of the intermediate and primary services required by each of the activities to produce at a specific level. This concludes the construction of the first block of the SAM, which is the key driver when it comes to developing the other outstanding components of the SAM.

Two other important building blocks necessary to construct a SAM, were deduced from these results. These buildings blocks are:

- The production of commodities by each of the activities.
- ii) Exports of commodities.

i) The production of commodities

The magnitude of production by each activity is closely linked to the magnitude of its inputs. Hence, a definite relationship exists between the column totals of each activity and its production.

The method employed to calculate production per activity, is illustrated:

FIGURE 2: SCHEMATIC REPRESENTATION OF THE CALCULATION OF PRODUCTION PER ACTIVITY

Input 1:

The row totals of each of the activities.

(Note: Column totals of activities = Row totals of activities)

Row total of each activity

Activities

X₁ X₂

Input 2:

A structure was developed to indicate which commodity is produced by each activity.

Commodities	Totals

Activities

Totals
1
1

Result 1: Input 1 x Input 2

A matrix reflecting the production of commodities by each activity

Commodities]	Row	totals	of	each	activity
		1		1		

Activities

an X1	$a_{1m}\; X_1$	Xı
ani Xn	ann Xn	Xn

Exports of commodities

The basic principle to keep in mind when determining the magnitude of the exports from a certain region, is that the exports may not exceed the production within that region. Further, the exports are dependent on the magnitude of the activities within that region (in other words, the level of local demand for a specific activity's products).

FIGURE 3: SCHEMATIC REPRESENTATION OF THE CALCULATION OF EXPORTS

Input 1:

The row total of each activity.

Row total of each activity

Activity

X₁
.
.
.
.
.
.
.
.
.

Input 2:

Exports expressed as a percentage of activities

Activities

Export percentages

x₁ %
...
...
...
...

Result 1: Input 1 x Input 2

Commodities

Exports

x₁ % X₁
.

Xn % Xn

4.2.1.2 Households, Government & Capital

The same basic technique used to develop the activities column, was applied to develop the columns for households, the government and capital.

Detailed descriptions of the methods employed to construct the household and government columns are provided below. It is important to note the following:

- For purposes of this project, 3 types of households within the Komati River Basin Area were identified, each of which was divided into 3 levels of income. In the discussion of the methodology, the term "Households" refers to these 9 different households collectively.
- In the discussion below, the term "Governmental bodies" refers to:
 - Central government
 - Provincial government Education
 - Health
 - Other
 - Local government

FIGURE 4: SCHEMATIC REPRESENTATION OF THE DEVELOPMENT OF THE HOUSEHOLDS COLUMN

Input 1: Household expenditure by each of the different households. Household expenditure = Number of households x Average household income Households Xı Xn Household expenditure Input 2: Structures to divide household expenditure between the different entities influenced by household expenditure. Households Commodities (incl. service **a**21 **a**22 a2n 2. Factor payments: Labour an **a**32 23n 3. Transfers to households 241 34n 342 4. Government a51 a52 at5n 5. Capital Total Result 1: Input 1 x Input 2 Households au Xı a12 X2 1. Commodities a21 X1 a22 X2 . . . a2n Xn 2. Factor payments: Labour Transfers to households 4. Government ası X1 as2 X2 .

Total household expenditure

 X_1

 X_2

Capital

-		
I	mark	- 2
III	pu	Э.

Structure to divide each household's expenditure on commodities between all the different components of this entity.

Input 4:

Structure to divide each household's expenditure on labour between all the different labourers.

		Н	ous	eh	old	S	
All the different factor payments regarding labourers	C11				×		Cin
regarding involvers	Cm1						Cmn
Total	1						1

Input 5:

Structure to divide transfers to households between all the different households.

	Households							
All the different households	d11							din
	d _{m1}							d _{mn}
Total	1							1

Input 6:

Structure to divide payments to the different governmental bodies.

Households

All the different governmental bodies

en			Cin
Cm1			Cmn

Total

Input 7:

Structure to allocate capital payments (savings) by households.

Households

Capital payments

f11 fm1	:		:	:	fin fmn
1					1

Total

Result 2: Result 1 x Input 3

A matrix containing household expenditure on all the different commodities

All	the	different
con	nmo	dities

bm1 (a11 X1) bmn (a1n Xn)	b11 (a11 X1)		$b_{1n}\;(a_{1n}\;X_n)$
bm1 (a11 X1) bmn (a1n Xn)	•		
	b _{m1} (a ₁₁ X ₁)		bmn (ain Xn)
			, ,

Total household Expenditure on commodities (incl. services)

Result 3: Result 1 x Input 4

A matrix containing household expenditure on labour payments.

Households

All the different labourers.

C11 (a21 X1)				$c_{\text{in}}\;(a_{\text{2n}}\;X_n)$
Cm1 (a21 X1)	×	٠	٠	Cmn (a2n Xn)
a21 X1				aan Xn

Total household expenditure on labour

Result 4: Result 1 x Input 5

A matrix containing transfers to different households.

Households

All the different households.

d11 (a31 X1)		$d_{\text{In}}\;(a_{3n}\;X_n)$
dm1 (a31 X1)		dmn (a3n Xn)

Total household transfers

Result 5: Result 1 x Input 6

A matrix containing transfers to the government by different households.

Households

All the different governmental bodies

en	(a41	Xı)				$e_{1n}\;(a_{4n}\;X_n)$
emt	(a41	Xı)	١.			e _{ma} (a _{4n} X _n)
241	Χı					a4n Xn

Total tax paid by households

Result 6: Result 1 x Input 7

A matrix containing capital payments (savings) by different households.

Households

Capital	fii (asi Xi)	fin (asn Xn)
Total bounded	fm1 (as1 X1)	fmn (asn Xn)
Total household savings	ası Xı	$as_n \; X_n$

Final result:

Combined Results 2, 3, 4, 5 and 6.

Households

Total household expenditure	Xı	Х	2 .			. Xn
Commodities Factor payments: Labour Transfers to households Government Capital	a21 X1 a31 X1			:		an Xn an Xn an Xn an Xn an Xn as Xn

FIGURE 5: SCHEMATIC REPRESENTATION OF THE DEVELOPMENT OF THE GOVERNMENT CONSUMPTION EXPENDITURE COLUMN

Input 1:

The total consumption expenditure by each of the governmental bodies.

Governmental bodies

Column total of the expenditure by each governmental body

Xı	X2			Xn

Input 2:

Structure to divide consumption expenditure by the government between the different entities influenced by such expenditure.

Governmental bodies

1. Commodities	an	a12			Alm
Factor Payments	a21	a 22			a2n
Enterprises	a31	2132			23n
 Households 	B41	3 42			24n
Capital	a51	a52			25n
	-		_	_	
Total	-1	1			1

Result 1: Input 1 x Input 2

Consumption expenditure by the government per entity.

Governmental bodies

an Xi	a12 X2					ain Xn
a21 X1						a _{2n} X _n
as1 X1	a52 X2					asn Xn
Xı	X2					Xn
	a ₂₁ X ₁	a ₂₁ X ₁ a ₂₂ X ₂	a ₂₁ X ₁ a ₂₂ X ₂	a ₂₁ X ₁ a ₂₂ X ₂	a ₂₁ X ₁ a ₂₂ X ₂	a ₂₁ X ₁ a ₂₂ X ₂

				-
For	m	me.	•	-
III	v	881		J,

Structure to divide governmental expenditure on commodities between all the different commodities.

Governmental bodies

All the different commodities

bii	b12		bin
b _{m1}	b_{m2}		b _{mn}
ĭ	1		1

Total

Input 4:

Structure to divide factor payments by the government between different capital and labour payments.

Governmental bodies

All the different factor payments regarding capital & labour

CII	C12		Cin
			12
Cm1	Cm2		Crm
1	1		1

Total

Input 5:

Structure to divide transfers to enterprises.

Governmental bodies

All the different enterprises

d11	d_{12}		d_{1n}
d _{mt}	d_{m2}		d _{mn}
	1		1

Total

Input 6:

Structure to divide transfers to households between the different households.

Governmental bodies

All the different households

C12			e _{in}	
em2			e _{mn}	
_	_		,	_
	e _{m2} .	e _{m2}	e _{m2}	e _{m2} e _{mn}

Total

Input 7:

Structure to allocate capital payments (savings) by governmental bodies.

Governmental bodies

Capital payments

fii	f12			f_{1n}
f _{m1}	f _{m2}			fmn
1	1	-		1

Total

Result 2: Result 1 x Input 3

A matrix containing government consumption expenditure on all the different commodities

All	the	different
con	amo	dities

b11 (a11 X1)	b12 (a12 X2)		bin (ain Xn)
b _{m1} (a ₁₁ X ₁)	b _{m2} (a ₁₂ X ₂)		b _{mn} (a _{1n} X _n)
aıı Xı	a12 X2		ain Xn

Total government expenditure on commodities

Result 3: Result 1 x Input 4

A matrix containing government expenditure on factor payments.

All the different	c11 (a21 X1)	C12 (a22 X2)		C1n (a2n Xn)
factor payments regarding capital &				
labour				
labout	Cm1 (a21 X1)	Cm2 (a22 X2)		cmn (a2n Xn)
Total government expenditure	v	v		
on factor payments	a21 X1	a22 X2		a _{2n} X _n

Result 4: Result 1 x Input 5

A matrix containing transfers to different enterprises.

Governmental bodies

All the different	d11 (a31 X1)	$d_{12} (a_{32} X_2)$		d1n (a3n Xn)
enterprises				
	d _{m1} (a ₃₁ X ₁)	$d_{m2} \ (a_{32} \ X_2)$		d _{mn} (a _{3n} X _n)
Total transfers	a31 X1	a ₃₂ X ₂		an Xn

Result 5: Result 1 x Input 6

A matrix containing transfers to households by different governmental bodies.

Governmental bodies

All the different	e11 (a41 X1)	e12 (a42 X2)		e _{1n} (a _{4n} X _n)
Households				
	em1 (a41 X1)	$e_{m2}\;(a_{42}\;X_2)$		$\stackrel{\cdot}{e_{mn}} (a_{4n} \; X_n)$
Total transfers to households by Governmental bodies	a41 X1	a42 X2		a4n Xn

Result 6: Result 1 x Input 7

A matrix containing capital payments (savings) by different Governmental bodies.

Governmental bodies

fit (ast X1)	f12 (a52 X2)				fin (asn Xn)
fm1 (as1 X1)	$f_{m2}\ (a_{52}\ X_2)$				$f_{mn}\;(as_n\;X_n)$
ası Xı	as2 X2				asn Xn
	fm1 (as1 X1)	fm1 (as1 X1) fm2 (as2 X2)	fm1 (as1 X1) fm2 (as2 X2) .	fm1 (as1 X1) fm2 (as2 X2)	fm1 (as1 X1) fm2 (as2 X2)

Final result:

Combine Results 2 - 6:

1. 2. 3. 4.	Commodities Factor payments Enterprise Households Capital	a21 X1 a31 X1 a41 X1	a ₁₂ X ₂ a ₂₂ X ₂ a ₃₂ X ₂ a ₄₂ X ₂			. a _{1n} X _n . a _{2n} X _n . a _{3n} X _n . a _{4n} X _n . a _{5n} X _n
	l Government nditure	Xı	X2			Xn

4.2.2 Entities requiring second level sub-division techniques

As described previously, certain entities within the SAM were estimated from the entities that were directly distributed on the first level. The main reason for this is due to the interdependency that exists between the different entities. This implies that the allocation and distribution of one entity may effect the magnitude and distribution character of another.

4.2.2.1 Commodities

According to the SAM framework, the level and structure of commodities have an impact on three entities vertically. These are:

- Activities
- ii) Government
- iii) Imports (Rest of the world)

The relationship between commodities and activities has been dealt with in Section 4.2.1.1.

Commodities are influenced by the activities through the levelling of indirect taxes on the consumption/production of a specific region. Each commodity is impacted to a different extent by this tax according to the magnitude of the factor payments made by the corresponding activity.

Calculating the size of the imports of each commodity, is merely the difference between the row and column totals of each commodity (supply/demand differential). The discrepancy is regarded as imports. Thus, the imports of each commodity is determined by the outcome of all the proceeding allocations and sub-divisions.

After the above-mentioned calculations had been done, the following summarized results could be calculated:

	Commodities		
1. Activities			
2. Government			
3. Imports			
Column Totals: Commodities			

4.2.2.2 Factor Payments

While dealing with factor payments, a definite distinction was made between capital remuneration and labour remuneration. Each of these outlays was viewed in its own right.

Although the factor payments (capital and labour) are treated separately, the method of distribution was the same in both instances. A key assumption in the construction of the factor payments columns was that the row totals of each factor payment equaled their column totals.

The row totals for each factor payment were calculated using distributions that had been done earlier. The distribution of capital payments is described below.

FIGURE 6: SCHEMATIC PRESENTATION OF THE DEVELOPMENT OF THE CAPITAL REMUNERATION STRUCTURE

Input 1: The column totals of Factor payments: Capital Remuneration.						
Factor payments: Capital						
Column totals of each factor payment	$X_1 = X_2$ X_n					
Input 2: A structure to divide factor payments between the different entities influenced by such payments.						
	Factor payments: Capital					
6. Enterprises7. Households8. Capital	321					
Total	1					
Result 1: Input 1 x Input 2						
The factor payments with regard to each entity.						
Factor payments: Capital						
 Enterprises Households Capital 	$\begin{array}{cccccccccccccccccccccccccccccccccccc$					

 X_n

Total factor payments:

 X_1

capital

_	_		-	- 3	
n	n	34	•	- 1	

A structure to divide factor payments between the different enterprises.

Factor payments: Capital

All the different enterprises b11 b1n bmn

Total

Input 4:

A structure to divide factor payments between different households.

Factor payments: Capital

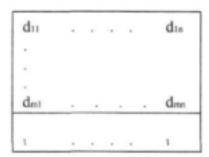
All the different households Total

Input 5:

Structure to divide factor payments between different governmental bodies.

Factor payments: Capital

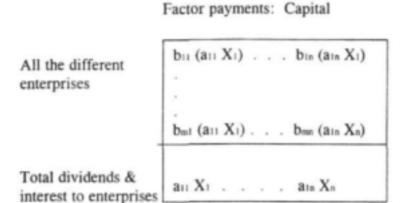
All the different governmental bodies



Total

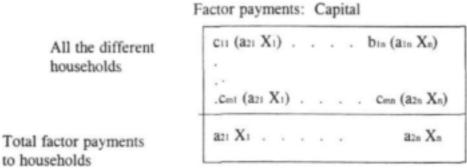
Result 2: Result 1 x Input 3

A matrix reflecting the magnitude of factor payments to each of the different enterprises.



Result 3: Result 1 x Input 4

A matrix containing factor payments to households.



Total factor payments

Result 4: Result 1 x Input 5

A matrix showing the transfers to different governmental bodies.

	Factor payments: Capital			
All the different	$d_{11}\;(a_{31}\;X_1)\;\;. . d_{1n}\;(a_{3n}\;X_n)$			
governmental bodies				
	d _{m1} (a ₃₁ X ₁) d _{mn} (a _{3n} X _n)			
Total taxes paid to the government	a31 X1 a2n Xn			

A column pertaining to each of the capital payments, is constructed by combining Results 2, 3 and 4.

Final Result:

Factor payments: Capital Remuneration

Enterprise	$a_{11}\;X_1 \;\;. \;\;. \;\;. \;\; a_{n1}\;X_n$
	a11 X1 an1 Xn
Households	a21 X1 as2 Xn
Government	азі Хі алз Хл
Column Total: Factor payments	X ₁ X _n

This block reflects the factor payments, for capital remuneration, made to the different entities. It can be interpreted as the flow of interest and dividends as well as taxes towards the three above-mentioned entities.

4.2.2.3 Enterprises

The distribution of enterprises was done in much the same way as for factor payments. The difference between the two methods was mainly due to the fact that different entities were influenced by enterprises rather than by factors payments.

The column totals for the different enterprises could easily be determined since the row total for each entity was already available due to previous direct and indirect distributions.

The entities influenced by the different enterprises are:

- i) Households
- ii) Government
- iii) Capital

Hence, a structure had to be developed to divide the column total of each enterprise between the different entities mentioned above.

As with most of the previous distributions, the next stage entailed developing structures with which to disaggregate these entities into their different sub-components.

4.2.3 The regional aspect of the SAM

Up to now, a detailed exposition was presented pertaining to the development of a SAM for a single region, while no mention has been made of the interregional aspect of the SAM.

The first step in developing a SAM that reflects the economic activities in different regions, would be to repeat the various distributions discussed in the previous section for each region under investigation.

Furthermore, where these regions influence one another, such influences need to be measured in order to determine the magnitude of the impact that the different regions have on each other. These regional interactions add another dimension to most of the distributions (direct and indirect) described previously. This implies that, for many distributions, an additional structure was developed. This structure was used to determine the impacts that various regions have upon each other due to economic activities within each regions.

To illustrate these regional interactions, the example of factor payments regarding labourers will be discussed.

Labourers are extremely mobile especially between regions that are in the same geographic proximity. For the purposes of this study, the two key regions are:

- i) Komati River Basin RSA
- ii) Komati River Basin Kingdom of Swaziland

It comes as no surprise that many persons residing in the Kingdom of Swaziland, work on farms located in the RSA and vice versa. Thus, when investigating labour remuneration (wages), a distinction had to be made between the wages that were received by labourers who may either be part of households in South Africa or households in the Kingdom of Swaziland or even households in other parts of the world. This implies that although wages may have been paid in Region 1, it may very well have been received by households in Region 2.

An example of a typical regional distribution is presented below. Similar structures were developed for all the entities that required regional distributions.

Regional Impact:

Factor payments: Labourers

Region 1 Region 2 Rest of the world a11 a12 a1n a21 a22 a2n a31 a32 a3n

Total

4.3 DATA SOURCES

4.3.1 Calculating column totals for SAM

In arriving at the column totals, a practical approach was used as far as possible to obtain the relevant primary data. However, where such information could not be obtained, secondary sources were utilised and deduced information was entered where necessary. The following explanations and discussions are in the same sequence as those of the specific subdivisions for each study area. In Table 1 the salient economic and socio-economic indicators for the two study areas are given. As will be explained below some of these indicators were used to calculate some of the economic figures in especially study area Region 2.

However, one should view the following notes as broad explanations.

4.3.1.1 Study Area Region 1 (See Map)

4.3.1.1.1 Activities

The basic nine sector division in the national accounts were disaggregated to provide for a total of 32 sub-sectors which also include informal and traditional economic activities. However, the nine sector groupings were retained as far as possible. The main point of departure in arriving at the individual totals for each sub-sector was the use of the Gross Geographical Product (GGP) for each of the nine sectors. These figures had been calculated for a previous report¹⁾ on the Region 1 study area prepared by the Consultants.

Agriculture

Database – Economic and Financial Issues, 1998.

For the agriculture and forestry sector an induced approach was followed by *inter alia* making use of Enterprise Budgets (COMBUD) primary data²⁾. Table 3 provides information on the various types of agricultural activities.

Combud Statistics - Department of Agriculture, 1993.

TABLE 3: Agricultural 1995 outputs for Region 1 (at 1996 prices)

ACTIVITIES

Activity	Cost/ha	Gross margin per ha	Area	Total production R 000	Explanatory Notes
	R	R	Ha		
Sugar Cane Farming	6 057	7 318	24 297	324 955	Calculated from budget data for different products (COMBUD)
Sub-Tropical Orchard Farming					Source: Conningarth Consultants
Bananas	23 253	13 674	3 409	125 883	Total production was determined by:
Grapefruit	28 304	34 007	1 900	118 393	(Total Cost + Gross Margin)/ha x Total ha
Valencias	22 439	14 275	2 100	77 100	The total for Sub-Tropical Orchard Farming was determined by calculating detailed cost structures for five sub- tropical activities.
Litchi's	2 947	2 786	650	20 030	
Mangoes	23 883	1 822	1 150	48 420	
TOTAL				389 826	

Notes: 1) This base data does not necessarily correspond to the relevant SAM figures but should only be considered as source information.

2) To arrive at 1996 prices, the 1993 prices were adjusted by means of the inflator for the agriculture sector as reflected in the relevant Quarterly Bulletin of the South African Reserve Bank.

Small Commercial Farmers

In developing the SAM, it became apparent that it would be necessary to distinguish between commercial large and commercial small farmers. The reason for this is twofold.

- There is a noticable difference in the input structures of commercial large and commercial small farmers.
- ii) The development in the Komati River Basin Area would favour mainly the activities of the commercial small farmers. In order to measure the nature and magnitude of the impact of the KRBDP on commercial small farmers, it was important to include the necessary detail within the SAM.

The following commercial small farming activities were investigated:

- Sugar cane farming
- Sub-tropical orchard farming
- Grain and tobacco farming
- Vegetable farming

For purposes of developing the input structures for specifically the commercial small sugar cane farming, data were gained from the Department of Agricultural Economics at the University of Pretoria where extensive studies had been conducted in this regard.

The following table reflects the above-mentioned data.

TABLE 4: INCOME AND COST STRUCTURES PER HA FOR THE PRODUCTION OF SUGAR CANE ACCORDING TO FARMING CROUPS

	Group 1 (R/ha)	Group 2 (R/ha)	Group 3 (R/ha)
Area under sugar cane per farm (ha)	8.5	9.2	9.4
Age of sugar cane (years)	2.5	4.0	5.9
ESTIMATED INCOME OF SUGAR PER HA:			
Tons sugar cane per ha.	106	99	86
Tons sucrose per ha	14.14	13.18	11.24
Price of sucrose per ton	900	900	900
Total income per ha.	12 724	11 862	10 118
TOTAL SUGAR CANE COST			
A: Factor costs:	3 284	3 245	3 069
a) Capital:	1 034	648	511
Initial capital	481	200	98
Land	1	7	0
Buildings	1	3	4
Machinery	0	8	22
Transportation	173	242	170
Working capital	175	163	139
Other	203	25	78
b) Labour	2250	2 597	2 558
Fertilizer application	8	4	6
Chemical application	3	6	1
Weeding	653	757	546
Irrigation Labour	294	348	352
Cutting	598	542	499
Picking up	60	54	50
Other	29	81	36
Farmer	605	805	1 068
B: Non-factor cost:	7 008	6 484	5 706
a) Water expense	93	96	95
b) Electricity	894	873	650
c) Soil samples	6	6	11
d) Fertiliser	1 264	1 309	1 262
e) Chemicals	101	113	74

	Average Group 1 (R/ha)	Average Group 2 (R/ha)	Average Group 3 (R/ha)
f) Services	2 535	2 358	2 018
Distribution of manure	8	20	18
Spray by aircraft	120	105	88
Spray by machinery	33	40	30
Irrigation		15	8
Loading	486	446	401
Transport	1 883	1 732	1 473
g) Depreciation	1 414	968	668
Buildings	1	1	6
Machinery	0	19	35
Transport	182	282	177
Preparation of land (Initial, Irrigation			
and deforestation)	614	200	128
Initial capital	4 327	3 265	2 247
Depreciation initial capital (7 years)	617	466	322
(14,29 %/annum)			
h) Maintenance and affiliations	699	760	929
Mill group board	12	11	9
Disease and pest control	19	18	15
Cane growers association	13	12	10
Mill cane committee	11	10	9
Cane test service	55	50	44
Small Growers Development Trust	65	59	51
Fire insurance	38	35	30
Farmers association membership	142	183	310
Maintenance Irrigation Equipment	284	326	278
Machinery maintenance	60	56	172
Total Cost Sugar Cane Production/ha.	10 292	9 729	8 775
Income Sugar cane /ha	12 724	11 862	10 118
NETT INCOME PER HA.	2 432	2 133	1 343

Source:

University of Pretoria, Department of Agricultural Economics.

An average was calculated for the three groups specified in Table 4 which was used to develop an input structure for commercial small farmers. However, the inputs reflected in this table did not match the structure of the inputs as stipulated in the SAM in full. For this reason, an additional step was required to distribute the inputs in Table 4 between the various inputs given in the SAM. This was done by mainly making use of information obtained from the input structure of commercial large sugar cane farmers to disaggregate to the required level of the SAM.

Forestry

The relevant hectares under afforestation in study area Region 1 in 1993 were obtained from the Directorate Forestry of the Department of Water Affairs and Forestry. The relevant information is given in Table 5.

TABLE 5: Calculation of Region 1 Forestry Output for 1993 at 1996 prices

	Pine/Softwood	Gum/Hardwood	Total
Number of hectares 1993	7 215	8 135	15 350
Annual standing income per ha1) 1993	R586,36	R455,75	
Total standing income1 1993 [R000]	R4 231	R3 708	R7 939
Total standing income1 1993 at 1996			
prices [R000]	R6 710	R5 880	R12 590
GDP Inflator [1993-1996] = 1.586			

Non-realised income

Other sectors

For the other sectors, the main point of departure was the utilization of the GGP of Region 1 for 1991 (at 1985 prices) as calculated in the database report of Conningarth Consultants. The following steps were taken to arrive at the total sectoral outputs for 1993 at 1996 prices:

Step 1

The 1993 GGP (at 1985 prices) per sector was arrived at by calculating the future values of the 1991 GGP (at 1985 prices) by applying the respective sectoral growth rates between 1981-1991 for the Mpumalanga province (DBSA 1994).

Step 2

The South African Reserve Bank (SARB) inflator for the period 1986-1992 was adjusted by the SARB inflator for the period 1991-1996 to arrive at the GGP sectoral inflators for the period 1985-1996.

Step 3

The 1993 sectoral contributions to the GGP (at 1985 prices) for Region 1 were multiplied by the inflators calculated in step 2 for the period 1985-1996 to arrive at the 1993 sectoral contributions to the GGP (at 1996 prices). The relevant figures were rounded off.

Step 4

In order to convert the GGP to Output the relevant sectoral GGP/Output coefficients of the SARB were applied to the sectoral contributions. The resulting sectoral output figures were also rounded off.

The output figures for the finance and services' sectors had, however, to be adjusted to suit the requirements of the SAM.

Informal sectors

The outputs of the relevant informal sectors were not included in the national accounts for 1993. Based on the 1995 Households Survey Report for Mpumalanga Province of the Statistics South Africa (SSA), the relevant contributions of the sectoral informal activities to the GGP of Mpumalanga were calculated. These finding are reflected in Table 6.

TABLE 6 OCTOBER 1995 HOUSEHOLD SURVEY
CONTRIBUTION TO GROSS DOMESTIC PRODUCT -R000 1995

	TOTAL		AFRICAN/BLAC	KS	COLOUREDS	INDIANS/ASIA	INS	WHITES	
INDUSTRY	RAND	%	RAND	%	RAND %	RAND	%	RAND	%
Agriculture, Hunting, Forestry &									
Fishery	5721	4	443	0	0	0		5278	14
Mining & Quarrying	0	0	0	0	0	0		0	0
Manufacturing	6976	4	5367	5	0	0		1609	4
Electricity, Gas & Water	0	0	0		0	0		0	0
Construction	4298	3	3323	3	0	0		975	3
Wholesale, Retail Trade & Catering & Accommodation Services	45606	29	17617	15	0	4202	100	23786	62
Transport, Storage & Communication	47842	30	47842	42	0	0		0	0
Financing, Insurance, Real Estate & Business Services	7539	5	2175	2	0	0		5365	14
Community, Social & Personal Services	35811	23	34574	30	168	0		1069	3
Activities Not Adequately Defined & Not Applicable	3392	2	2837	2	0	0		556	1
TOTAL	157185	100	114178	100	168	4202	100	38638	100

Source: SSA 1997

However, in view of these relatively small contributions and considerably informal activities in the Region 1 study area a specialist opinion was required. Accordingly the sectoral contributions to the relevant sectoral total outputs were assumed to be as follows:

Commercial construction	10 %
Commerce and Tourism	23 %
Finance e.g. stokvels	5 %
Transport	10 %

4.3.1.1.2 Commodities

Values of Commodities are derived from the production and demand structures of the other components of the SAM.

Outputs of Commodities

Outputs are derived from intermediate demand, household consumption, current government spending, investment and exports. These have been estimated in prior processes when constructing the SAM.

Inputs

The origin of the commodities, which in this case is similar to the inputs of commodities, is from activities in Region 2 and Region 1 as well as imports from the rest of South Africa and the rest of the world. In a previous step a decision was already made on what happened to the outputs of activities with regard to Region 1. For example, what percentage of the activities in Region 1 will be used in Region 1, Region 2, rest of South Africa and the rest of the world.

The imports into Region 1 from the rest of South Africa and the rest of the world constitute the residual of the total demand in Region 1 and the commodities produced and sold in Region 1 as well as the commodities produced in Region 2 and sold in Region 1.

4.3.1.1.3 Factor Payments

4.3.1.1.3.1 Labour

Factor payments to labour are divided between origin and destination. The origin is derived from remuneration of labour in the relevant activities in Region 1 (subsectors of the economy) as well as the remuneration paid to civil servants by all spheres of government.

The destination therefor is households and payments to governments i.e. taxes based on labour i.e. regional service council levies.

4.3.1.1.3.2 Capital

Capital factor payments are also derived from activities as well as from government. Those derived from activities are in the form of interest and dividends. On the other hand, those that originate from government consist of interest on the public debt. In the SAM all these payments are to Enterprises.

4.3.1.1.3.3 Enterprises

Column totals for enterprises are deduced from the row totals of enterprises.

Households 4.3.1.1.4

In order to calculate the 1993 household income (at 1996 prices) for the study area it was decided to use the following categories:

Traditional:

High

Traditional:

Medium

Traditional:

Low

Commercial Farmers: High

Urban & Other: High

Commercial Farmers: Medium

Commercial Farmers: Low

Urban & Other:

Medium

Urban & Other:

Low

As a point of departure, the DBSA's Statistical Macroeconomic Review for Mpumalanga was used. The relevant income groups were summarized as follows for 1991 on an annual income basis:

Low:

None to R4 999

Medium:

R5 000 to R29 999

High:

R30 000 to R500 000 plus

4.3.1.1.4.1 Traditional households

For the purpose of this SAM project all households in the Nkomazi district were regarded as being of a traditional nature. The household incomes in 1991 were aggregated by using the averages for each income group. To arrive at the 1993 figure (at 1996 prices) the totals for 1991 were multiplied with an increase in the South African consumer price index i.e. a factor of 1,586 (calculated on the basis of SARB published information).

4.3.1.1.4.2 Commercial farmer households

The household incomes of farmers in the study area were differentiated between commercial farmers on the one hand and small farmers on the other.

For commercial sugar farmers it was assumed that the average household income was R1208 per ha.

4.3.1.1.4.3 Urban & Other

With regard to the urban and other category it was assumed that 84% of the households in the Barberton district are residents of the study area. The relevant household income figures for the Barberton district were therefore reduced by 16%. Furthermore the abovementioned household incomes of commercial farmers in the relevant Barberton area had to be deducted in order to arrive at the figures for the urban and other categories.

4.3.1.1.5 Government

The current expenditure of the government was determined by estimating the expenditures for the three spheres i.e. central, provincial and local separately.

Central

The current expenditure of central government was based on a per capita basis using the relevant current spending by central government as stated in the relevant budget figures. Where it was obvious that a particular government function e.g. the president's office was not applicable no allocation was made to the study area.

Provincial

For the purpose of the current expenditure by the Mpumalanga Province, such expenditure was subdivided into education, health and other. The allocation to the study area was made as follows:

- The expenditure on education was based on the age groups for scholars;
- The expenditure on health was calculated according to the low income population figures; and
- The remainder of the provincial budget for current expenditure was allocated on a per capita basis i.e. total population.

Local

The local current expenditure was determined by using the budgets of the relevant local transitional councils i.e. Malelane and Komatipoort.

4.3.1.1.6 Capital Account

The main factor in determining the capital account was private and public investment. This figure was calculated by using the SARB's capital/production ratios of the various activities identified in the study area. In addition allowance was made for depreciation. Investment was therefore defined as new investment plus a provision for depreciation. The income side of the capital account (savings) was derived from the various savings ratios of households, enterprises and government. The residual between the investment and savings is per definition equal to the surplus/deficit on the balance of payments of a region.

4.3.1.2. Study Area Region 2 (Northern Part of the Kingdom of Swaziland)

4.3.1.2.1 Salient Features of Study Area

4.3.1.2.1.1 Demarcation

Contrary to the availability of a demarcated Region 1 study area, details of a specific geographical Region 2 study area could not be found in the various reports on the proposed Maguga Dam. It should be noted that the relevant maps used in the so-called Gibb reports

only show the Maguga Project Development Area which covers a gross survey area of 19900 ha. A number of sources in Swaziland were contacted in order to obtain assistance in the demarcation of the Region 2 study area. However, these efforts were to no avail. Finally it was decided that the Consultants would define the relevant economic impact area themselves (See Map). This map was faxed for discussion to some of the authorities in the Kingdom of Swaziland who are involved in the Maguga project. In general, the relevant map was regarded as acceptable for this study. Based on this map the area was calculated to be one sixth i.e. 280 000 ha of the total area of the Kingdom of Swaziland.

4.3.1.2.1.2 Population

In the absence of official population statistics for the demarcated study area it was decided to utilize unofficial 1997 census figures for the Hhohho and Lubombo districts of which the study area forms part. These census figures were adjusted to exclude as far as possible the estimated population in the aforementioned districts who live outside the study area. The resulting figures were also deflated by a population growth of 34% p.a. in order to arrive at the estimated 1993 population figures for the study area Region 2.

4.3.1.2.2 Activities

4.3.1.2.2.1 Agriculture

For the agriculture and forestry sector an induced approach was followed by using Combud primary data. Table 7 provides information on the relevant calculations of outputs/production for the various agricultural activities.

4.3.1.2.2.2 Forestry

The relevant hectares under afforestation in the Region 2 study area in 1993 were obtained from the Mondi company who operates the plantations in that area. The relevant information is reflected in Table 7.

TABLE 7: BASE DATA¹⁾ USED TO CALCULATE THE MAIN AGRICULTURAL OUTPUTS FOR REGION 2, 1993 (AT 1996 PRICES)²⁾

ACTIVITIES

Activity	Cost/ha R	Gross margin per ha R	Area Ha	Total production R 000	Explanatory Notes
Sugar Cane Farming	6057	7318	23255	311019	Calculated from budget data for different products (COMBUD)
Sub-Tropical Orchard Farming					Source: Conningarth Consultants
Bananas	23253	13674	10	369	Total production was determined by:
Grapefruit	28304	34007	485	30221	(Total Cost+Gross Margin)/ha x Total ha
Valencias	22439	14275	388	14245	The total for Sub-Tropical Orchard Farming was determined by calculating detailed cost structures for five sub-tropical activities.
Litchi's	2947	27869	10	308	-
Mangoes	23883	18221	10	421	
TOTAL SUB- TROPICAL			903	45564	

1) These data do not necessarily correspond to the relevant SAM figures, but should only be regarded as source information.

2) To arrive at 1996 prices, the 1993 prices were adjusted by means of the inflator for the agriculture sector as reflected in the relevant Quarterly Bulletin of the South African Reserve Bank.

TABLE 8: OUTPUT OF FORESTRY SUB-SECTOR IN REGION 2 STUDY AREA

	Pine/Softwood	Gum/Hardwood	TOTAL
Mondi 1993	19000 ha	6000 ha	25000 ha
Annual standing income ¹⁾ R/ha	R630,54	R612,78	
Mpumalanga [R000] 1993			
Total annual standing income [R'000] 1993	R11980	R3677	R15657
GDP Inflator $[1993 - 1996] = 1.24$	R14855	R4559	R19414

Non-realised income

4.3.1.2.2.3 Other sectors

For the remaining economic sectors in the Region 2 study area, economic data for 1993 which was published by the Central Bank of Swaziland was applied. By means of specialist opinions and knowledge of economic activities in the Region 2 study area, the Central Bank's statistics were applied to obtain estimated sectoral contributions to the GGP of the Region 2 study area. Table 10 provides 1993 production figures (1996 prices) for Region 2 for all the various activities.

4.3.1.2.3 Commodities

Values of Commodities are derived from the production and demand structures of the other components of the SAM.

Outputs of Commodities

Outputs are derived from intermediate demand, household consumption, current government spending, investment and exports. These have been estimated in prior processes when constructing the SAM.

Inputs

The origin of the commodities, which in this case is similar to the inputs of commodities, is from activities in Region 2 and Region 1 as well as imports from the rest of South Africa and the rest of the world. In a previous step a decision was already made on what happened to the outputs of activities with regard to Region 2. For example, what percentage of the activities in Region 2 will be used in Region 2, Region 1, rest of South Africa and the rest of the world. The imports into Region 2 from the rest of South Africa and the rest of the world constitute the residual of the total demand in Region 2 and the commodities produced and sold in Region 2 as well as the commodities produced in Region 1 and sold in Region 2.

4.3.1.2.4 Factor Payments

Labour

Factor payments to labour are divided between origin and destination. The origin is derived from remuneration of labour in the relevant activities in Region 2 (subsectors of the economy) as well as the remuneration paid to civil servants by all spheres of government.

The destination therefor is households and payments to governments i.e. taxes based on labour i.e. regional service council levies.

Capital

Capital factor payments are also derived from activities as well as from government. Those derived from activities are in the form of interest and dividends. On the other hand, those that originate from government consist of interest on the public debt. In the SAM all these payments are to Enterprises.

Enterprises

Column totals for enterprises are deduced from the row totals of enterprises.

4.3.1.2.5 Households

Contrary to the available information on household income being available for the Region 1 study area, no such published information was available for the Region 2 study area. Consequently it was decided to apply as far as feasible the household income structures for Region 1 to Region 2. For example, the household income levels and structures for the Nkomazi part of Region 1 were applied to the traditional population in Region 2. However, as the commercial farming activities in Region 2 are mainly controlled by large companies, a different route had to be followed for the relevant household group. It was decided to apply the hectares for irrigated agriculture of large commercial farmers i.e. 40864 ha and divide it by

413 farmers resulting in an average of 989 ha per large commercial farmer. By using the total irrigated agricultural area in Swaziland of 25228 ha, the Region 1 average farm size of 989 ha resulted in an assumed 26 large commercial farmers in Region 2.

The same household income structure in Region 1 was applied to determine the urban & other component of households in Region 2.

4.3.1.2.6 Government

For Region 2 the government current expenditure only relates to that of the central government of the Kingdom of Swaziland. The relevant budget figures were obtained from the annual statistical bulletin for 1996 as published by the Central Statistical Office in Mbabane. The expenditure was subdivided into education health and other. The allocation to the Region 2 study area was made as follows:

- The expenditure on education was based on the age groups for scholars:
- The expenditure on health for calculated according to the low income population figures; and
- The remainder of the budget for current expenditure was allocated on a per capita basis i.e. total population.

4.3.1.2.7 Capital Account

For the calculation of the figures in the capital account a similar approach was used as for Region 1.

TABLE 9: ACTIVITIES OF SUBSECTORS IN REGION 2 FOR 1993 (1996 PRICES)

	Production 1993 [R millions]
1 Sugar cane commercial farming	314.8
2 Sugar cane small commercial farming	9.7
3 Sub-Tropical orchard farming	54.5
4 Grain & tobacco farming	7.1
5 Vegetable farming	4.1
6 Forestry	19.4
7 Livestock commercial farming	1
8 Livestock subsistence farming	4.8
9 Dry land (subsistence) farming	1
10 Mining	1
11 Sugar mills	581
12 Juice factories	1
13 Animal feed	1
14 Other food & beverages	1
15 Clothing & textiles	1
16 Wood products & furniture	332.1
17 Non-Metallic mineral products	1
18 Metal products & machinery	1
19 Other manufacturing	96.8
20 Water	3.2
21 Electricity	1.7
22 Building commercial	23.8
23 Building informal	2.6
24 Civil construction	24.7
25 Commercial trade	17.9
26 Informal trade	5.3
27 Commercial transport	29
28 Combi-Taxi transport	1.3
29 Modern financial & business services	18.1
30 Traditional financial & business services	7.6
31 Community & social services - Education	53.1
32 Community & social services - Other	90.4
33 Domestic workers	8
TOTAL	1,720

Note: Where production figures are shown as R1 million the subsectors do not exist in Region 2.

4.3.2 Detail Structures necessary for developing the SAM

In this section the data sources that were utilized to develop the structures within the SAM, will be discussed.

4.3.2.1 Structures for the Activities

When regarding the activities, a definite distinction can be drawn between agricultural activities and the activities within the rest of the economy.

Agricultural activities

As mentioned before, the main aim of the research was to establish the importance of irrigation agriculture in the development of rural areas and communities. In view of this much effort was put into constructing reliable input structures for each of the agricultural activities.

Data in this regard were gained mainly from the following sources:

- Combud budgets (1996) and
- * The Agricultural Social Accounting Matrix (1992).

Another important distinction made in terms of the agricultural activities, was with respect to large commercial farming activities and small commercial farming activities. The assumption was made that the inputs of small commercial farmers very closely relate to the inputs required by large commercial farmers.

ii) Other Activities

As far as the other activities are concerned, use was made mainly of the national Input/Output Table, National Social Accounting Matrix as well as a Regional Social Accounting Matrix that was constructed for the Mpumalanga Province by the Central Economic Advisory Service. However, the Regional Social Accounting Matrix was never published.

However, detailed input structures pertaining to small commercial sugar cane farming activities were provided by the University of Pretoria and were utilized to develop the relevant structures.

4.3.2.2 Household Expenditure

Structures reflecting households spending patterns were developed using mainly the following publications:

- The October 1995 Household survey conducted by the Central Statistical Service.
- The income and expenditure patterns of black households in selected areas of the Mpumalanga Province.

4.3.2.3 Government Expenditure

The consumption expenditure patterns of each of the different governmental bodies were constructed using either the National Input/Output Table or the National SAM (both of which were officially published by SSA) or figures gained from the Reserve Bank's Quarterly Bulletin.

4.3.2.4 Commodity Structures

As described under previous headings the structures required for developing the commodity columns reflect the outputs from each different activity. These structures were developed in-house by Conningarth Consultants.

Data regarding the taxes on products were also necessary. Tax rates per commodity were obtained from various official sources.

4.3.3 Visit to Study Area

The visit by Conningarth Consultants to the study area in 1998 proved to be extremely helpful in developing the structures required in this regard. The Consultants were able to communicate their ideas to the local community and enhancing the structures that had already been developed in-house. This added to the reliability of the SAM-model.

The following local stakeholders were visited:

Komati - RSA (Region 1)

Department of Agriculture (Contact person: Abrie Blom)

Small commercial farming was discussed with extention officers and development specialists, and valuable information was received

- Transvaal sugar limited (Contact person: Leon van Rensburg)
 Household spending in the SAM was verified with fieldworkers,
 representatives and community leaders, and new information was accumulated.
- TSB (Contact person: Leon van Rensburg)
 Large commercial farming was discussed in detail with community leaders, managers and technical experts, and current data was tested against actual circumstances.

Komati - Kingdom of Swaziland (Region 2)

- Ministry of Natural Resources and Energy (Mike McDermott).
 Valuable secondary information was collected and discussed.
- Ministry of Agriculture and Cooperatives (Stephen Atkins and Mike McDermott).
 Specific attention was given to household income and expenditure
- Komati Project Coordination Unit (Jonathan Jenness)
 These discussions were focussed on the progress especially of the implementation of the Maguga Dam project.

patterns. A relevant household survey is taken into account.

 Mhlume Sugar Mill (Workshop with management under Dumisane Dlamini).

5. NATURE AND MAGNITUDE OF KOMATI RIVER BASIN DEVELOPMENT PROJECT

5.1 DESCRIPTION OF PROJECT

As stated earlier, the purpose of the above-mentioned development is to provide in principle for the development and utilization of the Komati River Basin. The water shortages that exist in this area and the need for water by specific sectors in specific locations at specific times is the underlying basis for water resource developments.

The KRBDP is a joint development between the Republic of South Africa and the Kingdom of Swaziland consisting of a sub-phase 1A (Driekoppies Dam) and sub-phase 1B (Maguga Dam). Sub-phase 1A will take place in South Africa and have only an impact on South Africa while sub-phase 1B will take place in Swaziland, but will have an impact in both Swaziland and South Africa as far as additional water supply is concerned.

Regarding the sub-phase 1A development, four agricultural production areas were distinguished.

The area was firstly sub-divided in the Nkomazi area and consisted mainly of smallholder (commercial) farmers and the Onderberg area where most of the farmers could be classified as large commercial farmers. The Nkomazi area is part of the former KaNgwane homeland and borders Swaziland. The Onderberg area forms the eastern part of the study area and forms part of the Barberton magisterial district. Both areas were again sub-divided according to the Lomati and Komati Rivers that flow through them (See map).

As has been stated sub-phase 1B will impact Swaziland as well as South Africa. The impact on Swaziland consists largely of new agricultural development while in South Africa it mainly has an effect on the stabilization of present agricultural activities.

After completion of the Driekoppies and Maguga Dams it is expected that domestic and industrial water requirements will be supplied at a 98% assurance and on average full irrigation water requirements will be supplied for 80% of the time, with supplies rationed by 30% during the remaining 20% of the time. As the domestic and industrial requirements increase the extent of the rationing of irrigation supplies will need to be increased above 30%.

The main purpose of storage and release from these dams, is in fact, to support the development of irrigated agriculture in the Komati Area. The nature and magnitude of the KRBDP was carefully documented by Conningarth Consultants as well as Sir Alexander Gibb and Partners in the following reports:

- STUDY TO ADDRESS KEY ISSUES SURROUNDING THE REALIZATION OF THE KOMATI RIVER BASIN DEVELOPMENT (1996).
- REVIEW & FEASIBILITY STUDY FOR KOMATI RIVER BASIN DEVELOPMENT WITHIN SWAZILAND (1992).

5.2 PROJECT CAPITAL AND RECURRENT COSTS

5.2.1 Costs of the dams

The cost of constructing the Driekoppies and Maguga Dams as well as costs due to developments emanating from their construction, all effect the economic and financial assessments of this development project.

The estimated costs at June 1996 prices of the above-mentioned dams are:

i) Driekoppies Dam cost - R400,0 million ii) Maguga Dam cost - R528,3 million

For the Driekoppies Dam this excludes value added tax.

The construction of the Driekoppies Dam started in 1993 and was completed early in 1998. The latest cost estimate for the Driekoppies Dam at June 1996 prices is 22% higher than the original estimates. However, the latest cost estimates for the Maguga Dam at June 1996 prices were 35% higher than the original estimates. This higher cost increase is largely attributed to revised spillway arrangements relating to the abolition of an original breaching section and less or even no dependence on spillway gates.

The rate of capital expenditure on the construction of the two dams has been based on data supplied by the Komati Basin Water Authority (KOBWA) from the budgets prepared by it in terms of the Komati River Treaty between the RSA and the Kingdom of Swaziland.

Operation and maintenance costs for the Driekoppies and Maguga Dams have been based on data supplied by KOBWA and have been separated from the KOBWA administration costs. These costs of the Driekoppies and Maguga Dams are estimated to be R1,31 million and R2,64 million/per annum respectively in addition to the administration costs of KOBWA of R0,90 million/a and R1,43 million/per annum respectively after completion of dam construction, all at June 1996 prices. The recurrent costs attributable to the Maguga Dam used in the Review and Feasibility Study for the Kingdom of Swaziland were R3,2 million/a at June 1996 prices. This was based on 0.5% of the cost of the dam, which is considered to be marginally too high for the type of dam and if residual values are ignored.

5.2.2 Costs of irrigation development

In the Kingdom of Swaziland the average unit capital cost for irrigation of 3 082 ha of sugar cane and 4 311 ha of fruit was estimated to be R13 570/ha at June 1992 prices. This excluded the cost of land preparations which was included separately and amounted to around R1 900/ha. The estimated unit capital cost at June 1996 prices is R21 660/ha including land preparation costs.

The average unit capital cost for recent irrigation development in the Nkomazi district in the RSA for sugar cane is R 15 630/ha at December 1994 prices. The estimated unit capital cost at June 1996 prices is R17 970/ha. Since this price is based on irrigating sugar cane only, it is not directly comparable to that of a mix of 41.7% sugar cane and 58.3% fruit, due to differences in the unit cost of water supply and irrigation systems. Adjusting for these factors the unit capital cost of irrigation development in the Kingdom of Swaziland PDA, had all the land been under sugar cane, it would have been reduced to R17 000/ha at June 1996 prices. The difference of R970/ha (5.7%) is negligible and can be ascribed to a number of factors such as proximity from the river (both distance and height), differences in the extent of bush clearing, etc.

Average unit capital costs at June 1996 prices for new irrigation development, including land preparations, of R21 660/ha and R17 970/ha have therefore been adopted in the Kingdom of Swaziland and the RSA respectively for the particular crop mixes for which these costs have been derived.

The rate of capital expenditure to construct the water supply and irrigation infrastructure and land development has been determined by the rate at which additional water can be secured. The capital expenditure has been allocated to the year prior to first planting for a particular area to be developed.

Operation and maintenance (O & M) and electricity cost allowances show apparently large variations, but are all explained upon closer examination and when considered in conjunction with the provisions for replacement costs. These costs have been derived from the Review and Feasibility study for the Kingdom of Swaziland and from the development agency responsible for the development in the Nkomazi district and are compared below after adjustment to June 1996 prices.

	0 & M	Electricity
The Kingdom of Swaziland sugarcane	R219/ha/annum (1,6% of capital)	R735/ha/annum (5,2% of capital)
The Kingdom of Swaziland fruit	R481/ha/ annum (1,8% of capital)	R1 018/ha/annum (3,8% of capital)
The RSA sugarcane	R483/ha/annum (2,7% of capital)	R680/ha/annum (3,8% of capital)

In the Review and Feasibility Study for the Kingdom of Swaziland, replacement costs at 43% of the original capital cost were also provided for at intervals of between 10 years and 20 years after installation. No replacement costs additional to the O & M allowances were provided for in the Nkomazi district in the RSA.

In the case of the development in the Nkomazi district in the RSA a further management cost of R460/ha/annum at June 1996 prices has been allowed.

5.2.3 Cost of Hydropower installation at Maguga Dam

The capital cost of a 2 x 7,5 MW hydropower installation and transmission line at the Maguga Dam is estimated to be R55,4 million at June 1996 prices.

The rate of capital expenditure on the construction of the hydropower installation was based on the budgets of the KOBWA and is very similar to that used in the Review and Feasibility Study for the Kingdom of Swaziland.

The operation and maintenance costs are estimated to be R1,6 million/annum at June 1996 prices.

5.2.4 Other capital development

The capital cost of the Weirs and the Maisbekela Dams in the Nkomazi District are R36,3 million at June 1996 prices excluding VAT.

An operation and maintenance cost allowance of R0,15 million/annum or 0,5% of the capital costs of the structures has been made. No recurrent costs or residual values have been provided for during and at the end of the analysis period.

5.3 BENEFITS OF PROJECT

5.3.1 Project income - Driekoppies Dam

The project income pertaining to the Driekoppies Dam consists mainly of benefits accruing to agriculture, sugar mills and primary water users.

5.3.1.1 Agriculture

To obtain the impact of the Driekoppies Dam on the size of agricultural activities, the number of hectares under irrigation before and after the Driekoppies Dam should be subtracted from each other.

The following tables provide an indication of the nature of the crops that are under irrigation in the Nkomazi/Onderberg Area and how the hectares changed due to the development of the Driekoppies Dam (Phase 1A of KRBDP).

TABLE 10: CROPS UNDER IRRIGATION PER RIVER/REGION (HA, 1993)

CROP AREAS

RIVER/REGION	ORCHARD SUB- TROPIC	BANANAS	SUGAR- CANE	SUMMER GRAIN	WINTER GRAIN	SUMMER VEGETA- BLES	WINTER VEGETABLES	TOBACCO	OTHER & PASTURE	TOTAL CROP AREA	LAND AREA WITH DOUBLE CROP
Nkomazi	120	100	1184	1121	2411)	0	0	0	45	2811	2570
Komati	0	0	540	1121	24119	0	0	0	0	1902	1661
Lomati	120	100	644	0	0	0	0	0	45	909	909
Onderberg	7055	3309	23113	1922	1067	599	3004	41	3 26	1 40743	39638
Komati	1146	1621	8211	1438	1981)	176	849	0	82	13721	13523
Lomati	1741	737	3896	3861)	4	220 ¹⁾	1045	5	106	8140	7534
Crocodile/Kaap	4168	951	11006	981)	865	203 th	1110	408	73	18882	18581
TOTAL	7175	3409	24297	3043	1308	599	3004	413	306	43554	42208

Source²⁾: STUDY TO ADDRESS KEY ISSUES SURROUNDING THE REALISATION OF THE KOMATI RIVER BASIN DEVELOPMENT, Conningarth Consultants, December 1996

1) Assumed Double Cropping

The number of hectares given in this publication refer to the year 1991. The situation regarding hectares of crops under irrigation did not really change in 1993 relative to 1991. Any changes in this regard will be as a result of KRBDP which is the objective of the study. Consequently the 1991 figures were used to depict the 1993 situation i.e. base year for the study.

TABLE 11: CROPS UNDER IRRIGATION PER REGION (HA, ESTIMATED 1997)

CROP AREAS

RIVER/REGION	ORCHARD SUB- TROPICAL	BANANAS	SUGAR- CANE	SUMMER GRAIN	WINTER GRAIN	SUMMER VEGE- TABLES	WINTER VEGE- TABLES	TOBACCO	OTHER & PASTURE	TOTAL CROP AREA	LAND AREA WITH DOUBLE CROPPING
Nkomazi	120	100	6940	325	10011	400	130 th	0	45	8160	7930
Onderberg	8380	4300	25910	600	20011	1000	100013	100	200	41690	40490
TOTAL	8500	4400	32850	925	300	1400	1130	100	245	49850	48420

Source: STUDY TO ADDRESS KEY ISSUES SURROUNDING THE REALISATION OF THE KOMATI RIVER BASIN DEVELOPMENT, Conningarth Consultants, December 1996

1) Assumed Double Cropping

Adjustments to yields are also made in accordance with the assurance of water availability in the various production areas at specific stages of the project.

5.3.1.2 Sugar Price

The assumption on the price of sugar is a key variable in the evaluation of the KRBDP.

TABLE 12: ASSUMPTIONS REGARDING SUGAR PRICE

	FINANCIAL PRICE		ECONOMIC PRICE	
	WHITE R/ton	BROWN R/ton	BROWN R/ton	
Sugar	1 876.50	1 664.50	1 370	
Growers' Share	1 198.07	1 061.48	883	
Millers' Share	666.43	586.02	487	
Price of cane	133.94	118.67	98.72	
Price of sucrose	1 030.34	912.88	759.38	

5.3.1.3 RSA Sugar Mills

The throughput of the sugar mills, as in the case of the agriculture, is affected by the additional area under cane as well as the impact on yields due to water assurance. The biggest impact on the current income of the sugar mills is the change in milling cost and transport costs due to the efficiency of the new mill as well as the location of the new mill relative to the cane fields. The net impact on income is not only on the new agricultural developments that take place due to the construction of the Driekoppies Dam, but also on existing cane.

5.3.1.4 Primary Water

Water for domestic consumption was calculated as follows:

TABLE 13: WATER FOR DOMESTIC CONSUMPTION

	DOMESTIC USE (10 m³/a)
Before Driekoppies (1993)	11.5
At completion of Maguga (2001)	15.3

The average water requirement was taken as 108 litre per capita per day of which 50 litre per capita per day was considered to be a minimum requirement.

5.3.2 Project Income - Maguga Dam

Where the South African situation is concerned, the income stream for construction of the Maguga Dam is based on the same principles as those for the Driekoppies. The only real difference is that a technology improvement factor was built into the study for agriculture production.

Due to the better assurance in water supply³⁾, it was argued that farmers will speed up the process of bringing in new irrigation technology which will increase yields. This technology change should be viewed as additional to the technology change that would have taken place over time.

A yield improvement of about 6% is envisaged by this action, starting from year 2002/03 when the Maguga Dam starts delivering water.

5.3.2.1 Primary water

The water that is allocated from the Maguga Dam for domestic use is:

Period	Domestic Use 10 ⁶ m/a
At completion of the Maguga Dam	15,3
In the year 2008 (and following years) Additional allocation	19,2 3,9

The price for primary water is calculated as follows:

	Price	
Economic price: Minimum requirement (50 1/c/d) Surplus requirements	R2.05 R1.39	
Financial price	R1.41	

Although the water assurance levels don't reflect this, it should be kept in mind that 85 million cubic metre of additional water have not been allocated at this stage.

5.3.2.2 Water not allocated:

The economic benefits (at a present value of 10%) of water not allocated (85 million cubic metre) was calculated by using the agriculture development in Swaziland as a proxy. The total is R449,3 million with a net benefit of R207 million.

6. DISCUSSION OF RESULTS

This section will be dedicated towards presenting the results generated in terms of this project as well as to highlight certain important aspects.

The discussion will be conducted under the following headings:

- Activities
- ii) Commodities
- iii) Factor payments
- iv) Enterprises
- v) Household income
- vi) Government

Detailed tables containing the results are provided in Annexure C. The following, however, merely presents an overview of the most significant finding that emanated from the Study.

The discussion of the results will therefore mainly focus on comparing the impact of the KRBDP relative to the base year, 1993. As mentioned previously in the report, the impact of the KRBDP should be measured in the year 2008. This is due to the fact that in the year 2008 the project should nearly have reached its full potential. In some instances the impact will be referred to as 2008. However, this does not include the normal economic growth that could have been expected from the study area without the KRBDP.

In view of the vast amount of data produced by the model, the interpretation of results will only focus on the overall impact on the total area, of Region 1 and Region 2. However, in the detailed tables, the impacts on each area are separately provided. This approach is in line with the idea that the relevant two dams should not be viewed as individual dams, but as being part of one scheme.

In the following sub-section, the impact of the KRBDP will be discussed in detail according to various macroeconomic variables. At this stage it is important to state that the total GGP in 1993 (1996 prices) of the study area is R2 450 million and the impact of the KRBDP in GGP terms as a percentage relative to the base year is 16,3%.

An important aspect to remember regarding the results is that the impact of the project is based on projections and it could vary if the assumptions underlying the KRBDP differ from what has been projected.

Currently it is foreseen that a major portion of the new irrigation will be used for high value agricultural produce such as citrus, if this land is however also used for other crops, for instance sugar, the economic impact could be different.

Due to the vast amount of data that has been produced by the SAM model and the difficulty to present it in a more comprehensible way, all the tables and annexures are presented in a very standardised format. The annexures are presented as follows:

The first two columns depicts the 1993 structure. In the first column the 1993 situation is given in 1996 prices. The second column gives the percentages structure of the 1993 situation. The second two columns depicts the impact of the project at its optimum level. A value and a percentage structure is also given in this regard.

In the last column of the table, the percentage magnitude of change is given. This refers to the impact of the project as percentage of the base year (1993). Because the impact of the project is in 1996 prices as well as that of the base year, it is possible to express the impact of KRBDP as a percentage of the base year.

In the report itself only the impact of the project is given in value terms as well as a breakdown in percentage distribution. The last column as in the case of annexures, presents the impact as a percentage of the base year 1993.

The results given represent in most instances the total impact of the KRBDP. As has been discussed, this impact is based on Input-Output analysis (SAM). In elementary terms it means that all downstream impacts have been accounted for e.g. should there be an increase in irrigated hectares the impact is not only on the relevant farmers, but also on the industries that supply inputs such as fertilizers and pesticides. The ripple effects are even measured further downstream taking into account the sectors which supply intermediate products to the fertilizer and pesticides industries. The analysis also takes into account the household expenditure that will flow from an increase in spending of the additional employment (direct and indirect) resulting from the KRBDP.

6.1 ACTIVITIES (ECONOMIC SECTORS)

The main objective when activities were identified for purposes of analysis, was to select those activities that exemplified the most prominent features of the study area. A list of these activities is provided in Annexure B. The most prominent of these were the activities pertaining to agricultural undertakings. This comes as no surprise since the KRBDP is aimed at expanding and improving irrigation agriculture in the Komati area.

Detailed tables of the results generated in terms of the activities are given in Annexure C.1 and C.2. From these results, the significant increase in agricultural activities over the period of investigation is noticeable. The economy as a whole in the development area experienced a 19% (See Table 14) overall increase due to the beneficial impact of the KRBDP. The sectoral production impact of the project in the year 2008 will be as follows:

TABLE 14: IMPACT ON ACTIVITIES - SECTORAL (TOTAL PROJECT)
[1996 PRICES, R'000]

	Impact of project		经过程的现在分	
Activity	(Production)	Percentage structure	Percentage Magnitude of change (1993 base year)	
Agriculture	512,488	52.61%	41%	
+Sugar farming	190,716	19.58%	29%	
- Other Irrigation	323,301	33.19%	61%	
- Dryland, livestock & forestry	-1,529	-0.16%	-3%	
Mining	503	0.05%	3%	
Agricultural processing industry	320,216	32.87%	22%	
Other manufacturing	24,827	2.55%	3%	
Electricity & water	18,238	1.87%	45%	
Construction	8,550	0.88%	4%	
Trade & accommodation	10,690	1.10%	10%	
Transport & communication	11,333	1.16%	9%	
Finance	36,019	3.70%	10%	
Community services	31,237	3.21%	6%	
Total	974,100	100%	19%	

The importance of the impact on agricultural activities is clearly elucidated in the following chart.

CHART 1: PERCENTAGE SHARE OF AGRICULTURAL ACTIVITIES RELATIVE TO REST OF ECONOMY (1993 & KRBDP)

economy 47%



economy 76%



On a sub-regional level it was found that the above-mentioned growth in agricultural activities, relative to 1993, is experienced in both regions under investigation. The expansion is, however, more significant in the Swaziland region.

TABLE 15: REGIONAL CHANGE IN AGRICULTURAL ACTIVITIES

	Percentage impact of KRBDP (1993 as base year)
Komati River Basin - RSA	23%
Komati River Basin - Kingdom of S⊕azHand	79%

Various other economic activities find the upsurge in agricultural activities beneficial. One of these is the agricultural processing industry, where an impact of 32.87% was measured relative to the impacts on the other sectors. A definite correlation exists between the increase of agricultural activities and the processing of agricultural products. The magnitude of the impact on these industries therefore closely resembles the impacts measured in terms of crop cultivation. This is a classic example where a development in the primary

agricultural sector, through its forward linkage effects, has benefited the total study area.

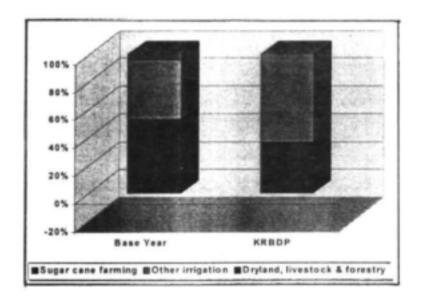
Another sector that gained due to the expansion of agricultural activities, was the electricity sector. The percentage impact on the electricity sector is 45%.

The agricultural activities were divided into the following three categories:

- i) Sugar farming
- ii) Other irrigation
- iii) Dryland, livestock and forestry

It is specifically the increase of "other irrigation" that caused the significant increase in agricultural activities in total. This mainly consists of the cultivation of sub-tropical orchards, citrus, bananas, vegetables, grain and tobacco. Both the absolute impact of "other irrigation" as well as the change in its structure relative to that of the base year, shows large positive changes. The following histogram (Chart 2) illustrates the change in the composition of agricultural activities. The increase in "other irrigation" activities is clearly shown.

CHART 2: COMPOSITION OF AGRICULTURAL ACTIVITIES



The significant increase in "other irrigation" agriculture is due to the substantial increase of this activity in the Kingdom of Swaziland portion of the total study area. Relative to the base year structure, other irrigation in this area should experience a 61% change. This should result from the utilization of the large amount of hectares in the area that are earmarked for such irrigation activities.

However, dryland, livestock and forestry activities should experience a decline (See Table 14) that were reflected by the -3% change in the value of its production relative to the base year. The reason for this is obvious, since irrigation agriculture will replace large portions of land previously used for dryland activities. This is particularly the case in the Komati, RSA where a decline of -14% in terms of the real value of the base year occurs (See Annexure C.1, Table 1b). However, these declines should be viewed relative to the significant rise in the living standards of other segments of the Komati population. Thus, the diminishing dryland activities due to the Komati development should be regarded in a wider context as part of the overall development thrust of the KRBDP.

6.1.1 The size of the enterprises

The private sector's activities were divided into three broad categories namely:

- Commercial large enterprises
- ii) Commercial small enterprises
- iii) Subsistence & informal enterprises

Each sub-sector was further sub-divided to improve the ability of the model to demonstrate the extent in which the institutional structure of the private sector in the Komati River Basin area would be affected by the large scale irrigation projects.

Some definite changes could be observed in the size-categories of these enterprises due to the project developments. Detailed tables are provided in Annexure C.2.

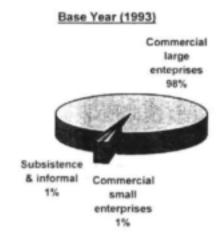
The impact of the project for the total study area (Region 1 and Region 2) is depicted in Table 16.

TABLE 16: IMPACT ON ACTIVITIES - SIZE OF ENTERPRISE (TOTAL PROJECT) [1996 PRICES, R'000]

	Impact of project		
	Incremental Value	Percentage Structure	Incremental Impact (1993 base year)
Commercial Jarge enterprises	821,839	84.28%	17%
- Sugar cane farmers	40,213	4.12%	6%
- Other Irrigation farmers	326,594	33.49%	65%
- Agricultural processing Industries	320,216	32.84%	22%
Other	134,816	13.83%	6%
Commercial small enterprises	148,267	15.21%	215%
- Sugar cane farmers	150,503	15.44%	706%
- Other Irrigation farmers	-3,294	-0.34%	-13%
- Combi - taxi fransport	1,057	0.11%	5%
Subsistance & Informal enterprises	4,968	0.51%	7%
- Subsistance farming	-5,030	-0.52%	-40%
- Building Informal	68	0.01%	1%
Informal trade	4,863	0.50%	21%
- Traditional financial & business services	5,067	0.52%	21%
Total	975,074	100%	19%

The composition of activities relative to various enterprises in the private sector for the base year 1993 with regard to the project is shown in Chart 3.

CHART 3: COMPOSITION OF ACTIVITIES IN TERMS OF SIZE OF ENTERPRISES IN THE PRIVATE SECTOR



Incremental Impact of KRBDP (Full potential of project) Commercial large enterprises 84% Subsistence Commercial small

enterprises 15%

1%

From the above it is apparent that it is especially the commercial small enterprises that gain the most from the development project. This increase is primarily due to an increase in the number of small commercial sugar cane farmers in the study area.

Although the commercial large enterprises remain the largest role-players, their percentage share of the project impact in 2008 decreases to approximately 84%. This is significantly less than the 97% recorded in 1993.

There is a noticeable decline in the magnitude of subsistence and informal enterprises. This is due to the fact that many subsistence farmers have been resettled as small commercial farmers. If the impacts on both the commercial

small and subsistence enterprises are added together, a large net increase will be observed.

The impacts on each of the regions under investigation also reflect mainly the conclusions made in terms of the entire project as set out above. There are, however, a few important exceptions, which will be discussed in broader detail.

The impact of the project is more than double the size of what it was in 1993. The impact of the project is R148.3 million compared to R69.0 million of the base year.

Commercial large enterprises

When the impacts on each of the constituting commercial large enterprises are viewed individually, the following is noteworthy:

		Percentage d	Percentage distribution			
Con	nmercial large	Base Year (1993)	Incremental Impact due to KRBDP			
-	Sugar cane farmers	13%	5%			
-	Other irrigation farmers Agricultural processing	10%	40%			
	industries	30%	39%			
-	Other	47%	16%			
TOT	TAL	100%	100%			

From the above it is clear that the other irrigation farmers as well as the agricultural processing industries should benefit the most from the KRBDP. The processing industries not only gain from the increase in large commercial farming activities, but also benefit from the expansion of small commercial farming.

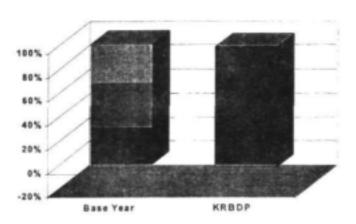
Further, a relative decline is observed in terms of the turnover of large commercial sugar cane farmers. Their share relative to that of the other large commercial enterprises drops from 13% in 1993 to 5% in the KRBDP at a stage of full development. This sharp decline is due to the fact that no large commercial sugar cane farmers are to be established in the Kingdom of Swaziland as a result of the KRBDP.

The other large commercial enterprises, which still constitute a large portion of the remainder of the commercial large economic activities, also experienced dwindling percentage shares. However, the other large commercial enterprises, are still expected to contribute 13.83% to the economy of the total study area due to the KRBDP (See Table 16).

Commercial small enterprises

When the impacts on each of the different small commercial enterprise's categories are evaluated separately, the following results were obtained. These results were for the total project (i.e. Region 1 and Region 2) and are shown in Chart 4.

CHART 4: PERCENTAGE DISTRIBUTION OF COMMERCIAL SMALL ENTERPRISES



■Sugar cane farmers ■Other irrigation farmers @Combi-taxi transport

The significant impact of the KRBDP on the activities of small commercial sugar cane farmers is clearly expressed in the above graph. The dramatic increase in these activities is due to the relative ease by which small sugar cane irrigation farms can be established.

The decline in other irrigation farming activities results from the fact that sugar cane farming replaces these activities in the regions under investigation.

Subsistence and informal enterprises

The reduction in subsistence farming activities since the implementation of the irrigation projects reflects the shift that occurs towards small commercial farming. Many subsistence farmers become small commercial cultivators of sugar cane.

Informal trade and traditional financial and business services experience a 21% increase relative to the base year levels. This is 2 percentage points higher than the over-all expansion of 19%. This expansion is mainly due to the growth in these particular sectors in Region 2 i.e. the Swaziland study area.

Both the South African and Swaziland regions, offer informal sectors expansion opportunities.

6.2 COMMODITIES

The magnitude of commodities traded in the total study area in 1993 as well as the impact on commodities as a result of the KRBDP are given in Table 17.

TABLE 17: IMPACT ON COMMODITIES (TOTAL PROJECT)
[1996 PRICES, R'000]

	Impact of	project	STATE OF THE PARTY OF
	Incremental Value	Percentage structure	Percentage magnitude of change. (1993 base year)
Agriculture	527,803	37.26%	32%
- Sugar cane	191,637	13.53%	22%
- Other Irrigation products	320,878	22.65%	57%
- Dryland crops, livestock & forestry	15,288	1.08%	7%
Mining	1,904	0.13%	5%
Manufacturing	567,299	40.05%	14%
- Agricultural processing industries	334,564	23.62%	22%
Other manufacturing	232,735	16.43%	10%
Electricity & water i	53,414	3.77%	29%
Construction	12,333	0.87%	2%
Irade & accommodation	72,014	5.08%	15%
Transport & communication	47,258	3.34%	12%
Finance	96,010	6.78%	14%
Community services	38,380	2.71%	6%
Total	1,416,414	100%	17%

The differential impact of the total project on the volume of trade in commodities amounted to 17% (See Table 17). This is slightly lower than the 19% measured in terms of the activities (production) (See Annexure C.1). The reason therefore that the commodities impact is lower, could mean that the impact on imports was smaller than on local production.

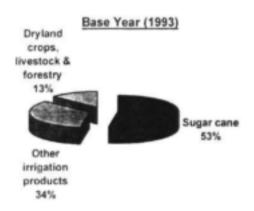
Agriculture Products

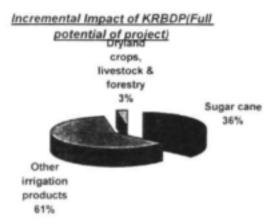
The commodities pertaining to the agricultural sector were grouped together in three categories i.e.:

- i) Sugar cane
- ii) Other irrigation products
- iii) Dryland crops, livestock and forestry products

A graphic exposition is provided below in Chart 5:

CHART 5: PERCENTAGE COMPOSITION OF THE AGRICULTURE COMMODITIES





As highlighted previously in the report, the cultivation and processing of agricultural commodities plays an important role in the economic structure of the total study area. From Table 17, it was deduced that large increases should occur in terms of the production of certain agricultural commodities. These increases are mainly destined for exports from the study area to the rest of the RSA and the world, as well as for further processing.

It was originally intended that sugar cane as well as other irrigation products should benefit from the KRBDP. Relative to the structure in the base year, sugar cane and other irrigation commodities experience a 22% and 57% increase respectively due to the expansion in irrigation agriculture.

Manufacturing Sector

The major expansion in the production of agricultural commodities in the total project area, consequently promotes the economic viability of agricultural processing industries i.e. sugar mills, juice factories etc. As the supply of unprocessed agricultural commodities increases, the possibilities for the refinement of these raw products improves accordingly.

Chart 6 shows the impact on the manufacturing sector.

CHART 6: IMPACT ON THE MANUFACTURING SECTOR



Chart 6 clearly illustrates the magnitude of the expansion that should be experienced by the agricultural processing industries due to the KRBDP impact.

The increased production of sugar cane as well as other irrigation crops, results in benefits being sustained by all branches within the agricultural processing industry.

Other economic sectors' products

The demand for electricity and water increases by 29% relative to the base year.

The construction sector does not seem to experience significant improvements. The reason for this is that the major construction activities should largely been completed before 2008. The relatively small impact on construction can therefore be attributed to the ongoing maintenance of newly created infrastructure.

6.3 FACTOR PAYMENTS

The impact on the factor payments for workers and capital as a result of the irrigation projects was also investigated. The following sub-divisions were made to enhance the models' analytical capacity.

- Labour (according to different levels of skills)
 - Skilled
 - Semi-skilled
 - Unskilled
 - Domestic workers
- Capital (according to the origin of capital)
 - Large commercial farmers

- Smallholders
- Subsistence farmers
- Agro-industries/Sugar
- Agro-industries/Citrus and other
- Forestry
- Other capital
- Undefined

Although domestic workers are normally represented as a commodity (domestic service), they may also be classified under factor payments.

The impacts on both capital and labour remuneration are presented in a single table (Table 18).

TABLE 18: IMPACT ON FACTOR PAYMENTS (TOTAL PROJECT)
[1996 PRICES, R'000]

	Impact	ST OFFICE STREET	
	Incremental Value	Percentage structure	Percentage magnitude Of change (1993 base year)
Labour	PC 885, 375 (SC 107 SC		
Skilled (abourers	27,816	17.01%	6%
Semi - skilled labourers	52,960	32.39%	12%
Unskilled labourers	75,696	46.29%	18%
Domestic workers	7,055	4.31%	33%
Total: Labour	163,527	100%	12%
Capital		£ 4 £04/	
Large commercial farmers	116,313	54.50%	26%
Smallholders (commercial farmers) Nkomazi	39,255	18.39%	166%
Sa Faubsiatent farmers	-1,957	-0.92%	-39%
Agro-Industries/Sugar	12,660	5.93%	18%
Agro-industries/Citrus & other		0.03%	2%
Power of the Control	1,972	0.92%	2%
Other Capital (urban & other)	37,658	17.64%	9%
Und/fined	7,460	3.50%	27%
Total: Capital	213,427	100%	19%

The capital impacts will be discussed in more detail in the section pertaining to enterprises.

Labour

An important aspect to keep in mind when considering the following percentages, is that they represent changes to the monetary values of the labour remuneration. If, however, the actual number of labourers employed per skill level was used, the ratios provided in the table above, would be different as a result of the variances in average wage-levels per skill category.

The following results were therefore obtained.

	Percentage Distribution (Base Year)	Percentage Distribution (KRBDP)
Skilled labourers	35.64%	17.01%
Semi-skilled labourers	31.94%	32.32%
Unskilled labourers	30.81%	46.29%
Domestic workers	1.62%	6.31%

It would be safe to conclude from the results that everybody from the semiskilled down to the domestic workers would benefit from the KRBDP. Important to note from Table 18 is the fact that unskilled labourers should receive R75.7 million from the project. This can be attributed to the major expansion of irrigated agriculture and in particular the increased role of commercial small-farms.

Domestic workers, especially those in the Swaziland region, should benefit as well.

6.4 ENTERPRISES

In order to determine the impact of the Komati Basin irrigation development on various role payers in this region, the following categories of enterprises were identified:

- Large commercial farmers
- ii) Commercial small farmers
- iii) Subsistence farmers
- iv) Agro-industries/sugar, citrus and other
- Forestry and other capital

Each type of enterprise reacted differently to the developments occurring around it, resulting in unique impacts being experienced by each.

The impact on enterprises is provided in Table 19.

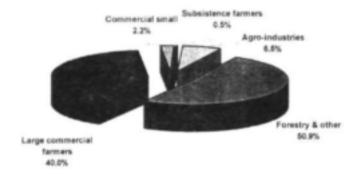
TABLE 19: IMPACT ON ENTERPRISES (TOTAL PROJECT)
[1996 PRICES, R'000]

	Impact of project	Impact of project		
	Incremental Value	Percentage structure	Percentage magnitude Of change (1993 base year)	
	116,313	55.86%	268	
Large commercial farmers	39,255	18.85%	26% 166%	
Subsistence farmers	-1,957	-0.94%	-39%	
Agro-Industries/Sugar, citrus & other	12,726	6.11%		
Forestry & other capital	41,887	20.12%	7%	
Total	208,224	100%	19%	

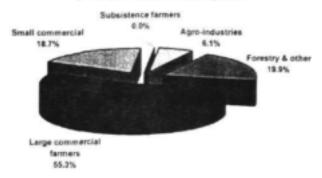
Chart 7 indicates structural composition of enterprises.

CHART 7: STRUCTURAL COMPOSITION OF ENTERPRISES

Base Year (1993)



Incremental Imapct of KRBDP (Full potential of project)



From the above schematic representation it is apparent that smallholder farmers should enjoy most of the benefits emanating from the Komati development. Relative to the base year structure, they experience a 166% change as a result of KRBDP.

The impact on the smallholders, when considered on a regional basis, was as follows:

-	Komati RSA	132%	(See	Annexure	C.5,	Table	5b)
-	Komati Kingdom						
	of Swaziland	231%	(See	Annexure	C.5.	Table	5c)

The small commercial farmers (smallholders) from both regions are impacted positively although those in the Kingdom of Swaziland do seem to be reaping more of the benefits.

The virtual stagnation in subsistence farmers' capital surpluses is a result of their conversion to small commercial farming activities based on irrigation. This development should, therefore, not be viewed in isolation and construed as a major negative consequence of the development project. In fact, the net effect on the communities through the increase in employment in the formal sector far outweighs the so-called contraction in the subsistence economy.

6.5 HOUSEHOLDS

Households remain one of the most important entities identified for purposes of this project. Nine types of households were investigated:

*	Traditional households	-	Low income
			Medium income
			High income
*	Commercial farmers' households	-	Low income
		-	Medium income
			High income
*	Urban and other households		Low income
			Medium income
		-	High income

It is important to note that commercial farmers' households also include small commercial farmers, many of whom were subsistence farmers before the development of the Komati River Basin commenced.

When the KRBDP is regarded in its totality, the following results are obtained and shown in Table 20 (Also see Annexure C.7).

TABLE 20: IMPACT ON HOUSEHOLDS PER LEVEL OF INCOME (TOTAL PROJECT)
[1996 PRICES, R'000]

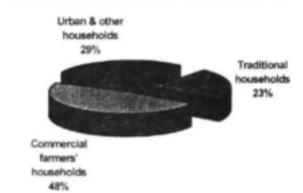
	Impact of project		CONTRACTOR OF THE PROPERTY OF
	Incremental Value	Percentage Structure	Percentage magnitude Of change (1993 base year)
Traditional households	62,984	22.8%	13%
- Low Income	14,474	5.2%	14%
- Medium income	14,544	5.3%	14%
- High Income	33,966	12.3%	12%
Commercial farmers' households	132,262	47.9%	34%
- Low Income	17,469	6.3%	130%
- Medium Income	105,773	38.3%	33%
- High Income	9,019	3.3%	14%
Urban & other households	80,783	29.3%	10%
-Low income	7,599	2.8%	10%
- Medium income	18,514	6.7%	10%
- High Income	54,670	19.8%	10%
Total	276,029	100%	16%

CHART 8: DISTRIBUTION OF THE BROADER HOUSEHOLD TYPES IN TERMS OF HOUSEHOLD INCOME

Base Year (1993)

Urban & other households 48% Commercial farmers' households 23%

Incremental Impact of KRBDP (Full potential of project)



A significant change in respect of commercial farmers' households can be detected in the chart above. This is mainly due to the shift that occurs from subsistence farming to small commercial farming – a major objective of the irrigation project.

On a sub-regional basis it was found that the larger portion of the abovementioned shift, occurs in the Kingdom of Swaziland -mainly due to the structure of the irrigation project in terms of additional hectares coming under irrigation.

The figures below illustrate the distribution of the impact on household income in total with reference to the two development regions.

	Impact of project relative to 1993 base year (%)			
	Komati - RSA	Komati – Kingdom of Swaziland	Total	
Traditional households	8%	20%	13%	
Commercial farmers' households	13%	91%	34%	
Urban and other households	7%	14%	10%	
TOTAL	9%	30%	16%	

Another angle from which to view the impact on household income, is to group the households into three levels of income.

TABLE 21: IMPACT ON HOUSEHOLDS PER AGGREGATED LEVEL OF INCOME (TOTAL PROJECT)
[1996 PRICES, R'000]

	Structure in 199	Structure in 1993		Impact of project	
	Value	Percentage distribution	Incremental Value	Percentage structure	Percentage magnitude Of change (1993 base year)
High Income group	910,135			35.38%	
Medium income group Low income groups	612,214 185,959	35.84% 10.89%		50.30% 14.33%	
Total	1,708,309	100%	276,029	100%	16%

It is also important to note the relative impact of the project. The income distribution impact is not only measured in terms of absolute monetary figures, but also in terms of changes in the distribution pattern. According to the above figures the medium and low income groups gain a considerable share of the total benefits.

According to Table 21 the medium income group should benefit the most from the KRBDP i.e. R139 million. This constitutes 50% of the total benefit. The medium and low income groups gain 65% of the relevant benefits in comparison with their 46% share in the base year.

The following results were obtained for the two regions (See Annexure C.8):

	Percentage impa	Percentage impact of project relative to 1993			
	Komati - RSA	Komati – Kingdom of Swaziland	Total		
High income group	7%	17%	11%		
Medium income group	11%	49%	23%		
Low income group	14%	32%	21%		
TOTAL	9%	29%	16%		

6.6 GOVERNMENT

As could be expected of a project of this nature and magnitude, the central governments (Kingdom of Swaziland and RSA) took full responsibility for the planning and execution thereof. Even the bulk of the financial requirements were in one way or another facilitated through these governments' structures and institutions.

From a fiscal and even broader developmental perspective, these governments would, therefore, be interested to get an indication of the extent to which the capital and other outlays that fall in their ambit of responsibility, are "defrayed" by counterflows of income and other benefits generated by the project to their coffers.

In Table 9 of Annexure C.9, one can see that in line with the above explanation, the relevant central governments, having shouldered the main responsibilities, also receive the bulk of the fiscal incomes of various types generated by the project. A relatively large benefit accrues via the Customs Union arrangement, in favour of the Kingdom of Swaziland government.

6.6.1 Fiscal Impact Study

A fiscal impact study was conducted in the form of a Cost-Benefit Analysis (CBA) where the expenditure and various revenues of both the RSA and Kingdom of Swaziland governments, pertaining to the KRBDP, were applied. The expenditures and revenues were discounted and compared over the economic lifespan of the project. An 8% discount rate, which is in accordance with the rate currently set by the Department of Water Affairs and Forestry, has been used to discount the expenditure and revenue streams.

6.6.1.1 Expenditure and revenue items

The South African Government

The CBA takes the following expenditure and revenue items into account:

- Expenditure
 - Capital cost
 - Driekoppies Dam
 - Maguga Dam
 - Weirs
 - Resettlement
 - Accommodation of contractors
 - ii) Operating and Maintenance
- Revenue
 - i) Tax revenue
 - Direct tax
 - Indirect tax
 - Other tax
 - ii) Water charges
- b) The Kingdom of Swaziland Government

The CBA takes the following expenditure and revenue items into account:

- Expenditure
 - Capital cost
 - Maguga Dam
 - Hydropower installation
 - Resettlement
 - Accommodation of contractors
 - ii) Operating and maintenance cost
 - Revenue
 - Tax revenue
 - Direct tax
 - Indirect tax
 - Other tax
 - ii) Water charges

Detailed expositions of both the above-mentioned CBA's are provided in Annexure D.

6.6.1.2 Results

The results of the CBA's are given below:

FINANCIAL FLOWS FOR THE SOUTH AFRICAN GOVERNMENT [R million] [1996 Prices] - Discount Rate 8%

Revenue	R356
Expenditure	R736
Net Fiscal Impact	-R380
Internal Rate of Return (IRR)	4.36%

FINANCIAL FLOWS FOR THE SWAZILAND GOVERNMENT [R million] [1996 Prices] – Discount Rate 8%

Revenue	R125
Expenditure	R233
Net Fiscal Impact	-R109
Internal Rate of Return (IRR)	4.57%

From the results of the Fiscal CBA, it is obvious that both the South African and Swaziland governments will be able to recoup a significant portion of their expenditure in the form of taxes. However, at an 8% discount rate, there will still be a negative net fiscal impact. At this stage the model does not make provision for a higher tariff for water to the farmers. Should this be taken into account, a positive fiscal impact could be realized.

A further implication is the fact that the government cannot recoup all of its expenditures from consumers of water or other government revenue generated directly by KRBDP. The government should employ alternative sources of income to finance this project.

However, in view of the fact that the fiscal CBA exhibits a positive Internal Rate of Return (IRR) of over 4%, this imply that on purely cash-flow basis (no discounting), the project will fund itself over the programming period from a government finance point of view.

7. INTERPRETATION OF RESULTS

7.1 INTRODUCTION

As one could expect, to superimpose a huge irrigation project on the economy of the Komati River Basin, would give rise to significant changes in the level and structure of that economy. It is also significant to remember that the total study area comprises two regions adjacent to each other, the one in the RSA and the other in the Kingdom of Swaziland. These two regions have direct economic links with each other, which gives rise to cross border flow of goods, people and money.

In the SA region, a distinction was drawn between a more developed and formally urbanized sub-region (Onderberg) and a more rural/developing sub-region, with lower levels of urbanization and a large informal sector (Nkomazi).

On the Swaziland side, the region in focus entails mostly an area of subsistence economic activities based on agriculture, with a couple of sugar estate farms.

Whatever the outcome of the research project, it is important to keep the above-mentioned unique character of the study area in mind as it was before the large irrigation projects were commissioned.

7.2 MAIN FINDINGS: SOCIO-ECONOMIC IMPACT OF THE PROJECT

As indicated earlier, this is a huge project, with a total capital cost (1996 prices) of over R2 billion. This should be seen in the context of the size of the entire study area where in 1993 the GGP amount was slightly less than R3 billion.

MAJOR ECONOMIC IMPACTS

Given the above relative magnitudes, it is of no surprise that according to the SAM-analysis, the major growth has occurred in especially the agriculture and agricultural processing industries after the project came into operation. For example the economy of the study area (in real terms) expanded by R408 million (1996 prices) which is an increase of 15%. As could be expected the agricultural sector together with the agricultural processing developments in both regions experience even larger expansions. In the case of the Swaziland region, a near doubling (\pm 79%) of agricultural activities occurs.

As a result of the low base as well as the limited industrialized structure of the two economies, the huge upsurge in agricultural and related production does not really filter through to other sectors and commodities. The only exceptions are the <u>electricity</u> and <u>water</u> sectors, but from low bases. The conclusion can therefore be drawn that despite the size of the project, it does not lead to the diversification of the economies in question as one would hope for.

SOCIO-ECONOMIC IMPACTS

For the purpose of this analysis, it was decided to focus on some economic variables which in practice would more closely resemble the social implications of the project

ENTERPRISES

The impact of the project on the various enterprises is as follows, [R'000]:

IMPACT ON ENTERPRISES [1996 PRICES, R'000]

Enterprises	Impact of	Percentage	
	Incremental Value	Percentage Structure	magnitude of change
Large commercial farmers	116,313	55.86%	26%
Small commercial farmers	39,255	18.85%	166%
Subsistence farmers	-1,957	-0.94%	-39%
Agro-industries/sugar, citrus & other	12,726	6.11%	18%
Forestry & other capital	41,887	20.12%	7%
TOTAL	208,224	100%	19%

The study undoubtedly showed that small commercial enterprises would benefit the most from the project. Even the large commercial enterprises benefit handsomely, throughout the regions' economies. From a socio-economic point of view, the substantial increase in the number of small enterprises in agriculture, will do much to promote a sustained process of development affecting a wide range of interest groups such as informal/formal trade businesses and traditional financial and business services. Due to the fact that most of the new small irrigation farmers, were previously engaged in subsistence farming and other informal activities, their increased cash income will enlarge the market for locally produced food and other basic needs.

HOUSEHOLDS

As discussed above, households perform a pivotal role in any economy's growth performance. The SAM's major contribution is to model the interaction of the household sector with the other major stakeholders in the economy. The main development thrust of the project is shown to filter

through the household sector. This is achieved by the increase in real labour remuneration of the KRBDP of 12% and 18% for semi-skilled and unskilled workers in the two regions respectively (SA and Swaziland) as a result of KRBDP. This in turn is brought about by the big increase in the number of small commercial farmers' units, especially in Swaziland where a 79% increase is registered.

It is also important, from a development point of view, to note that apart from an above average increase in commercial farmers' households (small units), the project also stimulates the formation and growth in traditional households (13%) and urban and other households by 10%.

Viewed from a skill-level perspective, the KRBDP should be viewed as labour intensive due to the fact that \pm 80% of the employment/income thrust will accrue to the semi- and unskilled levels of labour (incl. domestic workers).

Due to the nature of the project i.r.o., its impact on industries, commodities and factor remuneration (levels of income per households), on balance the project favours in absolute terms the high and medium income. The impact on households will be as follows:

	Impact	Impact of project Incremental Percentage									
	Incremental Value R'000	Percentage Structure	Magnitude of change (1993 as base year)								
High income groups	97,656	35.4%	11%								
Medium income groups	138,831	50.3%	23%								
Low income groups	39,542	14.3%	21%								
Total	276,029	100.0%	16%								

However, income distribution is not defined in terms of how much happened in absolute terms, but relatively. From the above figures it is also evident that the medium and low income groups (percentage), benefit much more than the high income group. This in turn revolves around the exceptionally rapid growth of the medium income group of commercial farmers being specifically targeted by the project from a development point of view. The upliftment of the lesser developed part of each sub-region via this process can therefore be regarded as successful.

GOVERNMENT

All levels of government, play, of course, important roles as initiators of projects, as well as providing the necessary supporting economic and social services that would ensure the optimal distribution of project benefits to the relevant communities. The CBA that was done for the Government's

income/expenditure flows showed a positive internal rate of return of 4.36% and 4.57% for SA and Swaziland respectively (See tables in text). Although the IRR is still below the standard 8% cut-off rate, the achieved IRRs indicate that there is a considerable inflow of income which accrues from the project to the government sector. Governments provide collective services which mostly serve a broad objective, the benefits of which accrue to the population in general and cannot be measured in strict "economic return on investment" terms.

7.3 SAM AS AN ECONOMIC TOOL

The terms of reference provide for the construction of the relevant SAM as well as establishing a methodology for using the SAM to analyse the social impact of future projects.

Usually, when the socio-economic impact of a proposed large irrigation project such as KRBDP, is measured, use is made of either macro-economic impact studies with the help of input-output tables or cost-benefit studies.

Although these methods can be very helpful, especially when the main requirement is to determine the project's economic viability, they are not so appropriate in providing information on the broader social and developmental consequences of development iniatives. Development projects of the size and nature of the KRBDP, are supposed to have impact and "spin-off" effects on a particular region's economy that will be beneficial to its longterm growth and development potential and performance.

In summary, the question can be asked to what extent does a development project affect the underlying causes of economic growth and development in a particular region. These causes are mainly linked to the factors that determine the demand and supply conditions of important markets functioning in that economy such as the labour market, capital market, commodity markets, foreign trade etc.

Coupled with this is the overall efficiency of infrastructural services that provide the oil to the mechanics of markets, in terms of transport, communication, electricity and other services needed to ensure the more efficient utilization of scarce resources. (labour, capital, minerals, land). This, in short, is what economic growth is all about. It is generally accepted that no economic model could be designed and constructed to reflect all the complicated linkages in an economy.

The multifaceted character of the processes that determine growth and development is too complicated and dynamic to be simulated into a quantitative and restrictive econometric model. Any economy, whether developed or not, is dependent on the inputs of people; workers, entrepreneurs, managers, employed/unemployed, politicians, young people,

old people etc. All of them are involved in some form or another in decision making that affects and determines the outcome of a particular economy's performance.

Due to the abovementioned nature of the development process, the search was on for a more appropriate method to determine the broader impact of a development project on a particular region's economy in general, but also on the more specific developmental objectives and requirements of that economy.

The Social Accounting Matrix (SAM) has made it possible to move markedly towards devising a method that would first of all provide a more realistic reflection of a region's economy in action as well as providing an analytical tool to measure/quantify the broader impact of development projects of any nature and size.

The SAM's usefulness as an analytical tool in the context of regional development, compared to macro models, input-output models, structural analysis etc. lies in the following main aspects:

- Institutional dimension: The SAM distinguishes between various important institutions that function in the economy, such as government, households and commercial enterprizes. (The foreign sector can also be regarded as an institution for practical purposes).
- Flow of goods and services: The institutional dimension, makes it possible to depict the flow of goods and services between these institutions. The size of the commodities and services markets (supply/demand) are indicated in quantitative terms.
- Flow of factor payments (including taxes): The SAM structure depicts the use of factors of production in various institutions (households, government, commercial enterprises) as well as their levels of remuneration.
- Flow of Funds: The SAM institutional/national-accounts systems make it possible to determine the ability of the economy to finance its capital requirements from local sources.
- Regional dimensions: Constructing a SAM for a particular region, also shows the economic relationship with adjacent regions, the remainder of the country's economy and the rest of the world.

In contrast to the macro-modelling and Input-Output approaches, the SAM's structure provides a more applicable framework to analyse the impact of a development project on socio-economic aggregates such as income – distribution, household spending and savings, labour skills requirements and even certain institutional changes (enterprise sizes). This is in addition to standard economic growth criteria such as GDP growth, sectoral developments, investment, imports/exports and fiscal developments.

7.4 CONCLUDING REMARKS

Taking the absolute poverty that exists in most parts of the study area into account, it is important to take a closer look at the socio-economic impacts of the KRBDP. The SAM, as a logical expansion of the traditional methods of analysis (CBA; Input-Output etc.), in this study has proved that it does have a more powerful analytical ability than the previously mentioned models to address the socio-economic issues.

It must be remembered that by compiling a regional SAM, a wealth of information and data that was previously unknown about the region in focus, was brought forward.

The SAM is the most detailed set available of structured national accounting and other socio-economic information. The following examples will illustrate this:

- Demand/supply equations of a wide range of commodities and services. Incorporated are quantified data on possible gaps in local supply/demand situations that may warrant commercial exploitation by local and foreign investors. The role of transport to provide mobility of goods and people can also be deduced from the commodity flows.
- The household sector contains a vast amount of information on levels of income as well as spending patterns of the various income groups. Included are data on savings and tax payments by households. Information of this sort is valuable to identify possible commercial projects that could piggy-back on the original project. Especially small business opportunities, e.g. the maintenance of equipment and commercial outlets where local communities can be involved.
- The Government's role in the process of development can also be analysed using information generated by a SAM. (for example the investments required in the study area in order to maximize the benefits to the poor of the project (such as access roads, electricity supply, etc.). The SAM's information can therefore be used by various spheres of government to plan and prioritise their own services.
- On the <u>labour side</u>, the demand for various levels of skills will enable the stakeholders to plan for the necessary training requirements.
- Lastly, the flow of capital funds from where it is generated to where it is needed, also provide information to the financial sector (developed and traditional) for the purpose of identifying commercial opportunities.

The SAM is, however, not without its shortcomings. It remains a comparative-static model which implies that in many cases it cannot provide for flexibility and dynamism in economic relationships that change over time. In an less developed situation, where a dualistic economic situation is prevalent, structural changes can occur quickly which may affect the linkage

in the economy significantly. Further research is required to model and quantify the relationships of the informal and subsistence parts of the economy with the developed section. In this Study attempts were made to address this issue, but with mixed success. It is, however, on par with similar studies that were done in other parts of the world.

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Annexure A

Final Demand Matrix 1: Change in exogenous variables [1996 Prices, R millions]

Final Demand Matrix 2: Impact of the Driekoppies Dam 1996 [1996 Prices, R millions]

Final Demand Matrix 3:
Impact of the Driekoppies Dam & Maguga Dam 2008
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Annexure B

Components of each entity as per region

The components of each entity as per region

Region 1: Komati - RSA

Region 2: Komati - Swaziland

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	Grain & tobacco small commercial farming		Forestry
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	Livestock commercial farming		Mining
	Livestock subsistence farming		Sugar Milis
	Dry land (subsistence) farming		Juice Factories
	Mining	1	Animal Feed
	Sugar mills		Other Food & Beverages
	Juice factories		Clothing & Textiles
	Animal feed		Wood Products & Furniture
	Other food & beverages		Non-Metallic Mineral Products
	Clothing & textiles		Metal Products & Machinery
	Wood products & furniture		Other Manufacturing
	Non-Metallic Mineral Products	1	Water
	Metal Products & Machinery		Electricity
	Other Manufacturing		Building Commercial Farmers
	Water		Building Informal
	Electricity		Civil Construction
	Building Commercial Farmers		Commercial Farmers Trade
	Building Informal		Informal Trade
	Civil Construction	(Commercial Farmers Transport
	Commercial Farmers Trade		Combi-Taxi Transport
	Informal Trade		Modern Financial & Business Services
	Commercial Farmers Transport		Traditional Financial & Business Services
	Combi-Taxi Transport		Community & Social Services - Education
	Modern Financial & Business Services		Community & Social Services - Other
	Traditional Financial & Business Services		Domestic Workers
	Community & Social Services - Education	2. Commodities	Sugar Cane
	Community & Social Services - Other		Orchard sub-tropical fruit
	Domestic Workers		Citrus
Commodities	Sugar Cane		Bananas
	Orchard sub-tropical fruit		Summer & winter grain and Tobacco
	Citrus		Summer & winter vegetables
	Bananas		Raw Wood
	Summer & winter grain and Tobacco		Livestock & other agriculture
	Summer & winter vegetables		Mining Products
	Raw Wood		Sugar
	Livestock & other agriculture		Animal Feed (& Molasses)
	Mining Products		Food
	Sugar		Liquor (beverages) & tobacco
	Animal Feed (& Molasses)	1	Textiles & clothes (including footwear)
	Food		Wood products & Building Board
	Liquor (beverages) & tobacco		Paper products
	Textiles & clothes (including footwear)		Domestic Workers
	Wood products & Building Board		Furniture
	Paper products		Fertilizer
	Domestic Workers	J	Agrochemicals & other
	Furniture		Pharmaceuticals & toilet preparations
	Fertilizer		Fuel
	Agrochemicals & other		Parts & assessories of machinery
	Pharmaceuticals & toilet preparations		Other manufacturing
	Fuel		Electricity
	Parts & assessories of machinery		Water
		1	Building
	Other manufacturing		
	Electricity		Civil engineering
	Water		Distributive trade
	Building		Motor trade & repair
	Civil engineering	I.	Petty trading, unrecorded (small)

	e	. 2	
1	Distributive trade	1	Accommodation & entertainment
1	Motor trade & repair	1	Passenger & community transport
1	Petty trading, unrecorded (small)	1	Freight transport
1	Accommodation & entertainment	1	Modern financial & business services
1	Passenger & community transport	1	Traditional financial & business services
1	Freight transport	1	Housing
1	Modern financial & business services		Government health services
1	Traditional financial & business services		Government education
1	Housing		Government other services
1	Government health services	3. Labourers	Labourers: Skilled
1	Government education		Labourers: Semi-Skilled
1	Government other services	1	Labourers: Unskilled
3. Labourers	Labourers: Skilled		Undefined
	Labourers: Semi-Skilled	4. Capital	Large Commercial Farmers
1	Labourers: Unskilled		Smallholders (Commercial Farmers) Nkomazi
	Undefined		Self Subsistent Farmers
4. Capital	Large Commercial Farmers		Agro-Industries/Suger
1	Smallholders (Commercial Farmers) Nkomazi		Agro-Industries/Citrus & other
1	Self Subsistent Farmers		Forestry
1	Agro-Industries/Sugar		Other Capital (urban & other)
1	Agro-Industries/Citrus & other		Undefined
ı	Forestry	5. Enterprises	Large Commercial Farmers
I	Other Capital (urban & other)		Smallholders (Commercial Farmers) Nicomazi
	Undefined		Self Subsistent Farmers
5. Enterprises	Large Commercial Farmers	1	Agro-Industries/Sugar
	Smallholders (Commercial Farmers) Nkomazi		Agro-industries/Citrus & other
ı	Self Subsistent Farmers		Forestry
ı	Agro-Industries/Sugar		Other Capital (urban & other)
I	Agro-Industries/Citrus & other		Undefined
I	Forestry	Households	Traditional: High
I	Other Capital (urban & other)		Traditional: Medium
	Undefined		Traditional: Low
Households	Traditional: High	1	Commercial Farmers: High
1	Traditional: Medium		Commercial Farmers: Medium
I	Traditional: Low	1	Commercial Farmers: Low
I	Commercial Farmers : High	1	Urban & other: High
I	Commercial Farmers: Medium	1	Urban & other: Medium
l	Commercial Farmers: Low		Urban & other: Low
ı	Urban & other: High	Government	Central: Property Income
l	Urban & other: Medium	1	Central: Transfers
	Urban & other: Low	1	Central: Direct Taxes
7. Government	Central: Property Income	1	Central: Indirect Taxes
	Central: Transfers	1	Central: Subsidies
J	Central Direct Taxes	J	Central: Customs Union
l	Central: Indirect Taxes		Provincial: Property Income
l	Central: Subsidies		Provincial: Transfers
l	Central: Customs Union	1	Provincial: Direct Taxes
I	Provincial: Property Income		Provincial: Indirect Taxes
1	Provincial: Transfers	1	Provincial: Subsidies
I	Provincial: Direct Taxes		Local: Property Income
l	Provincial: Indirect Taxes	1	Local: Transfers
I	Provincial: Subsidies		Local: Direct Taxes
I	Local: Property Income		Local: Indirect Taxes
I	Local: Transfers		Local: Subsidies
I	Local: Direct Taxes	8. Cap/tal	Incorporated sector
I	Local: Indirect Taxes		Government
J	Local: Subsidies	J	
8. Capital	Incorporated sector		
	Government		

The column titles differ from the row titles with respect to the Government

Region 1: Komati - RSA

Region 2: Komati - Swaziland

7. Government	Central government	7. Government	Central government
	Provincial government - Education		Provincial government - Education
1	Provincial government - Health		Provincial government - Health
1	Provincial government - Other		Provincial government - Other
	Local government		Local government

Annexure C.1: Impact on activities - Sectoral

Annexure C.2: Impact on activities - Size of enterprise

Annexure C.3: Impact on commodities

Annexure C.4: Impact on factor payments

Annexure C.5: Impact on enterprises

Annexure C.6: Impact on households

Annexure C.7: Impact on households per level of income

Annexure C.8: Impact on households per aggregated level of income

Annexure C.9: Impact on the government

Impact on Activities - Sectoral

Table 1a - Total project Table 1 b - Komati RSA Table 1c - Komati Swaziland

Table 1a: Impact on Activities - Sectoral (Total project)

[1996 Prices, R'000]	Structure in 199	13	Impact of project		
	Value	Percentual distribution	Value	Percentual distribution	Percentual change
Agriculture	1,235,901	24.43%	512,488	52.61%	41%
- Sugar farming	658,049	13.01%	190,716	19.58%	29%
- Other irrigation	529,074	10.46%	323,301	33.19%	61%
- Dryland, livestock & forestry	48,778	0.96%	-1,529	-0.16%	-3%
Mining	19,438	0.38%	503	0.05%	3%
Agricultural processing industry	1,483,119	29.32%	320,216	32.87%	22%
Other manufacturing	954,469	18.87%	24,827	2.55%	39
Electricity & water	40,478	0.80%	18,238	1.87%	457
Construction	239,280	4.73%	8,550	0.88%	49
Trade & accommodation	102,855	2.03%	10,690	1.10%	102
Transport & communication	125,961	2.49%	11,333	1.16%	99
Finance	353,963	7.00%	36,019	3.70%	103
Community services	503,552	9.95%	31,237	3.21%	69
Total	5,059,016	100%	974,100	100%	195

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 & Region 2

Note: The impact was measured in 2008.

Table 1b: Impact on Activities - Sectoral (Komati - RSA)

[1996 Prices, R'000]	Structure in 199	3	Impact of project		
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change
Agriculture	821,517	24.54%	186,910	39.88%	239
- Sugar farming	333,530	9.96%	122,975	26.24%	37%
- Other irrigation	463,422	13.84%	67,304	14.36%	15%
- Dryland, livestock & forestry	24,565	0.73%	-3,369	-0.72%	-14%
Mining	19,437	0.58%	503	0.11%	39
Agricultural processing industry	902,142	26.94%	199,664	42.60%	225
Other manufacturing	525,562	15.70%	16,303	3.48%	31
Electricity & water	35,643	1.06%	10,104	2.16%	281
Construction	188,164	5.62%	2,916	0.62%	25
Trade & accommodation	79,673	2.38%	6,261	1.34%	85
Transport & communication	95,696	2.86%	5,356	1.14%	65
Finance	328,217	9.80%	28,073	5.99%	95
Community services	352,088	10.52%	12,580	2.68%	4
Total	3,348,138	100%	468,671	100%	14

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 - Komati RSA

Table 1c: Impact on Activities - Sectoral (Komati - Swaziland)

[1996 Prices, R'000]	Structure in 199	3	Impact of project		
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change
Agriculture	414,384	24.22%	325,577	64.42%	79%
- Sugar farming	324,519	18.97%	67,741	13.40%	21%
- Other irrigation	65,652	3.84%	255,996	50.65%	390%
- Dryland, livestock & forestry	24,213	1.42%	1,840	0.36%	8%
Mining	1	0.00%	0.026	0.00%	3%
Agricultural processing industry	580,977	33.96%	120,552	23.85%	21%
Other manufacturing	428,907	25.07%	8,524	1.69%	2%
Electricity & water	4,836	0.28%	8,134	1.61%	1689
Construction	51,116	2.99%	5,634	1.11%	119
Trade & accommodation	23,182	1.35%	4,429	0.88%	197
Transport & communication	30,265	1.77%	5,978	1.18%	209
Finance	25,746	1.50%	7,945	1.57%	319
Community services	151,464	8.85%	18,657	3.69%	125
Total	1,710,878	100%	505,429	100%	305

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 2 - Komati Swaziland

Impact on Activities - Size of enterprise

Table 2a - Total project Table 2b - Komati RSA Table 2c - Komati Swaziland

Table 2a: Impact on Activities - Size of Enterprize (Total project)

[1996 Prices, R'000]	Structure in 199)3	Impact of project		
	Value	Percentual distribution	Value	Percentual distribution	Percentual change
Commercial large	4,897,408	97.18%	821,839	84.28%	17%
- Sugar cane farmers	636,746	12.63%	40,213	4.12%	6%
- Other irrigation farmers	503,958	10.00%	326,594	33.49%	65%
- Agricultural processing industries	1,483,119	29.43%	320,216	32.84%	22%
- Other	2,273,585	45.11%	134,816	13.83%	6%
Commercial small	69,004	1.37%	148,267	15.21%	215%
- Sugar cane farmers	21,304	0.42%	150,503	15.44%	706%
- Other irrigation farmers	25,115	0.50%	-3,294	-0.34%	-13%
- Combi - taxi transport	22,585	0.45%	1,057	0.11%	5%
Subsistance & informal	73,188	1.45%	4,968	0.51%	7%
- Subsistance farming	12,424	0.25%	-5,030	-0.52%	-40%
- Building informal	13,085	0.26%	68	0.01%	19
- Informal trade	23,625	0.47%	4,863	0.50%	219
- Tranditional financial & business se	24,055	0.48%	5,067	0.52%	219
Total	5,039,600	100%	975,074	100%	199

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 & Region 2

Note: The impact was measured in 2008.

Table 2b: Impact on Activities - Size of Enterprize (Komati - RSA)

[1996 Prices, R'000]	Structure in 199	3	Impact of project		
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change
Commercial large	3,248,491	97.02%	390,488	83.32%	12%
- Sugar cane farmers	321,962	9.62%	40,213	8.58%	12%
- Other irrigation farmers	449,487	13.42%	73,821	15.75%	16%
- Agricultural processing industries	902,142	26.94%	199,664	42.60%	22%
- Other	1,574,899	47.04%	76,790	16.38%	5%
Commercial small	46,823	1.40%	77,094	16.45%	1659
- Sugar cane farmers	11,568	0.35%	82,762	17.66%	7159
- Other irrigation farmers	13,934	0.42%	-6,516	-1.39%	-479
- Combi - taxi transport	21,321	0.64%	848	0.18%	45
Subsistance & informal	52,824	1.58%	1,090	0.23%	29
- Subsistance farming	7,626	0.23%	-3,931	-0.84%	-529
- Building informal	10,476	0.31%	35	0.01%	09
- Informal trade	18,292	0.55%	3,130	0.67%	179
- Tranditional financial & business se	16,430	0.49%	1,856	0.40%	119
Total	3,348,138	100%	468,671	100%	149

Dimensions:

- Magnitude: Total project

- Year: 2008

- Impacted area: Region 1 - Komati RSA

Table 2c: Impact on Activities - Size of Enterprize (Komati - Swaziland)

[1996 Prices, R'000]	Structure in 199	3	Impact of project		
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change
Commercial large	1,648,917	97.48%	431,351	85.18%	26%
- Sugar cane farmers	314,784	18.61%	-	0.00%	0%
- Other irrigation farmers	54,471	3.22%	252,774	49.92%	464%
- Agricultural processing industries	580,977	34.35%	120,552	23.81%	219
- Other	698,686	41.31%	58,026	11.46%	85
Commercial small	22,181	1.31%	71,173	14.05%	3219
- Sugar cane farmers	9,736	0.58%	67,741	13.38%	6969
- Other irrigation farmers	11,181	0.66%	3,223	0.64%	29%
- Combi - taxi transport	1,264	0.07%	209	0.04%	179
Subsistance & informal	20,364	1.20%	3,879	0.77%	199
- Subsistance farming	4,798	0.28%	-1,098	-0.22%	-239
- Building informal	2,609	0.15%	34	0.01%	19
- Informal trade	5,332	0.32%	1,733	0.34%	329
- Tranditional financial & business se	7,625	0.45%	3,211	0.63%	429
Total	1,691,462	100%	506,403	100%	30%

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 2 - Komati Swaziland

Impact on Commodities

Table 3 - Total project

Table 3: Impact on Commodities (Total project)

[1996 Prices, R'000]	Structure in 199	3	Impact of project		
	Value	Percentual distribution	Value	Percentual distribution	Percentual change
Agriculture	1,625,421	19.21%	527,803	37.26%	32%
- Sugar cane	854,242	10.09%	191,637	13.53%	22%
- Other irrigation products	559,576	6.61%	320,878	22.65%	57%
 Dryland crops, livestock & forestry 	211,602	2.50%	15,288	1.08%	7%
Mining	38,229	0.45%	1,904	0.13%	59
Manufacturing	3,912,630	46.24%	567,299	40.05%	149
 Agricultural processing industries 	1,489,921	17.61%	334,564	23.62%	22%
- Other manufacturing	2,422,710	28.63%	232,735	16.43%	10%
Electricity & water	186,062	2.20%	53,414	3.77%	295
Construction	523,119	6.18%	12,333	0.87%	25
Trade & accommodation	494,639	5.85%	72,014	5.08%	15%
Transport & communication	384,929	4.55%	47,258	3.34%	129
Finance	699,396	8.26%	96,010	6.78%	149
Community services	597,857	7.06%	38,380	2.71%	61
Total	8,462,281	100%	1,416,414	100%	175

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 & Region 2

Note: The impact was measured in 2008.

Impact on Factor Payments

Table 4a - Total project Table 4b - Komati RSA Table 4c - Komati Swaziland

Table 4a: Impact on Factor Payments (Total project)

[1996 Prices, R'000]	Structure in 199	93	Impact of project	ct	
	Value	Percentual distribution	Value	Percentual distribution	Percentual change
Skilled labourers	476,708	35.64%	27,816	17.01%	69
Semi - skilled labourers	427,243	31.94%		32.39%	129
Unskilled labourers	412,127	30.81%		46.29%	189
Domestic workers	21,658	1.62%		4.31%	339
Total: Labourers	1,337,736	100%	163,527	100%	129
Large commercial farmers	441,492	39.67%	116,313	54.50%	265
Smallholders (commercial farmers) Nkomazi	23,682	2.13%		18.39%	166
Self-subsistent farmers	5,004	0.45%		-0.92%	-39
Agro-Industries/Sugar	68,855	6.19%		5.93%	185
Agro-Industries/Citrus & other	3,287	0.30%	66	0.03%	25
Forestry	118,592	10.65%	1,972	0.92%	25
Other Capital (urban & other)	424,090	38.10%	37,658	17.64%	95
Undefined	28,028	2.52%	7,460	3.50%	27
Total: Capital	1,113,030	100%	213,427	100%	195

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 & Region 2

Note: The impact was measured in 2008.

Table 4b: Impact on Factor Payments (Komati - RSA)

1996 Prices, R'000]	Structure in 199	3	Impact of project		
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change
Skilled labourers	332,043	36.76%	8,681	11.42%	39
Semi - skilled labourers	288,804	31.97%	28,701	37.74%	
Unskilled labourers	268,948	29.78%	36,770	48.36%	149
Domestic workers	13,472	1.49%	1,888	2.48%	149
Total: Labourers	903,268	100%	76,040	100%	8%
Large commercial farmers	303,953	40.56%	18,340	25.28%	69
Smallholders (commercial farmers) Nkomazi	15,553	2.08%		28.24%	
Self-subsistent farmers	2,433	0.32%		-1.18%	
Agro-Industries/Sugar	50,967	6.80%	9,072	12.50%	
Agro-Industries/Citrus & other	3,218	0.43%	66	0.09%	29
Forestry	50,947	6.80%	853	1.18%	29
Other Capital (urban & other)	304,026	40.57%	22,335	30.79%	79
Undefined	18,350	2.45%	2,257	3.11%	129
Total: Capital	749,447	100%	72,552	100%	10%

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 - Komati RSA

Table 4c: Impact on Factor Payments (Komati - Swaziland)

[1996 Prices, R'000]	Structure in 199	3	Impact of project	et	
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change
Skilled labourers	144,665	33.30%	19,135	21.87%	139
Semi - skilled labourers	138,438	31.86%	24,259	27.73%	
Unskilled labourers	143,179	32.95%	38,926	44.49%	
Domestic workers	8,186	1.88%	5,167	5.91%	639
Total: Labourers	434,468	100%	87,488	100%	20%
Large commercial farmers	137,539	37.83%	97.973	69.55%	711
Smallholders (commercial farmers) Nkomazi	8,129	2.24%		13.32%	
Self-subsistent farmers	2,571	0.71%	-1,098	-0.78%	
Agro-Industries/Sugar	17,887	4.92%	3,588	2.55%	
Agro-Industries/Citrus & other	70	0.02%	0	0.00%	05
Forestry	67,646	18.61%	1,119	0.79%	25
Other Capital (urban & other)	120,064	33.02%	15,323	10.88%	139
Undefined	9,678	2.66%	5,203	3.69%	541
Total: Capital	363,583	100%	140,875	100%	399

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 2 - Komati Swaziland

Impact on Enterprises

Table 5a - Total project Table 5b - Komati RSA Table 5c - Komati Swaziland

Table 5a: Impact on Enterprises (Total project)

[1996 Prices, R'000]	Structure in 199	Structure in 1993		Impact of project	
	Value	Percentual distribution	Value	Percentual distribution	Percentual change
Large commercial farmers	441,492	40.01%	116,313	55.86%	26%
Smallholder farmers	23,682	2.15%	39,255	18.85%	166%
Self-subsistent farmers	5,004	0.45%	-1,957	-0.94%	-39%
Agro-industries/Sugar, citrus & other	72,142	6.54%	12,726	6.11%	18%
Forestry & other capital	561,032	50.85%	41,887	20.12%	7%
Total	1,103,353	100%	208,224	100%	19%

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 & Region 2

Note: The impact was measured in 2008.

Table 5b: Impact on Enterprises

[1996 Prices, R'000]	Structure in 199	3	Impact of project	:t		
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change	
Large commercial farmers	303,953	40.56%	18,340	25.28%	6%	
Smallholder farmers	15,553	2.08%	20,488	28.24%	132%	
Self-subsistent farmers	2,433	0.32%	-859	-1.18%	-35%	
Agro-industries/Sugar, citrus & other	54,185	7.23%	9,138	12.60%	17%	
Forestry & other capital	373,323	49.81%	25,445	35.07%	7%	
Total	749,447	100%	72,552	100%	10%	

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 - Komati RSA

Table 5c: Impact on Enterprises (Komati - Swaziland)

[1996 Prices, R'000]	Structure in 199)3	Impact of project		
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change
Large commercial farmers Smallholder farmers Self-subsistent farmers Agro-industries/Sugar, citrus & other Forestry & other capital	137,539 8,129 2,571 17,957 187,710	38.86% 2.30% 0.73% 5.07% 53.04%	18,767 -1,098 3,588	72.21% 13.83% -0.81% 2.64% 12.12%	231% -43% 20%
Total	353,905	100%	135,672	100%	38%

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 2 - Komati Swaziland

Impact on Households

Table 6a - Total project Table 6b - Komati RSA Table 6c - Komati Swaziland

Table 6a: Impact on Households (Total project)

[1996 Prices, R'000]	Structure in 1993		Impact of proje		
	Value	Percentual distribution	Value	Percentual distribution	Percentual change
Traditional households Commercial farmers' households Urban & other households	495,066 394,111 819,602	28.97% 23.06% 47.96%	130,756	22.06% 48.13% 29.81%	12% 33% 10%
Total	1,708,779	100%	271,671	100%	16%

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 & Region 2

Note: The impact was measured in 2008.

Table 6b: Impact on Households (Komati - RSA)

[1996 Prices, R'000]	Structure in 199	93	Impact of project			
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change	
Traditional households Commercial farmers' households Urban & other households	294,512 291,697 540,306	26.14% 25.89% 47.96%	38,557	21.67% 38.27% 40.06%	13%	
Total	1,126,516	100%	100,740	100%	9%	

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 - Komati RSA

Table 6c: Impact on Households (Komati - Swaziland)

[1996 Prices, R'000]	Structure in 199	13	Impact of project			
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change	
Traditional households Commercial farmers' households Urban & other households	200,553 102,414 279,296	34.44% 17.59% 47.97%	92,199	22.29% 53.94% 23.77%	90%	
Total	582,263	100%	170,931	100%	29%	

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 2 - Komati Swaziland

Impact on households per level of income

Table 7a - Total project Table 7b - Komati RSA Table 7c - Komati Swaziland

Table 7a: Impact on Households per level of income (Total project)

1996 Prices, R'000]	Structure in 199	Structure in 1993		Impact of project	
	Value	Percentual distribution	Value	Percentual distribution	Percentual change
Traditional households	495,066	29.0%	59,925	22.1%	129
- Low income	99,952	5.8%	13,142	4.8%	13%
- Medium income	105, 186	6.2%	14,052	5.2%	13%
- High income	289,927	17.0%	32,732	12.0%	11%
Commercial farmers' households	394,111	23.1%	130,756	48.1%	339
- Low income	3,455	0.2%	23	0.0%	1%
- Medium income	36,341	2.1%	23,356	8.6%	64%
- High income	354,315	20.7%	107,377	39.5%	30%
Urban & other hosueholds	819,602	48.0%	80,990	29.8%	109
- Low income	72,599	4.2%	6,741	2.5%	9%
- Medium income	191,127	11.2%	19,004	7.0%	10%
- High income	555,877	32.5%	55,245	20.3%	10%
Total	1,708,779	100%	271,671	100%	165

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 & Region 2

Note: The impact was measured in 2008.

Table 7b: Impact on Households per level of income (Komati - RSA)

[1996 Prices, R'000]	Structure in 199	13	Impact of project		
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change
Traditional households	294,512	26.1%	21,827	21.7%	7%
- Low income	54,935	4.9%	4,668	4.6%	8%
- Medium income	59,676	5.3%	4,997	5.0%	8%
- High income	179,901	16.0%	12,162	12.1%	7%
Commercial farmers' households	291,697	25.9%	38,557	38.3%	13%
- Low income	2,476	0.2%	21	0.0%	1%
- Medium income	24,231	2.2%	7,651	7.6%	32%
- High income	264,990	23.5%	30,885	30.7%	12%
Urban & other hosueholds	540,306	48.0%	40,356	40.1%	7%
- Low income	49,071	4.4%	3,527	3.5%	7%
- Medium income	129,069	11.5%	9,942	9.9%	8%
- High income	362,166	32.1%	26,888	26.7%	7%
Total	1,126,516	100%	100,740	100%	9%

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 - Komati RSA

Table 7c; Impact on Households per level of income (Komati - Swaziland)

1996 Prices, R'000]	Structure in 199	3	Impact of project		
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change
Traditional households	200,553	34.4%	38,098	22.3%	19%
- Low income	45,017	7.7%	8,473	5.0%	19%
- Medium income	45,510	7.8%	9,055	5.3%	20%
- High income	110,026	18.9%	20,570	12.0%	19%
Commercial farmers' households	102,414	17.6%	92,199	53.9%	90%
- Low income	978	0.2%	1	0.0%	0%
- Medium income	12,110	2.1%	15,705	9.2%	130%
- High income	89,325	15.3%	76,493	44.8%	86%
Urban & other hosueholds	279,296	48.0%	40,634	23.8%	15%
- Low income	23,527	4.0%	3,215	1.9%	14%
- Medium income	62,058	10.7%	9,062	5.3%	15%
- High income	193,710	33.3%	28,357	16.6%	15%
Total	582,263	100%	170,931	100%	29%

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 2 - Komati Swaziland

Impact on households per aggregated level of income

Table 8a - Total project Table 8b - Komati RSA Table 8c - Komati Swaziland Table 8a: Impact on Households per aggregated level of income (Total project)

[1996 Prices, R'000]	Structure in 199	93	Impact of proje	ct	Percentual change
	Value	Percentual distribution	Value	Percentual distribution	
High income groups Medium income groups Low income groups	946,533 484,509 277,737	55.39% 28.35% 16.25%	51,758	68.46% 19.05% 12.49%	20% 11% 12%
Total	1,708,779	100%	271,671	100%	16%

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 & Region 2

Note: The impact was measured in 2008.

C.8.1

Table 8b: Impact on Households per aggregated level of income (Komati - RSA)

[1996 Prices, R'000]	Structure in 19:	93	Impact of project		
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change
High income groups Medium income groups Low income groups	651,387 311,446 163,683	57.82% 27.65% 14.53%	22,124	64.94% 21.96% 13.09%	7%
Total	1,126,516	100%	100,740	100%	9%

Dimensions:

- Magnitude: Total project

- Year: 2008

- Impacted area: Region 1 - Komati RSA

Table 8c: Impact on Households per aggregated level of income (Komati - Swaziland)

[1996 Prices, R'000]	Structure in 1993		Impact of project		
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change
High income groups Medium income groups Low income groups	295,146 173,063 114,055	50.69% 29.72% 19.59%	29,634	70.53% 17.34% 12.14%	17%
Total	582,263	100%	170,931	100%	29%

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 2 - Komati Swaziland

Impact on the government

Table 9 - Total project

Table 9: Impact on the Government - Income (Total project)

[1996 Prices, R'000]	Structure in 1993		Impact of project		1
	Value	Percentual structure	Value	Percentual structure	Percentual magnitude of change
Central Government	859,540	98.26%	113,514	98.56%	13.21%
- Property income		0.0%	-	0.0%	0.00%
- Transfers	2,227	0.3%	243	0.2%	10.92%
- Direct tax	370,302	42.3%	40,429	35.1%	10.92%
- Indirect tax	347,527	39.7%	32,583	28.3%	9.38%
- Subsidies	-12,806	-1.5%	-1,459	-1.3%	11.39%
- Customs union	152,290	17.4%	41,718	36.2%	27.39%
Provincial Government	670	0.1%	73	0.1%	10.92%
- Property income		0.0%	- 1	0.0%	0.00%
- Transfers	5	0.0%	. 1	0.0%	10.92%
- Direct tax	665	0.1%	73	0.1%	10.929
 Indirect tax 		0.0%	- 1	0.0%	0.00%
- Subsidies	1 -	0.0%		0.0%	0.009
Local Government	14,551	1.7%	1,589	1.4%	10.92%
- Property income		0.0%	-	0.0%	0.009
- Transfers	112	0.0%	12	0.0%	10.92%
 Direct tax 	14,439	1.7%	1,577	1.4%	10.929
 Indirect tax 		0.0%		0.0%	0.009
- Subsidies		0.0%		0.0%	0.009
Total	874,761	100%	115,176	100%	13.29

Dimensions:

- Magnitude:

Total project

- Year:

2008

- Impacted area:

Region 1 & Region 2

Annexure D

Fiscal Impact Study: RSA Government

Fiscal Impact Study: Swaziland
Government

KOMATI RIVER BASIN DEVELOPMENT PROJECT

Financial flows for the South African Government (1996 Prices) [R million]

	-			2	3	4			16	17	18	19	20	21	22	23
ar manage		To Limit	57.947	-tpu	Then con		1997	700	2000	2001	G#10		2477	90U)	aoia	2015
Capital cost	R 714	962	м	115	154	140	59	46								
Cantana A maintenance com	R 22	117.70					0.20	1.50	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
polit passors	R 736	1,080	84.4	115.0	154.5	139.7	58.9	47.6	3.1	2.1	2.1	3.1	3.1	3,1	3.1	3.1

Financial flows for the South African Government (1996 Prices) [R million]

instal in minory			1	2	3	4	5		16	17	16	19	30	21	22	23
	April present		10,7 941 . 11,	Cam	770	ner	四個		(ROOF		1910	kerto t		100 P	204	215
Tax (minus)	R 337	2,702							87	87	87	87	87	87	87	87
	R 86 R 93 R 158		:	:	:		:	:	22 24 41							
	R 19	. 152	. :						5		5					
Talai deregan	R 356	2,854							92	92	92	92	92	92	92	92

Financial flows for the South African Government (1996 Prices) [R million]

,			1		3	- 4		- 6	14	17	- 18	19	20	21	22	23
		15.35	101				1117									
CONTRACTOR STATE	CONTRACTOR OF THE PARTY OF	BIANCE SE	Designation				NEC AL	4942193	i ampidami	GOLD III		(#18E022)	Market School	254-20	aaner.	CAPE
Atten Asset	R -380	1,774	-84	-115	-154	-140	-59	-48	89	89	89	89	80	80	80	89
Accompany Cash Cash Cash			-84	-199	-354	-493	-652	-600	-394	-805	-747	-628	-539	-450	-361	-272

Net present value Internal rate of return R -380 4.38%

KOMATI RIVER BASIN DEVELOPMENT PROJECT

Financial flows for the Swaziland Government (1996 Prices) [R million]

		2 3				16	17	18	19	20	21	22	23
Explands re Tatel	1993 1994	Time .	1984	1007		Zeco A		2010	2071	711	2013		ore.
Capital sout R 225 340 Operating & maintenance souts R 8 54.40	27	22 22	**	2	27							-	-
Operating & meintenance costs R 8 54.40						1.60	1.60	1.60	1.80	1,60	1.60	1.80	1.60
Total Expanditure R 233 394	27	22 22	18	2	27	2	2	2	2	2	2	2	2

Financial flows for the Swapiland Government (1996 Prices) [R million]

				2	, ,	4		 16	17	18	19	20	21	22	23
				1	TR.	Street	1			Tope .			and .		
	R 108	***						28	28	28	28	28	26	28	28
1770	R 77 R 33	617 262	:		:		:	20	20	20	20	20	20 8	20	20 8
	R-1	-10						-0	-0	-0	-0	-0	-0	-0	-0
	R 16	130						 •		•	•		•	_ '	
Total Consultation	R 125	222						32	32	32	32	32	32	32	32

Financial flows for the Swarfland Government (1996 Prices) [R million]

,				2	3	4	8		16	17	18	19	20	21	22	23
	COLUMN TO SERVICE STATE OF THE PERSON NAMED IN COLUMN TO SERVICE STATE OF THE PERSON NAMED STATE OF THE PERSON NAMED STATE OF THE PERSON NAMED STATE OF THE PERSON NAM	1111111			李明	125000	4	中间接	PROD	THE STATE OF		医毒合物	相對一次語	以根据	State (1)	(C)
	25.00	KING E	British S	经验证	A DEL		SCAL SE	如祖建	W.H.	113.53	100	SERVICE LA		は数に		
	R -109	eos	-27	-22	-22	-18	-2	-27	31	31	31	31	31	31	31	31
			-27	-49	-71	-89	-91	-117	-314	-294	-253	-222	-192	-181	-130	-100

Net present value Internal rate of return R -109 4.57%

Annexure E

Social Accounts Matrix for the Project Development Area, (1993)

> This Matrix is also available on the WRC's website address: http://www/wrc/org/za

KOMATI RIVER BASIN CEVELOPMENT PROJECT Social Accounting Metric (1992) [1894 Prices]

	[1006 Prices]											
		Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region f
		Activities	Activities	Acquities	Activities	Activities	Activities	Activities	Activities	Activities	Activities	Activities
		Suger	Sugar cane	Sub-tropical	Sub-tropical	Grain &	Grein &	Vegetable	Vegetable	Forestry	Livestock	Livestock
		Cane	Small	Orchard	Orchard	Tobacco	Tobacco	Commercial	Small		Commercial	Subsinence
		Commercial	Commercial	Commercial	Small			Farming	Commercial		Farming	Farming
		Farming	Farming	Farming		Farming	Commercial		Farming			
		-			- 4		- 6	7			9 10	- 11
Region 1	1 Sugar cane commercial farming					-				-		
Activities	2 Sugar cane small commercial farming	1 :			-							
	 Sub-tropical orchard commercial farming Sub-tropical orchard small commercial farming 	1 0										
	5 Gran & totacco commercial farming	1 :										
	6 Grain & tobecco shall commercial farming											
	7 Vegetable commercial farming											
	8 Vegetable small convencial farming											~
	9 Forestry											
	10 Livestock commercial farming							-	-			
	11 Livestock subsistence farming											
	12 Dry land (subsistance) farming						-					5 0
	13 Minng							-				
	14 Sugar mits	1 1					,					
	15 Juce fectories	1 1						-	-			
	16 Aromal feed 17 Other food & beverlages	1 0										
	18 Cictiving & toulies	1 1				-						
	19 Wood products & furniture											
	20 Non-Metalic Mineral Products					-			-			
	21 Metal Products & Machinery											
	22 Other Manufacturing											
	23 Weter				100							
	24 Electricity											
	25 Building Convinercial Farmers		,						*			-
	26 Building Informal											-
	27 Cwi Construction											
	26 Commercial Farmers Trade 29 Informal Trade				-				-			
	30 Commercial Farmer's Transport											
	31 Comb-Taxi Transport											
	32 Modern Financial & Business Services											
	33 Traditional Financial & Business Services											
	34 Community & Social Services - Education											
	35 Community & Social Services - Other											
	36 Domestic Workers		-		-	-			-			
Region 1	37 Sugar Carre	29.214	154	-								2
Commodities.	38 Orchard sub-fropical fruit			19 803	196			-		-		
	39 Citrus	1		9.500	96	-			-			
	40 Bananas			17,676	176	647			. 0	12	11	
	41 Summer & winter gram and Tubacco	221				942	544	960	50	14		. 2
	42 Summer 4 winter vegetables 43 Raw Wood	1,009		1,934	19	30	17	6	0	1,333		3
	44 Livestock & other agriculture	235		329	3	7	4	2	0		412	767
	45 Mining Froducts	443		160	2	26	15	1	0		1	0
	46 Suger											
	47 Animai Feed (& Molesses)		-	-	-	-			-	-		-
	48 Food	-		1.906	19			16	1	1.500	351	100
	49 Liquer (beverages) & tobacco		-			-						
	50 Textiles & clothes (includin footweer)			4.337	43	12	,	10	- 1	151	7	2
	51 Wood products & Building Board	181	15	1,298	13	11	6	455	26	18		20
	53 Paper products 53 Domestic Workers	170		20,010	269			. 90		108	26	- 20
	54 Furnius							- 0				
	56 Fertilzer	24,007	1.304	16,855	169	1,374	794	557	29			4
	56 Agrochemicals & other		343	17,188	172	344	196	376	20	54	2	0
	57 Pharmaceuticals & tollet preparations	805		799		23	13	3	0			23
	58 Fuel	9,926	87	26,614	255	1,563	914	247	11		230	94
	56 Parts & essessories of machinery	7,602	369	14,068	141	530	306	684	38	620		36
	60 Other manufacturing		23	* 000				195	9		46	36 47
	61 Electricity	13.554	849	1.717	17	111	64	236	11		56	2
	62 Water	2.544	17	1.581	16	31	16	96				19
	63 Building 64 Cavi engineering	536		1.561	16		. "					
	65 Distributive trade	1.493		3 022	30	105	61	86				
	66 Motor trace & reper	10.452		21.153	60	736	121	605	9			12
	67 Petty trading, unrecorded (small)	2.986	189	6,044	212	210	425	173	32		43	44
	68 Accermodation & entertainment											
	69 Passenger & community transport											
	70 Freight transport	66,267	1,830	18,292	183	530	306	45	2			50
	71 Modern financial & business services	4,441	742	6,750		228	***	679	***	41		104
	72 Traditional financial & business services				58		132		32			104
	73 Housing											
	74 Government health services 75 Government education			563		3	2		. 0			,
	70 Government education 76 Government other services			3,500	36	102	59	156	8			17
Region 1	77 Labourers Skilled									887	-	
Labourery	78 Labourers Semi-Saded	9.010	484	9.161	92	340	196	144	8		180	174
	79 Labourers Unskilled	19,950	2.077	25.306	253	569	328	492	26	1,596		720
	80 Undefined										*	-
Region 1	61 Large Commercial Farmers	116,494		131,078		4,315		38,786			990	
Capital	82 Smalholders (Commercial Farmers) Nicoreal		2.983		4,058		326	*	2.064			1,006
	83 Self Subsistant Femners											1,008
	84 Agro-industries/Sugar											
	85 Agro-industries/Othus & other											

			Region 1	Region f	Region f	Region f	Region f	Region f	Region f	Region f	Region f	Region f	Region 1
			Activities	Activities	Activities	Activities	Activities	Activities	Activities	Activities	Activities	Activities	Activities
			Sugar Cane	Sugar care Small	Sub-tropical Circhard	Sub-tropical Orchard	Grein & Tobacco	Grain & Tobacco	Vegetable Commercial	Vegetsbie Smell	Forestry	Livestock	Livestock Subsistence
			Commercial	Commercial	Commercial	Small	Commercial	Small	Ferning	Commercial		Farming	Farming
			Farming	Farming	Farming 3	Commercial		Commercial	7	Farming		9 10	11
	86	Forestry	-	-		-		-	-		737		-
		Other Capital (urban & other)											
Region 1		Undefined Large Commercial Farmers											
Enterprises	90	Smalhoiders (Commercial Fermers) Neomad											
		Set Subsistant Fermers Agro-Industries/Sugar											
		Agro-industries/Citrus & other											
		Forestry Other Capital (urban & other)											
		Undfined	- 1										
Region 1		Traditional High											
Households		Treditional Medium Traditional Low											
	100	Commercial Farmers : High		*									
		Commercial Farmers Medium							*				
		Commercial Farmers Low Urban & other High	- 1										
	104	Urban & other Medium	-										
Region 1		Urban & other: Low Central Property Income											
Government		Central Transfers											
		Central: Direct Taxes	i.,	. ,					*				
		Central Indirect Taxes Central Subsidies	284		762		40	23	22	. 1			. *
		Central Customs Union											
		Provincial: Property Income				-	-	-	-				-
		Provincial Transfers Provincial Direct Taxes											
		Provincial Indirect Taxes											
		Provincial Subsidies						-					
		Local Property Income Local Transfers											
	119	Local Direct Taxes											
		Local Indirect Taxes Local Subsides											
Region 1		Households							- 1		- 1		-
Capital		Incorporated sector											
Region 2		Government Sugar Cane Commercial Farming											
Activities		Suger Cane Small Commercial Farming											
		Sub-Tropical Orchard Commercial Ferming											
		Grain & Tobacco Commercial Farming Vegetable Commercial Farming											
	130	Farestry											
		Livestock Commercial Ferming				*							-
		Livestock Subsistance Farming Cry Land (Subsistance) Farming											
		Mining											
		Sugar Mills Juice Fectories											
		Animal Feed											100
		Other Food & Beverages											
		Clothing & Textiles Wood Products & Furniture											
	141	Non-Metallic Mineral Products											
		Metal Products & Machinery Other Manufacturing											
		Weter											-
		Electricity						- 1					
		Building Commercial Fermers Building Informal						- 1					-
	148	Civil Construction											
		Convercial Farmers Trade Informal Trade				-	:						
		Conwercial Farmers Transport											
		Contis-Tase Transport											
		Modern Financial & Business Services Traditional Financial & Business Services											
	155	Community & Social Services - Education											
		Community & Social Services - Other											
Region 2		Domestic Workers Sugar Cane											
Commodities	150	Orchard sub-tropical fruit									-		
		Citys Benanes		-									
		Summer & winter grain and Tobacco											
	163	Summer & winter vegetables		-							-		
		Rew Wood Livestock & other agriculture											
	166	Mining Products											
	167	Suger									-		
	169	Animal Feed (& Molasses) Food		-				- 1					
	170	Liquor (beverages) & totecco		-							-		
		Textiles & clothes (includin footweer) Wood products & Building Board											
		Paper products									-		

			Region 1 Activities Suger Carse Commercial Farming	Region 1 Activities Sugar care Small Commercial Faming	Region f Activities Sub-tropical Orchard Commercial Farming	Region 1 Activities Sub-tropical Orchard Ernel Commercial	Region 1 Activities Grain & Tobacco Commercial Famono	Region 1 Activities Grain & Tobacco Smell Commercial	Region f Activities Vegetable Commercial Farming	Region † Activities Vegetable Smell Commercial Farryng	Region 1 Activities Forestry	Region f Activities Livestors Commercial Farming	Region 1 Actuales Livestock Subsistence Farming
					3				7			9 10	- 11
		Domestic Workers Furniture	1			*		-					
	176	Fertizer											
		Agrochemicals & other									-		
		Phermeceuticels & tollet preparations Fuel											
	180	Parts & assessories of machinery											
		Other manufacturing Electricity			-								
		Water											
	184	Building			-					41			
		Civil ongineering Distributive Tade											
		Motor trade & reper											
		Petly treding, unrecorded (small)	(10)				-						
		Accommodation & entertainment Pessenger & community transport											
		Freight transport											
		Modern financial & business services											*
		Traditional finencial & business services Housing	-	- 2			- 1						
	195	Government health services	-										
		Government education	100										
Region 2		Government other services Labourers Salled											
Labourers		Lebourers Semi-Sided											
		Labourers Unskilled			-				-				
Regon 2		Undefined Large Commercial Farmers	1			1					- 1		- 1
Capita	203	Smalholoers (Commercial Farmers) Nikomazi	16										
		Self Subsistent Fortuers									-	-	
		Agro-industres/Sugar Agro-industres/Citius & other											
	207	Foresty											
	208	Other Capital (urban & other)	-		-								
Report 2		Undefined Large Commercial Farmers							-				
Enterprises		Smelholders (Commercial Farmers) Nicomazi	-										
	212	Self Subsistant Fathers	-			-		10	*				14
		Agro-industries/Suger											
		Agro-Hourities/Citius & other Forestry											1
	216	Other Capital (urban & other)											
The street in		Undfined Tredformi High		1					*				
Region 2 Households		Treditional High Treditional Medium	1										1
	220	Treditional Low											
		Commercial Farmers High								-			
		Commercial Farmers: Medium Commercial Farmers: Low											0
	224	Urban & other: High											
		Urtan & other Medium						-	-			-	
Region :		Urben & other Low Central Property Income											:
Government	226	Central Transfers			-								
		Central Direct Taxes	-					-					
		Central Indirect Taxes Central Sussides											
	232	Central Customs Livion											
	233	Provincial Property Income	-					-			-		
		Provincial Direct Taxes											: 1
	236	Provincial Indirect Taxes											2
	237	Provincial Subsidies											
		Local: Property Income Local: Transfers											
		Local Direct Taxes	- 2								- 2		
	241	Local indirect Taxes	-										
-		Local Subsides	- 1		-			100					
Region 2 Capital		Households Incorporated sector											
	245	Covernment	-										
Region 3		Factor Payments (+transfers)											
Rest of SA		Goods & services Capital											
Regon 3		Factor Payments (+transfers)											
Rest of Sweziend	250	Goods & services	-						-		-		
Regon 3		Capital Factor Payments (+transfers)											- 1
firest of the world		Goods & services	- 0										- 1
	254	Balance on Current Account											
	260	Capital	-			<u> </u>	-			-	-	_	·
		TOTAL	321,962	11,548	362,108	6,669	12,208	4,88	45,171	2,277	12,118	3,834	2,307
		,											

		Region 1 Activities Dry land (Subsistence Farming	Region f Activities Mining	Region 1 Activities Sugar India	Region 1 Activities Juice factories	Region 1 Activities Animal Feed	Region 1 Activities Other Food & Beverages	Region 1 Activities Cathing & Textiles	Region 1 Activities Wood products & furniture	Region 1 Activities Non- metalic mineral products	Region 1 Activities Metal products & mechinery	Region 1 Activities Other menufacturing	Region 1 Activities Water	Region 1 Activities Electricity	Region 1 Activities Building - Commercial
Report 1		12	13		15	- 1	1		1 1	9 2	0 2	1 22	2	3 24	25
Region 1 Activities	2														
	3														
	6														
	6														
	7 8														
	9				- 1										
	10														
	11												-	-	
	13														
	14	-								-	,				
	15														
	17														
	18							-		-					
	19														
	21														
	22						-		-	-		-			
	23 24														
	25														
	26														
	27 26														
	29														
	30									-					
	31			- 1											
	33														
	34														
	36 36														
Region 1	37			457,926											
Commodities	38		2		1,006	2,864	3.114								
	39 40		1		4,771 640	13,582	1,982								
	41	346	2		442	1,258	1.368								
	42			422	168	477	519 4.719		30 563						
	43	2	15	423	1,524	4,339	4,719	914	AL 503			. ,			
	40	11	14	756	52	140	161	351	1,342	7,330	3,114	2	93	875	527
	46				6.692	19,049	20.715								
	48		9		5,884	16,748	18,213	31	14	20		0	1	30	
	49		9												
	50	3	70	1,489	102	291 70	316 76	15,446	4,321 22,254	246 131	463	68 14	10	2	2.477
	52	27	24	7,490	515	1.465	1,593	1.504	3,727	1,218	138	71	19	2	326
	53		*												
	54 56	625	5		121	344	374	. 3	2,408		. 2	. 0	3 25	0	
	56		482	19.792	1,358	3.866	4.204	6.364	5,224	1,327	920	97	403	1	1.365
	57		3	100										0	
	50	365	2,543	1 605	746	2 131	341 2317	1.642	1,891	1,262 5,496	9,101	16 252	191 720	81 262	1,471
	60	51	14	62	4	12	13	273	273	0		40	54	1	-
	61	106	811	18,158	315	868	977 172	1,022	2,723 99	1,634	3,062	13	905	2.110	126
	62 63	36	34	811	56	158	172	140		. 50	. 40	. '	3,944	. 10	26,746
	64		6										10	369	
	65	41	84 754	6,518	447	1,273	1,384	2,750 485	4,500	940	1,573	108	17	162	218 4,141
	66 67	82 287	758	5,214	358	9,143	9,282	400	5,500	1,149	1,573	108	320	162	4,141
	68												3		
	60	242	11	911	63	178	193 3,676	1,697	5,240	3,293	2,674	42	268	99	6.856
	70	242	451 62	17.310	1.188	3,381	715	3,326	9,928	1,679	2,099	135	185	304	4 860
	72	196		1.659	114	324	352			-					
	73			35	2	7	67						. 0		
	74 75	,		318 353	22 24	62	75	37	150	23	12	3	49	,	
	76	38	1,903	18,856	1,294	3,683	4,006	3,525	9,243	2,596	4,094	121	704	105	2.305
Region 1	77		1,379	20,968	412	1,173	1,276	1,310	15,884	1,944	1,095 2,543	1,859	418	213 677	7,871
Labourers	78 79	246	3,599	49,371 37,814	743	2,763	3,005 2,301	3,559	20,691	7,321	1,922	3,477	1,130	429	5,896
	80				-	-									
Region 1	81											:			5,326 239
Capital	82	967	-												419
	84			33.636		6.570	7.144						-		
	86				2,308		321								-

								E.5							
		Activities Ac	Dritter A	luger	Juice A	veral seci	Region 1 Activities Other Food & Beverages	Region 1 Activities Cotting & Textiles	Region f Activities Wood products & furniture	Region I Activities Non- metalic mineral	Region f Activities Metal products & mechanicy	Region 1 Activities Other menufacturing	Region 1 Activities Water	Region 1 Activities Electricity	Region f Activities Building - Commercial
		12	13	14	15	16	17	18	16	products 20	21	22	23	24	26
	86		3,269	4.158	286	812	562	14,997	40.800 6,043		19,326	23.673	12,737	6.504	
	66	-									-				-
Regon 1 Enterprises	89		:			:	:								-
	91							-							
	92 93					:									
	94	-													-
	96														
Region 1 Households	97 98														
Province Code	90														
	100														
	102					-			-			*	*		
	104		-			-									
Region 1	105		-		- 1	-									
Government	107									-					
	108		128	2.602	179	508	563	1,180	1.196	1,181	198	16	321	164	1.023
	110		-20	-2.843	-196	-555	-604	-330	-894	-154	-145	-6	-33	-17	-30€
	112	:						:				:			
	113		-				-	:		-					
	115														
	116							:				:			
	118						-				-				
	119										- 1				
Region 1	121														
Capital	123						100								
Region 2	124										-				
Activities	126						(4)								
	127									-					
	129					- 1				- 1				- 1	
	131	-													
	132													1	
	134											:	-		
	136														
	137														
	139	:													
	141			-											
	142														
	144														
	145 146														
	147		-										-		
	149														
	150					- 2			-						
	152													- 1	
	154					-									
	155 156								-	- 1					
	157			-									-		
Region 2 Commodities	158					-							:		
	160	-				-	-		:	-		:			
	161						-		-	-					
	163					-									
	165		-	-								-	-		
	166			-	:										
	168					-	-	-		-					
	170														
	171		-	-		-							-		
	173			-			-						-		-

		Region 1 Activities Ony land (Subsistence) Farming	Region f Activities Mining	Suger	Asice	Region 1 Activities Animai Feed	Region † Activities Other Food & Beverages	Augion f Activities Clothing & Textiles	Region f Activities Wood products & furniture	Assistant F Activities Non- metalic mineral products	Region f Activities Metal products & machinery	Region 1 Activities Other menufacturing	Region 1 Activities Water	Region 1 Activities Electricity	Region 1 Activities Building - Commercial
	174	- 12	13	14	15	16	17	. 18	- 11		. 21		23		
	176			*				-				- 1		-	-
	177														
	178														
	180														
	181														
	183														
	184														
	186						-								
	187														
	189														
	190								-				-		
	190														
	193					-	-							-	
	190						:							-	
	196		-									-	-		
Region 2	198														
Labourers	196														
	200														
Region 2	202														
Capital	203														
	206														
	296														
	208														
Region 2	210														
Enterprises	211														
	212														
	214									- 2	- 2				
	215								:					-	
	217														
Region 2 Households	218														
	220				-										
	221														
	223														
	224 226														
	226		-												-
Region 2 Government	227														
COMMITTER	229	- 0													
	230														
	232														
	233														
	235	-				-		- 1					- 1		
	236														
	238														
	239							-							
	241	-													
Beston 5	242														
Region 2 Capital	243		1												
	245						-				-			-	
Region 3 Reat of SA	246											-			
	248														
Region 3 Rest of Swaziland	249 250											-			
	251	-													
Region 3 Rest of the world	262 263														
	254			-										-	
	255	_								-			<u> </u>		·
	_	4,319	19,437	762,942	36,181	100,019	111,368	80,820	211,311	64,873	62,000	34,402	23,336	12,307	63,726

	Ac Bu	Region I svites sting- tomes	Region 1 Activities CMI Construc- tion	Region I Activities Commercial Trade	Region f Activities teformel Trade	Region f Activities Commercial Transport	Region f Activities Combi- lass Transport	Region 1 Activities Modern financial & business	Region f Activities Traditional financial & business	Activities	Region 1 Activities Community 6 sociel services -	Region f Activities Domestic Workers	Region 1 Commod Suger care	Region 1 Commod Orchard sub-tropical trust	Region 1 Commod Citus
		2	16 :	27 26	. 2	, x		services	services 32 3	Education 3	health & other	34	3 32	38	39
Region 1	1			-				-		-		-	321,854		
Activities	3												11.562	47,042	227.376
	4				- 6									800	3 867
	5	-													
	6 7														
	8						-								
	10														
	11	-													
	12														
	13														
	15														
	16										*				
	18														
	19														
	20														
	22														
	23														
	24														
	26														
	27														
	29														
	30						100						-		
	31														
	33	- 2										- 2			
	34														
	36														
Region 1	37														
Commodities	38					1 2					10				
	40					13					36 200				
	41														
	42					36					531	-			
	44					140					1,650				
	45	61	1 19	7 1	0						4				
	46	-													
	46			226	70				2 0		3,415				
	49			7 242	74	159	174	. 2							
	61	76 287					57		4						
	52	36				1,213	208	3,82	5 202						
	53		12	1 256	76	81		31	2 16	814	528				
	55			10					1 6						
	56	158						20							
	57	170	1.87		599	5,749	4.571			440	21.654 6.172				
	59	2.24						25	8 14						
	60		5 41	52			80	93							
	62	10					75								
	63	3.096		1,680	513	623		79	6 43	1,541	-				
	64	227	4.58 7 1.08				196		6 46		363 6,929				
	66	277					1,287								
	67				1,220	,	495			- 1				-	
	60	-		480	147	616		2.06		3,153	4,258	1,650			
	70	790						4.63	1 244			-			
	71	-	3.42	2 12,852		5.449		77.70		54,481	36.851				
	72	536			3,923			:							
	74			57		52		10	0 (10,694	2,682				
	75	-		292		42		1,42			3,548				
Region 1	76 77		2.13			1,795		21,20			709 9,156				
Lebourers	78	861	1 16 63	3 11,803	1,973	17,589	2,861	56,91	1 3,074	4,617	7,861				
	79	886										1,238			
Region 1	80														
Capital	82													-	
	83												-		
	85				- 1										

								E.0							
	Ac But	legion 1 Ivities Iding - ormal	Region 1 Activities Civil Construc-	Region 1 Activities Commercial Trade	Region f Activities Informal Trade	Region 1 Activities Commercial Transport	Region f Activities Combi- tess	Region 1 Activities Modern francial &	Region f Activities Traditional financial &	Region 1 Activities Community & sociel	Region 1 Activities Community & sociel	Region 1 Activities Domestic	Region 1 Commod Suger came	Region I Commod Orchert sub-tropical	Region f Commod Citrus
		26	tion 27	28	29	30	Transport 31	business services 30	business services 3	Education 34	health & other 35	Workers 3		truit	36
	86 87 88	592 74	5,347	9,223	2,462 110 193	10,789	3,606		5,907	19,811	33,733	10,316	:	:	- :
gion 1	89														
terprises	90														
	92														
	93 94														- 1
	95														
igion 1	96 97					-									
suseholds	96														
	100														
	101														
	102														
	104														
more 1	105														
gion 1 vertiment	107						- 2	- 1		- 6					
	106	114	703	437	131	2.949	140	20.844	1,098	1.114					
	110	-34	-82	-373	-111	-295	-22	-972			1,897				
	111	-				-									
	113														
	114							-							
	116									- 1					
	117	-													
	116	-													
	120	-													
gion 1	121														
pitel	123								-						
gion 2	124												1,983		
luttes	126														
	127														186
	129														
	130											-			
	132														
	133														
	135									-					
	136					-									
	136				- 1			- 1							
	139														
	140														
	142														
	143				- 1										
	145	-													
	146														
	148	-					:					-			
	149														
	151	-													
	152														
	154								*						
	156														
	157														
pon 2 remodities	158														
	160											-			
	161														
	163	*													
	164														
	186														
	167					-				-		-			
	169			:											
	170														
	474														-
	171 172 173						-								

		Region 1 Ictvites suiting - nforms	Region 1 Activities Civil Construc- tion	Region f Activities Commercial Trade	Region f Activities Informal Trade	Region 1 Activities Commercial Transport	Region f Activises Combi- tes Transport	Region 1 Activities Modern francisi & business	Region 1 Activities Traditional financial & business	Region 1 Activities Community & social services -	Region 1 Activities Community & social services -	Region f Activities Domestic Workers	Region f Commod Sugar cane	Region I Commod Orchard sub-tropical frui	Region 1 Commod Citrus
		2	6 2	7 26	25	, x		services 33	services 33	Education	health & other		3		39
	174				-		-	-	-			-	40.15		- 22
	175														
	177														
	176	-													
	180														
	181														
	163				- 2										
	184														
	186	-							-						
	187														
	189														
	190														
	192														
	193													-	-
	195	-													
	196						-		-					4	
Region 2	198														
Labourers	199								(4)			-			-
	200														
Region 2	202								*						-
Capital	203	-													
	205	-													
	206	-													
	208	-													
Region 2	209														
Enterprises	211	-													
	212			- 1			-								
	214	-													
	215														
	217	-													
Riegion 2 Households	218														
NUCLEAR TO SERVICE	220														
	221								-	-			-		
	222														
	224	-								-					
	225														
Region 2	227	~	-												
Government	228 229														
	230				-				-			-	-		
	231														
	233														
	234	-											-		
	236	-							*			-			
	237														
	239	-											-		
	240														
	242														
Region 2 Capital	243														
	245		-	- 0											
Region 3 Rest of SA	246		*										168.575	2,765	1,259
	248									-			168,575	2.00	
Region 3. Rest of Swaziand	249 250													1.936	630
	251				- 1									1,900	630
Region 3 Rest of the world	252 253									-				829	1,259
ALL OF THE WORLD	254			- 1	- 1									673	1,250
	255				_										
		10,476	83,863	01,381	18,292	74,375	21,321	311,787	18,430	126,686	213,220	13,203	603,976	53,340	234,578

		Region 1 Commod Benenes	Region 1 Commod Surveer & writer grain & tobacco	Region 1 Commod Summer & winter vegetables	Region f Commod Rew Wood	Region 1 Commod Livestock & other agriculture	Products	Region 1 Commod Sugar	Region 1 Commod Arimal Feed & Molesse	Region 1 Commod Food	Region † Commod Liquer (bevers- ges) & tobacco	footween)	Region 1 Commod Weed products & building board	Region f Commod Paper products	Region 1 Commod Domestic workers
Region 1 Activities	2 3	117.632 2.001			:	:	-		:	-			-		
	6 7 8		12,206 4,667	45,162 2,377	:	:		-	:	:					
	9 10 11 12		3.023	1.296	13,010	3.767 3.257			-						
	13 14 15 16 17				•		19.429	732,361	15.248		36,180		15.257		
	18 19 20 21		:	:	:		-	-	:	:	:	60,620	169,032		:
	22 23 24 25 26			-						:					
	27 28 29 30				:										
	31 32 33 34	:	:	:	:					:	:			:	
Ragion 1. Commodities	36 36 37 38 39	:			:									:	13,170
	40 41 42 43	:	:	. :	:							:		:	
	46 46 47 48				:						:	:		:	
	49 50 51 52	:	:	:	:	:					:	:		:	:
	53 54 55 56 57				:		1					:			
	56 59 60 61	:	:	:	:						:	:		:	:
	62 63 64 65 66	:	:								:	:		:	
	67 68 69 70	:	:	:	:						:	:		:	
	71 72 73 74 75	:	:									•		:	
Region 1 Labourers	76 77 78 79	:	:		:						:	:			:
Region 1 Capital	80 81 82 83 84	:	:	:	:							:			:
	85											-			

								E.11							
	Cox	legion f mmod White	Commod C Summer & S	ommod G ummer & R		Region 1 Commod. Lvestock & other	Region 1 Commod Mining Products	Region f Commod Sugar	Region 1 Commod Aremai Feed 5	Region 1 Commod Food	Region 1 Commod Liquor (bevers-	Region 1 Commod Testies & clothes	Region 1 Commod Wood products &	Region 1 Commod Paper products	Region 1 Commod Domestic workers
		4	grain & ve tobacco	egetables 42		egriculture 44	45		Molesse	7 48	ges) & tobecco	(including footweer)	building board		
	86 87	- :	:	:	:		:	:	:	:	:		- :		1
	88														
Region 1	89				*										
Enterprises	90 91														
	92														
	93														
	94				-										
	95														
Region 1	96														
Households	96														
	99				(8)										
	100														
	101														
	902					- 0									
	104							- 6							- 2
	105									-					
Region 1	106														
Government	107														
	109		-					49.662	7,066	7,794	12,860	8.487	25,801		
	110							***		*	12,000				
	111	-	-	-							-				
	112									*					
	113							- 1							
	115	-													
	116					100									
	117														
	118	-				*									
	119														
	120														
Region 1	122		-												
Capital	123		100							1			*		
	124			*		-									
Region 2 Activities	126	-	-						,						
versues	127	13				- 0									
	128		11												
	129			D		10									
	130				249										
	131				-	250									
	133		0	0											
	134						1								
	135		100					29	6				0		
	136										0			- 1	
	138										. 0				
	139														
	140		-										1		
	141														
	142														
	144														
	145		140												
	146														
	147														
	140														
	150														
	151		-		-										
	162		-		-										
	153														
	155														
	156									-					
	167														87
Region 2	158								*	*					
Commodities	159														
	160														
	162							- 6							
	163														
	164														
	165		-												
	167					- 1									
	168					- 1		- 2							
	169														
	170										-				
	171						- 1					- 1			
	173					-									
	11.00							-	_						

		Region f Commod Benenes	Summer & winter	Summer &	Rew Wood	Region 1 Commod Uvestock & other egriculture	Augion 1 Commod Mining Products	Region 1 Commod Suger		Food	Region 1 Commod Liquor (bevera- ges) & tobacco	Region f Commod Texties & ciettes (including footweer)	Region 7 Commod Wood products & building board	Paper	Region f Commod Domestic workers
	174	- 40	41	- 42	- 43	- 44	45	- 46	- 47	- 48	- 45	50	. 51	. 52	. 53
	176										-	-			
	177				1										
	179														
	180														
	182														-
	183							:							
	185														
	187														
	188														
	180					-									
	191														
	192														
	194														-
	195														
	197														
Regon 2 Labourers	196	- 1													
	200														
Region 2	201	- 1													
Capital	203					-		-							
	204										-			1	
	206				*										
	207														
	209														
Region 2 Enterprises	211														
	212														
	213														
	215					-									
	216	- 1													
Region 2	218			-											
Households	219 220	- 1													- 1
	221														
	222														
	224														
	225 226														
Region 2	227							-							
Sovernment	226 229												- 1		
	230			-				4	0	4	0		0		
	231					- 1			. :						
	233			-	:					:					
	236														
	236		:	:	:	- :			-	:					
	238														
	299														
	241	-													
legion 2	242								-		-				
apitel	244						-								
legion 3	245								:						
Rest of SA	247	2.914	2.814	188	23,175	52.846	7.551	2,532	155	63,668	12.678	30,084	-	60,921	135
Region 3	248				:										
Rest of Swszilland	250	2.040			16.223	852	5.286	1.013	109	910	147	386	834	762	54
legion 3	251								:		-				
test of the world	253	874	362	23	6.953	4.262	2,265		47	4.548	737	6.557	4,169	14.469	27
	254 255		:	:	:				:	:	:	:			
	-														
	_	125,473	23,263	49,046	50,610	66,233	34,630	786,601	126,612	132,592	114,283	108,134	215,004	74,152	13,4

		Region f Commod Furniure	Region I Commod Fertizer	Commod Agro-	Region 1 Commod Pherma- ceuticals 5 tole1	Region 1 Commod Petroleum	Region f Commod Parts & assessor machin & transport	Region 1 Commod. Other manu- turturing		Region I Commod Water	Region 1 Commod Building	Region 1 Commod Civil Engin- eering	Region 1 Commod Distribu- tive trade	Region 1 Commod Motor Trade & rapair	Region 1 Commod Petry Years urrecord
		54	4 5	15 56	preparations. 57	58		60	61	62	62	64	6	5 6	(small) 6 67
Region 1 Activities	2						-						-		
	3	-			-	-									
	5	-									- 1			- 1	
	6 7						-								
	8	:	:			-									
	10					- 1							- 6		
	11														
	13														
	14									-					
	16														
	18												- 1		
	19	10,975						43,899							
	21						52,989	34,402							
	22 23							34,402		23,306					
	24 25								12.307	-	93.725				
	26		- 2								10.476		- 0		
	27										- 2	83.963	61.380		
	29		-												16.029
	30		- 1										- 1	- 0	
	32				-					-		- 1	- 1		3,239
	34														
	35 36													- 1	
Regon 1 Commodites	37														
Controders	39														
	40														
	42				-					4					
	43						- 1						- 1		
	45														
	47					4					4				
	48														
	50							-						-	
	52							,							
	53							-					- 1		
	55														
	56						- 1								
	56														2
	60														
	62												-		
	63														
	65											- 2	- 1		
	66												- 1		
	68														
	70												2		-
	71									:					
	73														
	74													- 1	
Regon 1	76 77									-					
Lebourers	76														
	79 80														
Region 1	81	-													
Capital	63		- 1												
	84 80						ž								
	20		-												

								E.14							
		Region 1	Region 1	Region f	Region f	Region 1	Region 1	Region 1	Region 1	Region f	Region 1	Region !	Region 1	Region f	Region f
		Commod	Commod	Commod	Commod.	Commod	Commod	Commod.	Commod	Commod	Commod	Commod	Commod	Commod	Commod
		Furniture	Fertilizer	Agro-	Pherma- ceuticals &	Petroleum	Parts & assessor	Other manu-	Electricity	Wester	Building	Civil Engin-	Distribu-	Motor trade &	Petty Yeding
				other	tolet		machin &	fecturing				eering	rade	repair	urvecord.
		5		16 56	preparations 57	5	transport 56		6		60	64			(smell)
	86		-							62					66 67
	87														
	86														
Regon 1 Enterprises	86														
Crierprises	91														
	90			100											
	97														
	94														
	96														
Region 1	97														
Households	96														
	100														
	101														
	102														
	103														
	105														
Region 1	106														
Government	107									-					
	109						7.418	10,962	1,729	3,263	14.588		8,593		
	110														
	111		-												
	113														
	114														
	115		-												-
	116														
	118										*				
	119														-
	120		- 1												
Region 1	122														
Capital	123			*							-		,		
Region 2	124														
Activities	126														
	127														
	126														
	130														
	131														-
	130														-
	134														
	135			*											-
	136							-							
	138														
	139														
	140	-													
	142														
	143												-		
	146									. 4					
	146														
	147						,		*				*		
	148											-	. 2		:
	150														396
	151	-													
	152	1													
	154														111
	155														
	156	4		-				-					-		
Region 2	157		-												
Commodities	159					- 1		-							
	160														1.0
	161														
	163				- 1										
	164														
	165												-		
	166					-									
	168														
	169														
	170														
	172												-		
	173	-													

	0	Region 1 ommod umture	Fertilger	Agro- chemicals & other	toilet	Petroleum	Parts & essessor, mechin &	Region 1 Commod Other menu- lecturing	Region 1 Commod Electricity	Region 1 Commod Weter	Region 1 Commod Building	Region 1 Commod Civil Engin- sering	Region 1 Commod Distribu- tive trade	Region 1 Commod Motor trade & repeir	Region 1 Commod Pety trading unvecord
	174	54	55	56	preparations 57	58	teraport 50	60	61					66	
	175						- 1	:		-					
	176			-											
	178									-					
	180														
	181	-													
	183														- 1
	184														
	186														
	187														
	189		:												
	191		- 9												
	192														
	194													-	
	195												0		
n2	197														
recs	199								-						
	200														
n2	202														
al .	203 204														
	205														
	206														
	208														
n2	210														
mes	211	-		-											
	212														
	214	-													
	216														
	217														
n 2 sholds	219	-	-												
	220														
	222														
	229														
	225											*			
n 2	226														
rement	228												-		
	229		3		1					,			0		
	231														
	233														
	234														
	236														
	237														
	239														
	241														
	242														
12	244														
	245 246				:										
n 3 of SA	247	11.746	50,000	77,062	48,721	89.534	212,370	40,096	81,031	3,478	168.021	9.840	1,478	165,230	32,2
n 3	248 249				:	:		-	- :						
f Swaziland	250				1,317		6,246	1,146		2,435					22.6
n 3	251														
f the world	253			13,599	13,826	13,264	93.693	16,036		1,043					9.6
	254 255			:											
		72,436	50,003	90,682			372,717								80,2

	A	Region 1 commod ccom. anter- priment	Passen. 1	freight ransport	Modern financial & busin.	Commod (Tradito- finencial & busin	Region f Commod sousing	Region f Commos Governm educa- tion	Region 1 Commod Governm. health services		Region 1 Labour	Region † Labour Sem-	Region I Labour Unabled	Region 1 Labour Undefined	Region 1 GOS Large Commercial Farmers
			8 69	70		sevices 72	77		4 7	5 79	Skilled 77	Skilled 78	79		
Region 1	,-			- 10	- '			-		- /	- "	- /4	- "	- 8	81
Activities	2	-				-	-	-							
	3	-													
	5														
	6 7														
	9	-													-
	10			- 1											
	12						-								
	13														
	14	-													
	16														
	17														
	19	-								- 1					
	20	-		-											
	21	-													
	23														
	24	-													
	26 26														
	27														
	28 29	-													
	30		37,187	37,187						- 1					
	31		21.321		****										-
	32 33				311,787	13,101									
	34	-				-		125,665							-
	36								162.414						
Region 1	37						- 2								-
Commodities	38														-
	40														-
	41					- 2			- 2	- 1					-
	42				-		-								
	43	-													
	45		-												-
	46														
	48														
	49	-											-	*	-
	50														
	62														
	53														
	55														
	56														
	56														
	59														
	60														
	62														
	63		-												
	64														
	66														
	67														
	60														-
	70														
	71														
	73														
	74													-	
	75 76	:	2							- 1			*	-	:
Region 1	77														
Lebourers	78										-		-	-	
	79 80														
Region 1	81														
Capital	82													-	
	83														
	85														

								E.17	•						
	Ac Ac	Region 1 smmod com. enter- nment	Passen.	Region 1 Commod Freight transport	Modern T financial fi	Region 1 commod redis- rencial busin	Region 1 Commod. Housing	Region 1 Commod Governm. educe- tion	Region 1 Commod Governm. health services	Region 1 Commod. Governm other services	Region 1 Labour	Region 1 Labour	Region 1 Labour Unabled	Region f Labour Undefined	Region 1 GOS Large Commercial Farmers
	_				sevices s	EVICES.					Skilled	Skilled			
		- 6		70		72				5 71					
	87					:									
	86														202.047
Region 1 Enterprises	80 90														292.947
	91														
	92 93														
	94														
	96				-										
Region 1	96										76,816	58 225	27.596		
Households	96										7.146	16.239	19.415		
	99 100										2.119	11.589	19.881		
	101										56	156	181		
	102			-	-	-		-			15	65	101		
	103			:							3,525	7.998	31.508 9.563		
	105										250	1,388	2,391		
Region 1 Government	106						- 1								
Continues	106														
	109	100	8,191	5.296	21,825										
	111														
	112														
	113														
	115					-									
	116	-													
	117														
	119									- 2					
	120														
Region 1	121			- 1			- 1								
Capital	123														
Region 2	124		1												
Activities	126							0		,					
	127														
	128														
	130				-										
	131														
	132														
	134														-
	136														
	137														
	138														-
	140														
	141				100	10									
	142			-											
	144														
	146														
	147	-		- 1		-									
	140														
	149	- 0													- 1
	151														
	152														
	153					90									
	155														
	156				-						-				
Region 7	156														
Commodities	159			-									-		
	160														
	162														
	163			-		-	-						-		
	166														
	166														
	167											19		-	
	168														
	170						- 5								
	171											190			
	172														

	Ä	Region f commod coom enter- enter-	Passen	Freight transport	Modern financial	Region f Commod Inadito- frencei & buein	Region f Commod Housing	Region f Commod Governm educa- tion	Region f Commod Governm. health tenvices	Region 1 Commod Governm. other services	Region f Lebour	Semi-	Region f	Region f Labour Undefined	Region f GOS Lerge Commercial Famuers
		68	69	70	sevices 71	sevices 72	73	74	75	76	Skilled 77	Skilled 76	7		0 81
	174	-	-	-					-		-	-			
	176	100		-											
	177														
	178													-	
	179			:											
	181														
	182					*					-	-			
	183														
	185														
	186														
	188														
	189											-			
	190														- 1
	192	-	-		-	-									
	193												*		
	194					- 2								-	
	196														
Region 2	197	1													
Labourers	199														
	200	-												-	
Region 2	201														
Capital	203														
	204	-													
	205 206	-													
	207														
	206	-				-							-	-	
Region 2	209														305
Enterprises	211														
	212												-		
	214	-													
	215														
	216														
Regon 2	218									- 0	130	2.876	7,576		
Households	219	-				-					19	2,686	1,172		
	220										25	2.390 562	1.480		
	222										0	24	10		
	223											13	0		
	224										149	1.323	8.649 578		
	226											266	12		
Region 2 Government	227 228														
GOVE HEADY	229														
	230														
	231														*
	233													-	
	234														
	236 236	- 2					-								
	237														
	238						-								
	240						-								
	241				-										
Region 2	242 243												-		
Capital	244					- 0									
Design 1	245								-		*****	***			
Region 3 Rest of SA	246	47.090	4,182	133.822	147,472	2,530	19,198	820	4,404	40,472	66,234	33,391	6,118		8.826
	248								-						
Region 3 Rest of Swaziend	249 250					1.764					66,234	1.670	3,276		636
	251					1.764									
Region 3	252					754			-		6,623	66,783	123,939		1.336
Rest of the world	253 254					756	-				-	- 1	-		
	255	-								·			-		·
		47,090	70,662	176,216	481,084	18,231	10,108	126,486	186,818	81,278	332,643	288,804	248,048		303,963

	GC1 Sine hold		Region GOS Self sub- sistent fermers	f Region 1 GOS Agro- industries / suger	GOS Agre industries office and	Region 1 GOS Forestry	Region 1 GOS Other Capital (urban &	Region 1 GOS Unde fined	Region f Enterprise Large Commercial Farmers	Region 1 Enterprise Small holders	Region 1 Enterprise Set sub- sistent farmers	Region 1 Enterprise Agro- nountries / suger	Region 1 Enterprise Agro industries citrus and	Region 1 Enterprise Forestry	Region 1 Enterprise Other Capital jurban &
			12	83	other 84 8	15 86	nural) 87				0 9	90	other 93	9	rurel) 4 95
Regon 1	1														
Activities	2					:		:							0
	4														
	6														
	7														
	10														
	11														
	12						-	- 0			- 1				
	14														
	16	-													
	17														
	16				-										
	20														
	21														
	22														
	24	-			-										
	26 26												- 1		
	27	-					-								
	29														
	30														
	31														
	32														
	34														
	35		-							- 1					
Region 1	37														
Commodities	38	:													
	40									- 0					
	41														
	42			:											
	44														
	45					:									
	47														
	48													- :	
	50														
	51														
	53														
	54														
	55 56														
	67														
	56 59														
	60														
	61		- 0												
	63														
	64			,											
	66					- 1		- 1	- 0						
	67		-												
	68 60														
	70														
	71 72						-								
	73						-								
	74 75								-						
	76								-						
Region 1	77														
Lebourers	76 79														
	80						-								
Region 1 Capital	81														
	83														
	84 85														-
	400														

E.20

								E.20)						
		Region 1 GGI Smet- holders	Region f GOS Self sub- sistent	Region 1 GOS Agro- moutries	Region 1 GOS Agro industries citrus and	Region f GOS Forestry	Region f GOS Other Capital	Region 1 GOS Unde fined	Region f Enterprise Large Commercial Farmers	Region 1 Enlerprise Smal- holders	Region f Enterprise Self sub- sistent farmers	Region 1 Enterprise Agro- industries	Region f Enterprise Agro industries	Region 1 Enterprise Forestry	Region ? Enterprise Other Capital
			famers	/ Nuger	other		(urben & nurel)					/ suger	offus and other		(urben & nurel)
	86		. 6	0 84		86	- 81	. 86		90		90			95
	87														
Region 1	86														
Enterprises	90	15.378			-										
	91		2 118	49.940											
	93				3.153										
	94					48 151	296 468								
Description 1	91			-				7.875		* -					-
Region 1 Households	96										2,051				
	100								217,458	12,006	***				
	101				- 0				18,076						
	102											26.172	2,232	24.322	113.896
	104											2,429	215		94,505
Region 1	105												-		33.926
Government	107		-											-	
	106								18,796			8.111	719	7.760	19 105
	110				-								100		
	111									:					
	113			-									-		-
	114										:	:			
	116										-	-			
	117												-		
	119											-			
	121														
Region 1	122								36.034						
	124								36,976			14,700	1.304	14,061	34,627
Activities	126											-			
A. 1-140	127														
	126												-		-
	130														
	131														
	133														
	134											-		- 1	
	136	-						-							
	137														
	139										-	-			-
	140						- 0				:				:
	142														
	144														
	145														
	147		-												
	148			-											
	150														
	151											-			
	153														
	154														
	156														
Region 2	157														
Commodities	159			-						-	-	-		-	-
	160											-			
	162										-		- 0		-
	163					:					-		-		
	185														
	166			- 1							-		1		
	168														
	170				:			:	:	:	:	:	:		
	171											-			+
	172												:		:

	S	Region 1 IOS mail- olders	Region 1 GOS Self sub- sistent terners	Region 1 GOS Agro- roustries / suger	Region 1 GOS Agro Industries citrus and other	Region f GOS Forestry	Region 1 GOS Other Capital (urben & rursi)	Region 1 GOS Unde tired	Fermers	Region 1 Enterprise Smat- holders	Region f Energrise Set sub- sistent famers	Region 1 Enterprise Agro- industries / suger	Region 1 Enterprise Agro industries otrus and other	Region f Enterprise Forestry	Region 1 Enterprise Other Capital (urban & rural)
	174	. 62	-								-				
	176				-				-		-				
	177			:											:
	179									-					
	180														
	162										-				
	184													-	
	185														
	187				-		-								
	186				-										
	190				-								-		-
	191								- 1						
	193														
	195	-								-					
	196														
Region 2	196														
Labourers	190				- 1			-							
Bases 1	201														
Region 2 Capital	202		- 1		- 2								- 1		
	204	:			0										
	206														
	207 208	:													
	206	-			-										
Region 2 Enterprises	210	64													:
Line prints	215	+	7												
	213			204	12										
	215					50									-
	216						914	32							
Region 2 Households	218										42		:		
10000	220										12				
	221								2,197	121					
	223														
	224											254 25		246	1.150
F	226 227														343
Region 2 Government	226														
	229														
	230 231				- 2									- 2	
	230			:										1	
	234	-													
	236 236								1	:					
	237	-	-												
	236 236														
	240	:													:
	242														
Region 2 Capital	243														
	245														
Region 3 Rest of SA	246	77	193	510	32	2,265	4.152	6.527							
	248			204		***									
Region 3 Rest of Swaziend	249 250	19	77	204	13	137	1,661	2.611							
Region 3	261 252	15	39	102		343	830	1,305							
Rest of the world	253	. 10			. *		630	1,300							
	264 266														
		16,663	2,433	50,967	3,218		304,026		293,718	17,324	2,462				298,500

	Region	1 Region 1	Region 1	Region 1	Region 1	Region 1	Region f	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1
	Enterpre	e Mouseholds	Households /	Households	Households	Households	Households	Households	Households	Households		Government		
	fined	Traditional	Traditional		Commercial Farmers	Commercial Fermers	Commercial Fermers	Other &	Other	Urben & Other				
											Cantral	Provincial -		
		96 97	Medium 18	99	High 100	Medium 101	102	High 100	Medium 104	Low 106	106	Education	Heath 100	Other 106
Region 1		-	-	-	-	-			-	-	-	-		-
Activities	-													- 2
	4				-									
	6													
	7													
	10										- 0			
	11													
	12													
	14													
	15													
	17													
	18													
	19													
	21													
				-										
	24													
			-		-									
							- 1							
	26													
	30							-						-
	31				-									
	32													
	33													
	30													
Region 1	36			-				-						
Commodities		258	141	184	274	56	1	797	376	220	63	64	12	10
	39		381	495	76	29	,	220	130	109	26	27		4
	40	-	165	1,180	82 317	32 318		238 920	144	123	29 247	30 251	49	41
	42		1,404	1.826	1,130	357	7	3,283	1.797	1.363	344	349	66	57
	43		6.290	8 103	4.529	26 744	15	13,158	106 5.754	180	33	34	7	
	45		0.290	8.103	17	21	1	12,100	105	2,846	905 475	918	178	160
		1,316	722	938	401	200	4	1.165	792	763	172	237	37	29
		12,539	6.857	8.899	2,450 6,882	1,050	700	1,050	700 9.812	5.894	3,232	1.871	545	53 276
	40	5,036	2.700	2.154	7.498	366		8,082	3.362	1,419	63	128	20	14
	50		8,248	6,538	9.638	1.460	20	9.701	5,524	4.415	2,146	592	232	7€
	52	4 70.00	652	403	1,236	158	2	2.313	76 967	122 467	582 752	344	44 70	109
		221	140		4.023	3,381	1,575	2.508	1,575	50		-		
		7,978	1,965	1,192	3,084 470	960	. *	2,766	2,270	2,514	910 289	1,240	131	167
	56	653	149	76	1,686	9	0	1.364	445	21	6,713	4,880	653	941
		8,812	1.163	3.165	12,378	783 126	11	7,565 9,841	3,871	2,291	1,705	2,815	1,233	366
		8,505	2,062	1,232	3,780	241	2	4.401	1.743	419 623	16.417	3.863	354	873
		1,649	515	429	10.191	153	2	8,092	2,821	454	39.076	10,302	1,109	1,793
		636	650 650	1,030	7.363	488	3	5,293 5,293	2.271	1,066	3,430	2,378	262 151	638 220
											4.348	396	40	144
			. 0	. 0	70	7	. 0	70			150	231	23	36
		1,713	379	183	15,129	176	1	11,946	4.029	20 424	14,401	6,589	1.562	1,990
	67	1,812	427	336	927	172	2	1.272	944	420				
		1.837	3,060	1.764	7.255 2.709	410 876	7	2,139	1.853	1,020	4,811	2,386	507	1,693
	70	3	1	0	130	9	0	103	45	22	8,968	7.631	1,115	1,663
		19,496	3.076	1.745	43,126	3.502	16	102.238	36,790	7.110	16.704	2.924	349	2.734
		1,812	427 637	336 878	7.363	172	3	1.272 6.293	2,271	1,066		:		
	74	1,785	148	70	13,500	1,082	3	13,705	5,310	1,730	2.438	1.095	5.740	189
		4,351	1,759	1.412	8,166 564	124	2	4.138	1,539	407	3,039	13,269		3.016
Region 1		4,549	rar	420	564		. *	- 449	102	. 18	13,587 96,425	4,662 93,452	37,889	3,016
Labourers	76										33,310	5.497		5,166
											45,583	10,994	773	7,734
Region 1	81						-				365	379	112	102
Capital											-			
					-							244		266
	84										913	948	280	256

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							E	.23							
		Region f	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1	Region 1
		nterprise	Households		Households Treditional	Nouseholds Commercial		Households Commercial		Households Litten &	Households Urban &	Government	Government	Government	Governmen:
		nde red	Traditional	Traditional	integration	Farmers	Farmers	Fermers	Other	Other	Other				
												Central	Provincial -	Provincial -	
		96	High 91	Medum 98	Low	High 100	Medum 101	Low 102	High 100	Medium 104	105	106	Education 107	Hoath 108	Other 109
	86				-	100			- 100		-	730	756	224	205
	87											1.461	1.516		409
	88				-										*
Region 1 Enterprises	8G 90						-					362 904	166 375	55	51
Creerprises	91											181	94	28	25
	92											362	166	55	51
	92											723	375	111	101
	94		- 1				-					181	94 469	139	127
	96												94	28	25
Region 1	97	6.600			-		-					4 658	244	72	526
Households	96	764	3.114		562		82		1,306			8.208	426	126	920
	100	362	1.399	1.186	967		361	3	581	2.560	485	7.546 2.335	1,567	463 36	3.382
	101					405						69	4	1	
	100		100					7				1,935	100	30	217
	100			170		606 405	82		1,671	549		5,864	306 218	90 64	660 471
	104			1,188	545	400	354	. 3	436		500	4,201	234	69	500
Region 1	10€														
Government	907		184		36	481	16	0	607	75	32				
	106		23,665		4.648	62,040	2,287	23	78,220		4,137				
	110														
	111														
	912														
	115		0		c		c	0		0	0				
	114		55	10		144		. 0	181	22	10				
	116														
	117														
	118		9	2	2	24		0	31		2				
	119		1,192	226	234	3.122	116	. 1	3,636	486	208				
	121														
Region 1	122														
Capital	123		3.563		542	7.818	534	3	10,715		482				
Region 2	124											-35.082			
Activises	126														
	127											-			
	128														
	129														
	131														
	132											(8)			
	133	-			-		-								
	135														
	136														
	13/7								,						
	136				- 1										
	140														
	141											100			
	142														
	143														
	145														
	146														
	147		-							-					
	149	-													
	150														
	151														
	152														
	154														
	156			140											
	156														
	157														
Region 2 Commodities	158														
Commodern	160														
	161		-			-									
	162														
	163								-						
	165														
	166														
	167														
	158	-													
	169 170		-												
	171														
	172											100			
	173				-						-				

	U	Region 1 nlerprise nde ned	Region f Househokis Traditional		Traditional (Commercial	Region f Households Commercial Fermers	Commercial	Urban &	Urban &	Region f Households Urban & Other	Region 1 Government	Region 1 Government	Region 1 Governmen	Region 1 Governmen
			High 97	Medum 56		100		Low 102	Hegh 163		Low	Central 106	Provincial - Education 107	Health	Other
	174	:	:	:	:	:	:	-	:	:	:		-	-	- :
	176														-
	178														
	179									- 1					
	181														
	182										- 5				
	184												-		
	186														
	187	-						-							
	189						-			-					
	190														- 1
	192	-										-			
	193							-							
	196	-			-	-	-	-	-						
	196												- 1		
pon 2 ouners	198	:						-						-	
	200														
pon 2	201														
itel	203										-				- 1
	204														
	206	-		-				-	-						
	201														- 1
	209										-				
pon 2 rprises	210	-											2	,	
	212	-		-				-				2	1	0	
	213	-										7	2	1	
	215		100									2	1	0	
	216											. 9	5 1	0	
edn 2 seholds	218	137	208	17					87	37		138	5 7	1	10
-	220	40	93	78	36		26	0	39	171	30	281	15	4	30
	221			:		27			- 1			10	1 0	0	
	223	-	-	-		-						,	0	0	
	224			11		27			112	37		101	5	2	1
	226			78	34	-	24	0	29	159	31	34	2	1	
on 2 errement	227 228	-													
	229										-				
	230														
	232			-										-	
	234														
	235 236														
	237					-									
	238 239														
	240			-											
	241														
on 2	243	-	-	-	-	-		-		-				-	
	244 245		36	12	. 6	79	. 6	. 0	108	26	. 5				
m 3	246		905	549	208	284	181	1	801	1,210	186		-	-	-
of SA	247														-
n 3	249		10	6	2	3	2	0	9	14	2		-		-
of Sweztland	250					-		-		-					
n 3	252		302	183	69	95	60	0	267	403	62				-
of the world	253 254						-								-
	255	-									_				

		Region 1 Government Local	Region f Capital House- holds	Region f Capital Incorporated sector	Region f Capital Government	Region 2 Activities Sugar Cane Commercial Fatming	Small	Region 2 Activities Sub-tropical orchards including bananes	Region Z Activities Grain & Tobacco Faming	Region I Activities Vegetable farming	Region 2 Activities Forestry	Region 2 Activities Livestock Commercial Ferning	Region 2 Activities Livestock Subsistance Farming	Angion Z Activities Dry- land Subsistence Ferming	Region I Activities Mining
		110			113		115	116						1 12	
Region 1 Activities	2					-			- 1						
	3														
			-				-	-							
	- 5										- 0				
	10														
	91														
	12														
	14														
	10														
	17														
	16					-									
	20														
	21														
	22							-	- 2						
	24 25														
	26														
	27 28														
	29														
	30														
	32														- 2
	33														
	38														
pon 1	36 37											*			
mnodtes	36	3.													
	30 40	. 1													
	41	10			-										
	42	14							- 1						
	44	38			- 1		- 1								
	40	29	- 3								-				
	47	4													
	46	125						100							
	50	40			- 2										
	51	26		206									100		100
	50	34													
	54	46			15										
	56	12 216	- 1	4.527	- 1										
	57	228		-											
	56	174	- 1	211,222	- 1										
	60	346		51,553											
	62	185		0											- 1
	63	46		206.021	17,931										
	60	9		42.342	48,48C							- 1			
	66	433										- 2			
	67 66	197													
	59	355													
	70	629						- 1							
	72	-													
	73	274													
	75	7					i i								
me 1	76 77	156										-			
gon 1 outers	76	1,959													
	79	2.385													
gon 1	80	115													
prisi	82	-									-				
	83	296													
	85	57													

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								C. 2	0						
		Region 1 Ivernment		Capita/	Region 1 Capital Government	Region 2 Activities Suger Care	Region 2 Activities Sugar cane Small	Region 2 Activities Sub-tropical orchards	Region 2 Activities Grain & Tobacco	Region 2 Activities Vegetable farming	Region 2 Activities Forestry	Region 2 Activities Livestock Commercial	Region 2 Activities Livertock Subsistence	Region 2 Activities Cry- land	Region 2 Activities Mining
	Le					Commercial Farming	Commercial Farming	including benenes	Farming			Farring	Farming	Subsistence Farring	
	86	110		11 112	113	114	115	- 110	117	110	119	120	121	122	123
	87	458													
Region 1	86	14													
Enlerprises	90	29							-			10			
	91	14													
	93	29						-							
	94	36													
Berton I	96	7 8													
Region 1 Households	97	15													
	100	54													
	101	0													
	902	3				-		-							
	103	**													
	105	8													
Region f Government	107														
	108					*	1.0								
	110														
	111				-			- 1							
	112	-							-				-	*	
	114														
	115											-			
	116	-													
	118											100			
	119														
	121														
Region 1 Japonal	122														
	124														
Region 2 Activises	125														
	127														
	128							ž.							
	130														
	131														
	133														
	134														
	136										1				
	137							-							
	130														
	140							-		-					
	142		- 0		- 0		- 1								
	143														
	144														
	145		-												
	147														
	149	-						-		-					
	150											- 1			
	152									-					
	153									:					
	155		-					-							- 1
	156							- 1							
Region 2	158					26,984	129					0	4		
Ofmodiles	159							1,148							0
	161							2,124							D
	162					204			626	0	18	0	5	0	0
	164					932		234	20	83	1,974	. 0		. 0	-
	165		-			217		40		0	1,020	. 0	475	0	0
	166					409		.19	17	. 0	20	. 0	. 1	. 0	0
	168		-		-										
	170							230		. 1	2,221		168	-	0
								524	8	1	223	0	2	0	0
	171														
	171 172 173					167	13	157	7 6	43 96	27 160	0	3 29	0	0

	6	Region 1 lovernment	Region Capital House- holds	Capital	Region 1 Capital Government	Cane Commercial	Small Commercial		Region 2 Acovilies Grein & Tobacco Farming	Region 2 Activities Vegetable farming	Region 2 Activities Forestry	Region 2 Activities Livestock Commercial Farming	Region 2 Activities Livestock Subsistence Faming	Subsistence	Region 2 Activities Mining
		110		111 11	2 110	Farming 114	Farming 115	benenes 116	117	118	119	120	121	Ferming 122	123
	174	-										-	-	-	-
	175										-	-		٠.	0
	176					22 202	1.098	2.037	914 229		920 86	0			0
	178					627		97	15	0		0	38	0	0
	179					9,169 7,021	73 310	3,063	1,053		917	0	153 95		0
	181					7.04	19			195		0	56		0
	182					12.519	714	721	74		126	0			0
	183					2,349	80 15	208 191	21	100	76	0			0
	185							-				100			0
	186					9.654		365 2.556	70 489	53	352	0	10 36	0	0
	156					2.758	159	730	140	15	3.176	0	67	0	
	189										-				
	190					61,226	1,562	2,210	362	223	1,108		91	. 0	0
	192					4.102	603	417	100	416	71	0			o o
	193							278	46	4			143	0	
	194														
	196							70	2	1	105	0	2	0	
Region 2	197					1.623		423	60	14	255	0	29	0	0
Labourers	199					12,033	400	1.102	110	12	1.313		291		0
	200					26 644	1.748	3 259	184	43	2.363	0	1,205	0	0
Region 2	201					111.451		22 656							
Captal	201	- 1				111.401	2511	22 000	2,150	1.863					
	204												1.764	0	
	200											-			
	207										1.091				
	208										-				c
Report 1	209	. 0													
Region 2 Enterprises	210	0													
	212	0													
	213	0													
	216	0													
	216	0													
Region 2	217	0							-						
Households	219	0													
	220	1													
	221	0						*							
	222	0													
	224	0													
	225	0													
Regon 2	227														
Government	226														
	229					262		90	26	16				. 0	. 0
	231														-0
	232														
	233														
	236														
	236	-	,								-				
	237														
	239														
	240								-						
	242												- 1		
Region 2	243														
Capital	245														
Region 3	246								-						
Rest of SA	247								-						
Report 1	246			10000					-						
Region 3 Rest of Swaziend	246														
	251	-		-39											
Region 3	252								-	-					
Rest of the world	253														
	250	-	_	-193.304	-50,736										<u> </u>
		13,929		129,185	-36,042	314,784	8,726	54,471	7,090	4,001	19,414	,	4,797	1	'

		per Act	lytter Ac	sville: Acti mel Oth ed Foo	Witten A		Region 2 Activises Wood products & furniture	Region 2 Activities Non- metals: mererii products	Meter		Region 2 Activities Water	Region 2 Activities Electricity		Activities A Autiting - O	Region 2 ctvities or oratruc- on
Region 1	,-	124	125	126	127	128	129		131	132	133	134	136	136	137
Achites	3	:		-					- 3						-
	5	-													
	7														
	9	:													
	10													- 1	
	12		-						-						
	14														-
	16												-		
	17														
	19			*	-									1.	
	21														
	22								-		-				
	24							-						-	
	26 26	2					-		- 1		-	-			
	27										-	-		-	
	29 30							-	-						
	31							-						-	
	32 33	:											:	-	
	34 35							-			-			-	
	36														
_ommodites	37 38											:	:	:	
	39 40														
	41														
	42				-										
	45														
	46							-		-					
	47								- 1						
	49 50				-						-	-		-	
	51														
	52			-	-				- 1		-				
	54								- 1		-				
	56														
	58		:					- 1				-			
	50	:	:		:	:	-				-	-			
	61		-	:	:		-			-					
	63			-	-		-			-	-			-	
	64		:		-										
	67			:	-		-			:					
	66								-						
	69 70										-				
	71		:					:			-				
	73						-	-							
	74 75										-				
Region 1	76 77					-	-				-				-
Labourers	78				-						-				
	79 80		-												
Region 1 Capital	81							:							
	63						100								
	84														

								€.							
	_	Region 2	Region 2	Region 2	Region I	Region 2					Region 2	Region 2	Region 2	Region 2	
		ctivities	Activities	Activities	Activities	Activities	Activities	Activities	Activities	Other	Activities	Activities	Activities	Activities	Activities
		niger mils	Juce fectories	Anmel Feet	Other Food &	Clothing & leadies	products &	Non- metellic	products &	manufacturing	Wilster	Electricity	Building - commercial	Building -	Construc-
		-	INCOMES.		Deverages	-	turniture	mineral	machinery				CONTRACTOR COM	-	Bon
								products							900
		12	4 126	129	127	12	8 12	29 13	0 13	1 182	133	134	135	13	6 137
	86														
	87			-				-							
	88							-							
Region 1	80				-		-	-	-						
Enterprises	90														
	91 92							-	1					-	
	93										-				
	94														- 1
	96								100						
	96.						-								
Region 1	97														
Households.	96			40		-	-								
	99	100							100	40					
	100		-		-		-		-	-					
	101			-	-	,									
	102		-			-	-			-	-				
	103									-	-	-		-	-
	104												-		
Region 1	105												-		
Government	107									-					
	108								- 0	-					
	109												- 0		
	110					- 2								- 1	
	111														
	112		-												
	113														
	114		-	-	-		-								
	115												-		
	110														
	117					-		-	-				-		
	118									-		-	-		
	115						-								
	120									-	-		-		
Region 1	121			-										-	
Capital	123														
Capra	124														
Region 2	125														
Activises	126					-								- 0	
	127														
	128					-									
	129									-					
	130										100				
	131												-		
	132					-					100				
	133				1.0	-			-						
	134	-		-	-								-	-	
	135					-			-						
	136				-										
	137														
	130					- 0									
	140											- 0			
	141														
	142														
	143			-	-	-									
	144														
	145	-													
	146														
	147	-													
	148														
	150														
	151											-			
	152								- 0						
	153														
	154														
	155														
	156														
	157						100			-					-
Region 2	158	323.151				-									
Commodities	159		0											-	
	160		0												
	161		0								*				
	162		0							-	-				
	163	247	0			-	48.00		-						
	164	217					48,02								
	166	389		0		0				2 6		117	134		56
	167	200	0				2.10	٠.			13	117	134	16	
	168					-									
	169		0									4			
	170														
	171	766									1	0	170	19	
	172	184									1	0	628	71	
	173	3.856		0	0		5,85		0	199	3	0	82	9	11

								E.30							
		Region 2	Region 2		Region 2 Activities	Region 2 Activities	Region I	Region I Activities	Region 3 Activities	Region 2 Activities	Region 2 Activities	Region II Activities	Region 2	Region 2	Region 2
		Activities Suger	Activities	Activities Animal	Other	Clothing &	Activities Wood	Non-	Metal	Other	Water	Dectricity	Activities Building -	Activities Building -	Activities Civil
		mile	factories	Feed	Food &	textiles	products &	metallic	products &	menufacturing	1		commercial		Construc-
					Deverages		fumiliare	products.	medienary						tion
		124	12	25 12	26 12	7 126	125		0 131	1 132	133	134	135	136	137
	174	*											-		-
	175		-	0	0 0		3 786		0 0		3	0			36
	177	10,176			0 0				0 0		55	0			25
	178	51						-				0			
	179	5.609			e 0				0 0		26 98	35	373 4,912		
	181	32		0	0 0	0	429		0 0		7	0			
	182	9,336							0 0		123	263			
	183	417		0 .	0 0	0	156		0 0	2	538	. 2	5,784		
	180										1	50			1,350
	186	3.351			0 0				0 0		2	1			321
	187	2 681 22 007			6 6		0.645		0 0	303	.44	22	1,050	60	392
	189	-									0	1			
	190	468			0 0										-
	191	1,732			0 0						35 25	13	1,739	198	1.130
	193	853					10.000			219		.*1	1,164	134	1,008
	194	18			0 0										
	195	163			0 0						0 7	0			-
	196	9,696			0 0					340	96	14	585		630
Region 2	196	82,781									57	29	241		840
Labourers	199	44,384			0 6						154	77	1.996	214	4,900
	200	29,442		0 .			32.522			9.776	115	58	1.749	220	9,627
Region 2	202												1.351		
Capital	202												61		
	204			٠.									106		-
	205 206	17,294			0 0										
	207						64,131							147	
	208	2,138				_	7,927		0	66,580	1,737	873		18	1,876
Region 2	209 210														
Enterprises	211														
	212														
	213						-				-		*		
	214														
	216														
	217														
Region 2 Households	218														
	220														
	221														-
	222														
	224							- 1							
	226														
former t	226														
Region 2 Government	227														
	229														
	230	1.338	0				1,880	0		41	44	22	259	26	207
	231	-1,461	.4		-0	-0	-1,405	-0	-0	-16	-5	-2	-76	-4	-24
	233														
	234														
	235														
	236														
	238														
	239														-
	240														
	242														
Region 2	243														
Capital	244														
Region 3	245 246														
Rest of SA	247														
	248														
Ragion 3	249														
Rest of Swaztland	250														
Region 3	252							-							
Rest of the world	253														
	254 255														
	200					<u> </u>									
		580,876			, ,	,	332,147	1		\$4,754	3,183	1,663	23,772	2,800	34,736
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		Region 2 Activities Commercial Trade	Region 2 Activities Informal Trade	Region 2 Activities Commercial Transport	Region 2 Actyline Combi- ted Transport	Region 2 Activities Modern financial & business services	Region 2 Activities Traditional financial & business services	Region 2 Activities Community & social services - Education	Region 2 Activities Community & social services heath & other	Region 2 Activities Domestic Workers	Sugar		Commodities Co	inenes	Region 2 Commodities Summer & winter grain & tobacco
		138	139	140	141					146		140	149	150	151
Region 1 Activities	2										108			-	:
	3											11	46	0	
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nmodites	38			-	-				-						
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		Activities Convenirosi	Activities	Activities Commercial	Activities Contin	Activities Modern	Activities Traditional	Activities Community &	Activities Community &	Activities	Suger	Orchard	Citrus	Beneras	Summer &		
		Trade	Trade	Transport	Ten	financial &	francial &	social	sociel .	Domestic	cane	sub-tropical	CHU		wenter		
					Transport	business	business	senices -	sentoss -	Workers		fruit			grain &		
		138	130	140	14	services 1 143	services 14	Education 3 144	heelth & other 145	146	147	148	140	150	Mobecco 151		
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Region 1	86																
Enterprises	90								-		-						
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Region 1	122																
Capital	123																
Regon 2	125										312,801						
Activities	126										9,736						
	127											6.526	31.407	16,329			
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	170		20	62			. 0		1,440	-							
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	172	34	10	47	3	0	0	227	39								
	173	712	218	473	12	222	94	2,245	2,901								

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	7	Region 2	Region 2	Region 2	Region 2	Region 2	Region 2	Region 1	Region 2	Region I	Region 2	Region I	Region J	Region 2	Ragion 2
	Čé	mmodities (Commodities 0		Commodities			Commodites	Commodities	Commodities Textiles	Wood Wood	Commodities Paper	Commodities Domes-	Commodites	Commodities Fertilizer
	w	ster t	Wood o	other	Products	- Section	Feed &	Pool	(bevere-	& clothes	products	products	BC .	range	10,000
	ve	getables		grown			Molesse		ges) & tobecco	(including footweer)	& Build- ing Board		Workers		
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Activities	2														
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Region 1	37						-	-					33		
Commodities	38				- 1		-								
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Reside 1	76 77											-			
Region 1 Labourers	78			-					-	-		-			
	79 80		-			-									
Region 1	81														
Capital	82 83				-					-		-			
	84					-	-				-	-			

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		Region 2	Region 2	Region 2	Region 2	Region 2	Region 2		Region 2	Region 2	Region 2	Region 2	Region 2	Region 2	Region 2
		Summer & winter	Raw Wood	Livestock & other		Suger	Animal Feed &	Food	Liquor (bevera-	Textiles & clothes (including	Wood products	Faper products	Domes- tr:		Fertilizer
		vegetables.		agrouture			Molasse		ges) & tobecco	footwear)	& Build- ing Board		Workers		
	86	152							_						165
	87														
Description 1	86								-	-					
Region 1 Enterprises	89 90														
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	92			- 1											
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Regon 1	97			- 0											
Households	98 96														
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Regon 1	105														
Government	107									- 0					
	108														
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	111	1.039	3.506	5,958	395	50	-74		2.853	9,455	1,111	3,735		366	4.142
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	114														
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Regon 1	122							*							
Capital	129														
Region 2	125						-								
Activities	126														
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	133	. 0			. 0										
	135					540,277	29,042	-			11,619				
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Region 2	157												7,936		
Commodities	159														
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		Region 2		Region 2	Region 2	Region 3	Region 2	Region 1	Region 2	Region 2	Region 1	Region 3	Region 3	Region 3	Region 2 Commodites
		Summer & winter		Livestock & other		Sugar	Aremoi Feed &	Food	(pevera-	Texties & cioties	Wood products	Paper products	Domes- tc		Fertizer
		vegetables 153	153	agriculture 154	155	156	Molesse 157	158	ges) & tobacco 159	(including footweer) 160	& Bullo- ing Board	162	Workers 163	164	165
	174		-				-	-	-	-		-	-		
	175				:										
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Region 2	198														
Labourers	199					-	- 0					-			
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Region 2 Capital	202			- 1			- 1								
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Region 2 Enterprises	210									-				-	
	212	-	-	-			-		-	-		-	-		
	213				:										
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Region 2 Households	218														
	220						-								
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Region 2	226									-				-	
Government	228							-				-	-		
	229				103	1.395	2.376	68	19	59	29.212	22		7,030	
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Region 2 Capital	243 244						1	-	-		-	-	:		
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Region 3 Rest of SA	246 247	2.962	9,666	22.221	1,064	1,641	1,080	36,622	12,630	33,410	-	17,283	119	3,552	24,087
Region 3	246 249	:	-	:		-	-	-	:	:	:	:	:	:	:
Rest of Swedlend	260		9,666	358	1.064	656	1,080	509	147	428	670	216	82		
Region 3	251		1	-				-	-	-	:	:	:	-	:
Rest of the world	263	369	9,666	1,792	1.064		1,080	2,544	734	7,282	3,362	4,105	16		
	254 255						- 5	-		:	:				
		8,401	81,775	34,986	3,597	544,093	34,626	47,070	16,387	60,835	211,600	25,360	8,186	77,400	24,230
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		other	& toler		machin.& transport	fecturing				eering	Title	repair	unrecord (small)	tainment	transport
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Region 1	88														
Enterprises	90														
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Region 1	97														
Households	96														
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Region 1	106														
Coverment	107														
	108		*												
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	110	3,734	4.921	5.729	12,764	475	6.119	903	12,481	102	254	9.234	1,903	2.587	2.686
	112							1	12,401					2.00	-
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Region 1	121														
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hegon 2	125														-
Activities	126			,		-									
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	143					96,756		3,179							
	145						1.653	2,110							
	146					*	10		29,772						
	147								2,609	24 726					
	149	-								24,736	17,848				
	150												4.936	-	
	151													-	14 500
	152					-								-	1.44
	153	-				-									
	154												1,414		
	156														
	157					-									-
Region 2	158														
Commodities	160		1.7												
	161						- 1								
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	163	-													
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	167														
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	170	-													
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	172														
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		Commodities Agroch-	Pharme-	Petrol-			Commodities Electricity	Commodities	Commodians Building	Commodities Civil	Commodities Distribu-	Commodities Motor	Petty	Accom.	Commodities Passen
		omicals	ceuticals	eum	25505007	menu-				Engin-	tive	trade &	treding	& enter-	& comm.
		L other	& tollet prepar.		transport.	fecturing				sering	Tade	repair	urvecord. (urval)	teinment	transport
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	175						-	-	-						
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Region 2 Labourers	198						-								
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Region 2	201														
Capital	203														
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	209														
Region 2	210				-			-			-				
Enlerprises	212														
	213														
	214														
	216														
Region 2	217														
Households	219														
	220						-								
	222														
	223										- 1				
	225						-								
Region 2	226														
Government	225														
	229		61		153	9.709	171	503	2,839	2.660	1.883		1,213		1.651
	231					2,700		-	2,000	2.000	1,000		1,210		1.001
	232														
	234									- 6					
	235					-	-								
	236														
	238														
	239														
	241														
Region 2	242														
Capital	244														
Region 3	245														
Rest of SA	247	21,211			49,629	3,469	35,765	3,020	67,367	4,267	2,164	54,154	6,762	16,317	8,946
Region 3	248 249					1		-		:		- 1			
Rest of Swaziland	250		521		1,460	99		3,020					6,762		
Region 3	251 252														
Rest of the world	253	3,743	5,476	4,451	21,895	1,387		3,020					6,762		
	254	-		-				-		-	-				
	255	28,641	30,274	40,221	85,902	111,806	43,700	13,764	100,069	21,654	22,148	83,384	30,043	18,905	29,047
		20,000	-0,274	40,000	30,802	111,000	43,700	12,784		21,004	22,140	-2,000			

	Region 2	Region 2					Region 2				egion 2		Region 2	Region 2	
	Freight	Modern .	Traditio-	Housing 1	Governm.	Governm.	Governm.	Labour	Labour	Lab	OW!	Labour	GOS	GOS Smel-	GOS Self sub-
	Pansport	Sinencial & busin.	financial 6 busin.		educa- tion	health services	other		Semi-				Commercial farmers	holders	farmers
	11	sevices 80 18	sevices 1 182	163	184	185		Gidled 18	Sided (7	188	killed 189	Undefined 19	191	19	2 193
Region 1 Activities	1 .		:	- :	- 1		- :	- 1		:	:	-			
ACIMIES	3 -														
	6 .											- 1			
	7 .												:	:	:
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	15 -	-									-				
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	18 -				- 1										
	21 -														
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	23 .				- 1					1		- 1		- 1	
	26 .	-	:				-			1	1	0.0		- 1	
	27 -														
	28 -				- :			2				- 1		- 2	
	30 -						-			:	:		- 1		
	32 -									1					
	33 .		42			ž.									
	35 .	-													
magion 1 Commodities	37 -		-												
Commodaes	39 -														
	41 .						-					- 1			
	42 -														
	44 .														
	46 -														
	47 -													-	
	49 -											-			
	51 -		- :		- 1							-		-	
	52 - 53 -						-								
	54 -			- 1								-			
	56 - 57 -													- 3	
	56 -													- 1	
	59 -														
	61 -													- 1	
	62 -											- 2			
	66 -						-			:					
	66 .														
	67 - 68 -							-							
	69 - 70 -														
	71 -														
	73 -														
	74 - 76 -						-								
Region 1	76 - 77 -									:	-				
Labourers	78 -										-				
	79 - 80 -														
Region 1 Capital	81 -														
	83 -											-			
	85 -				-							-		-	

	-							.71							
		Region 2	Region 2 Commodities (Region 2				legion Z	Region 2 abour	Region 2 abour	Region 2 Labour	Region 2 GOS	Region 2 GOS	Region 2 GOS
		reight						OVERTIES.	No.		. #000	Laucer	Large	Small	Sef sub-
		вларог		Inancial				ther					Commercial		sistent
				t busin.	50		services se	envices		iem-			fermers		formers
		180		HEVICES 182	183	164	185	186	187	lighed 186	Unsidled 189	Undefined 190	191	182	193
	86		-		,				-	-	- 100	- 190		- 192	190
	87														
	88				-				-						
Region 1	80				*								100		
Enterprises	90	-			-					-				423	
	92							-							
	93								-						
	94														
	96	-													
Region 1	97	-							986	261	626				
Households	96								129	220	93				
	99				-		-		-	190	13				-
	100						-		21		13				100
	101						-	-							-
	103								974	267	620				
	104								55	94	40				
	105									19	1				-
Region 1	106						-	-							
Government	107		-												-
	106			-				-							
	110														
	111	14,034	26.262	211	1.261	1,369	189		34						
	112														
	112							*							
	114			-										*	-
	116														
	117														
	110														
	119							-							
	120														
Regon 1	121														
Capital	123														
	124														
Region 2	125			-	-									-	
Activities	126														
	127														
	129														
	130														-
	131														
	132					-									-
	133														
	135														
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	137						-								
	138														
	199														
	141														
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	143				100	*									
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	146														
	147														
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	149						-			*					100
	150	14.500													
	152	14.000													
	153		18.121												
	154			6,010											
	155		-	-		53,069									
	156						58,584	21,690							
Region 2	158														
Commodites	150						-								
	160														
	161		-			-									
	162														
	164											1			
	165									- 0					
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	167									-					
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	171														- 0
	172														
	173		-								-		-	-	

		Region 2 Commodities Freight trensport	Modern financial 4 busin.	Tradito- finencial & busin.	Region 3 Commodities Housing	Region 2 Commodities Governm. educa- tion	Region 2 Commodities Governm health services	Region 3 Commodities Governm other services		Region 2 Labour Semi-	Region 2 Labour	Ragion 2 Labour	Region 2 GOS Large Commercial farmers	Region 2 GOS Smet- holders	Region 2 GOS Self sub- sistent termers
		180	sevices 181	182	163	164	185	186	Skilled 18	Skilled 7 188	Unasided 183	Undefined 190	191	190	193
	174									-		-			
	175			-			-								
	177														
	178					-									
	179				*										
	180														
	182														
	183														
	184														
	186														
	187		-			-	-					-			
	188														
	190														
	191														
	192				*										
	193														
	195														
	196														
Region 2	197	-													
Labourers	199														
	200					-	-		-					-	
Series 1	201	-			*										
Region 2 Capital	202														
	204				+										
	205				-										
	206														
	208														
	209														
Region 2	210				*								96,333		
- rerprises	211													15.428	2.561
	213														2.00
	214														
	215				*										
	217														
Region 2	218								21,427	35,963	35,186				
Households	219				*				1,802	9,064	22,541				
	220								617	6.262 755	22,460 742				
	222									-	-				
	223														
	224 226								21,173 776		9,578				
	226								51	3,887	2,285				
Region 2	227									-					
Government	228														
	230	1,519	1,862	680		5,704	7,401	2,313							
	231		1,002			0,704	7,001	2,010							
	232														
	233	-								*					
	234														
	236														
	237														
	238					-									
	240														
	241											-			
Same 5	242														
Region 2 Capital	243 244														
	245														
Region 3	246			-		-			36,020	20,575	3.888		33.913	-6.325	1
Rest of SA	247	78.732	145.883	339	7.883	6.288	3,617	14,611							
Region 3	246 249	-		-	-				36,020	4,115	6,514	-	2.055	-1,331	. 0
Rest of Swaztland				339					30,020	4,110	0,014	-	2.000	-1,301	. "
	261	-				*	-								
Region 3 Rest of the world	252 253			339		-			26,265	20,675	3,708		5.138	-1,065	. 0
	254			3.00										-	
	266								-						
		108,785	192,119	7,962	9,144	66,429	79,891	38,613	144,865	136,438	143,179		137,630	8,129	2,671

GO!	to- ustries	Agro industries offus and other	Forestry (GOS G	ios En inde La ned Co	serprise En	desputar Ex nel- Se idens se	nterprise & eff sub. A start s	gro- dustnes suger	Region 2 Ensempres Agro Industries other 203	Region I Enterprise Foresty		Unde fined	Alegeon 2 Households Traditional
Region 1 1 1 Activities 2 2 3 4 6 6 6 6 7 7 8 8 9 10 11 1 12 12 12 12 12 12 12 12 12 12 12 1	othes gar	ndustries offus and other 156	196	Capitel for (urban & nurel) 197	108	noal wers 196	200	steri in 201	duthes tuger 202	ndustries other and other 203	264	Capital (urban & nursi) 201	fined 206	High 207
Region 1 1 2 3 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	13	offus and other	196	(urben & nurel) 197	108	roal mers 196	200	201	202	Offrus and other 203		(urben & nurel) 305	206	207
Region 1 1 2 2 2 4 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	19	ofter 196	196	nund) 197	198	186	200	201	962	263		201	206	207
Activities 2 3 4 6 6 6 7 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 20 24 25 26 27 28 20 30 31 30 31 30 32 34 36 41 42 44 45 46 47 48 49 50 51 52 50 54 66 66 61 62 60 61 62 60 61 62 60 64 66													-	
Activities 2 3 4 6 6 6 7 7 8 9 10 11 12 13 14 15 16 17 18 16 17 18 16 20 21 22 20 24 25 26 27 28 20 30 31 30 31 30 32 34 35 36 41 42 44 45 46 47 48 48 49 50 51 52 50 54 66 66 61 62 60 61 62 60 61 62 60 64 66														
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12 12 12 12 12 12 12 12 12 12 12 12 12 1														
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16 17 18 16 17 18 16 20 21 22 23 24 25 26 27 28 20 30 31 30 31 30 32 34 36 36 40 41 42 44 45 46 47 48 48 49 50 51 50 51 50 54 66 67 57 56 60 60 61 60 61 60 61														
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16 20 21 22 22 24 25 26 27 28 27 28 28 27 28 28 28 28 28 28 28 28 28 28 28 28 28														
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26 27 28 29 30 31 32 32 32 32 36 36 36 40 41 42 42 43 44 45 46 47 48 49 50 51 52 50 51 52 53 54 65 66 66 60 61 60 60 60 60 60 60 60 60 60 60 60 60 60											:			
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29 30 31 32 32 32 34 38 38 38 38 40 41 42 44 45 46 47 48 49 50 51 52 50 54 66 66 60 61 62 60 61 62 60 64									:		:	:	:	
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region 1 37 Commodities 38 30 40 41 42 44 45 46 47 48 69 50 51 52 53 54 56 66 60 61 62 63														
Commodities 38 39 40 40 41 42 42 42 46 46 47 47 48 50 50 51 52 50 54 56 57 56 56 60 61 62 60 64 66 66 66 66 66 66 66 66 66 66 66 66								*						
40 41 42 44 45 47 46 49 50 51 52 53 54 65 56 60 61 62 63 64 65														
41 42 44 45 46 48 50 51 50 51 52 53 54 56 56 60 61 60 60 60 60 60 60 60 60 60 60 60 60 60														
42 44 46 47 48 50 51 52 53 54 56 57 56 50 61 62 63 64 65												-	-	
64 45 46 49 50 51 52 53 54 56 57 58 56 60 61 60 60 61														
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76	-													
Region 1 77				-										
abourers 76 79			-									-		
ac														
Region 1 81														
Capital 82 83		:		:										
84				:	:			-						
85		:					-		:					-

								E.44							
		Region 2 003 Agro- industries / sugar	Region 2 GOS . Agro industries oftrus and	Region 2 GOS Forestry	Region 2 GOS Other Capital Jurban &	Region 2 GOS Unde fined	Region 2 Enterprise Large Com- mercial		Region 2 Enterprise Set sug- sistent farmers	Region 2 Enlerprae Agro- industries / sugar	Region 2 Enterprise Agro industries sitrus and	Region 2 Enterprise Forestry	Region 2 Enserprise Other Capital (urban &	Region 2 Enterprise Unde fined	Region 2 Households Treditional
			other		numel)		fermers.				other	***	rune()	204	High
	86	19	4 19	6 19	- 1	97 198	190	200	201	200	203	204	205	206	207
	87														
Region 1	86														
Enterprises	90									-					
	91	77													
	93				, :										
	96				36	. 0			-						
Region 1	96					14			224					287	
Households	94					- 1	-	-	13			- 5		17	128
	100						724							3	54
	101						70	46		-					
	100									90	2	324	381		
	104									. 9		28	459 137		
Region 1	106														
Government	107														
	109												*		
	110							- 1							
	112											-			
	113								- 1						
	116		-	:		:								-	
	117														
	118											-			1
	120														
Regon 1	121														
Capital	123													-	22
Region 2	124														
Activities	126													-	
	127														
	129													-	
	131														
	132														
	134														
	136										-				
	137										*	-		*	
	139														
	140										-				-
	142					,									
	143							- 1		-					
	145				-							-			
	145											- 1			
	148			-									-		
	150									-					
	151														
	153														
	154														
	156		-												
Region 2	157														
Commodities	150														158
	160														164
	162														1.012
	163 164														1,567
	165					-									7,023
	166														805
	168														7,671
	170							-							3,081
	171														14,123
	173			-											1,192

								E.45							
		Region 2				Region 2	Region 2	Region 2	Region 2	Region 2	Region 2	Region 2	Region I		Region 2
		905	GOS	ecs Ferret	905	905	Enterprise	Enterprise Small-	Enterprise Self sub-	Enterprise	Enterprise	Enterprise Forestry	Enterprise Other	Enterprise	Households Traditional
		Agro- ndustries	Agro industries	Forestry	Other Capital	Unde fined	Com-	holders	sis/ard	Agro- industries	Agro industries	ruresty	Capital	Unde	Traditional
		/ suger	citrus and		(urban &		mercial	1000	farmers	/ suger	citrus and		(urban &		
			other		nurei)		lamers				other		rurel)		High
		19	14 13	p5 19	6 19	7 196	19		20		2 200	3 20	4 20	5 20	
	174														134 4,880
	176														4,000
	177														400
	178														5.391
	179														5.203
	187														1 006
	182														389
	182														389
	184	- 1													
	185									- 1					
	187													9	1.048
	186														1,106
	189														1.123
	190														8.018
	192														11.926
	163														1,108
	194												100		706
	190														1,082
	197														2,661
Regon 2	195	- 1													2.477
Labourers	196														
	200	-													
B	201														
Region 2 Capital	200														
Laprae	204														
	206														
	206														
	207														
	205						-								
Region 2	210									- 0					
Enterprises	211														
	212														
	213	17.529													
	214		41												
	216			63.825	117.786										
	217					3.342									
Region 2	215								2,020					2.582	
Households	219								251					321	
	220						71,654	10,985	129					160	
	222						6.914								
	222														
	224									8,876	184	32,035			
	226									857	16	2,766	37,665		
Region 2	226												13,532		
Government	228														113
	220						6.194			2.860		10,232	7.620		14,620
	230														
	231														
	232								- 1						
	234												-		0
	235					100									34
	236														
	237												,		
	238														
	240														736
	241														
	242														
Region 2	243														
Capital	244		- 4				11.227			5,180		18,545	13,611		2,193
Region 3	246	171		1 3.094	1,190	3,951									186
Rest of SA	247														
	248							-							
Region 3	249	73		0 186											6
Rest of Swaziland															
Regon 3	251	3		0 46	236	790									566
Rest of the world	253			- 40	200										
	254														
	255						-							,	
											441	****	***		****
		17,86	7	0 67,840	120,064	9,678	96,783	15,862	2,640	17,878	371	63,949	119,042	3,376	110,026

		Region 3 Households Traditional		Region 2 Households Commercial farmers	Region 2 Households Commercial farmers	Region 2 Households Commercial farmers	Region 2 Households Urban & Other	Region 2 Households Urban & Other	Region 3 Households Urban & Other	Region 2 Government Central	Region 2 Government Provincial	Government	Region 2 Government Provincial -		Region 3 Capital House- holds
		Medium 208	Low 206	High 210	Medium 211	Low 212	High 213	Medium 214	Low	216	Education 217	Health	Other		
Region 1 Activities	1 2	-		- 210		:	:	- :	- 210	- 210	-	- 210	- 219	220	221
	3							1							
	6		:							:	:				
	8														
	90			- 3									:		-
	11 12 13			- 3			- 3	- 3							
	14													- 6	
	16								-				-	- 6	
	18												-		
	20														
	22 23														
	24 25			:						-					
	26 27						-		:			1			-
	28 29	:			:	:	:	:							
	30				:					:			:		
	32 33						-								
	35														
	36			- 3											
Commodities	38 39 40	:					- :					ž			
	41														
	43												- 3		
	45 46						-								
	47 48														
	49 50													:	
	51						-								-
	53 54						-			- 1					-
	56 56					- 1				- 1					
	57 58									- 2	- 3			:	-
	59 60						:								
	61 62 63		-				-								
	64 65							-							
	66 67														3
	68							- 8			-				
	70 71						-								:
	72 73														:
	74 75														
Region 1	76 77				:										
Labourers	78 79						:					:			
Region 1	80 81	:					:				-:		- 1		
Capital	82 83														
	84				-										

								E.4/							
		Region 2	Region 2	Region 2	Region 2	Region 2			Region 2		Region 2	Region 2	Region 2	Region 2	Region 2
		Preditoral			Households Commercial			Ulten &	Urben &	Government	Soverament	Sovernment	Government	Government	
		TRAIN B	Traditional	farmers.	farmers	farmers	Other	Other	Other	Central	Provincial -	Provincial -	Provincial -	Local	House- holds
											Education	Health	Other		
		Medium 208	Low 206	High 210	Medium 21	Low 21	High	Medium 213 21	Low 21	5 216	217	216	218	220	221
	16				-									. 221	
	87														
	66														
Region 1	90									3	0	0	0		
Enterprises	91									1	0	0	0		
	92									1	0	0	0		
	93									3	0	D	0		
	94									3	0	D	0		*
	96										0	0	0		
Region 1	97									34	0	0	0		
Households.	96	13			2			47 1		53	0	D			
	99	61	31		9			21 8			0	0	0		
	100									7	0	0	0		
	102									1	c	0	0		
	103			12						38	0	0	0		
	104	9		9				50 1		26	0	D	0		-
Rear !	105	61	30		9		0	16 7			0	0	0	0	
Region 1 Government	100														-
OUT THE T	105										- 0				
	109									-					
	110														
	111									-					
	112														
	114														
	115														
	116														
	917							-							
	110											- 1			-
	120				- 6										
	121														
Region 1	122														
- aprilal	122		5	36	2		0	58 1							-
Region 2	124												*		
Activities	126														
	127														
	126														
	129														
	130														
	131														
	133														
	134														
	135														
	136														
	136														
	139														
	140														
	141														
	143														
	144														
	145	-		-						-					
	146									-					-
	148														
	149														
	150	-													
	151				100	9.							-		
	152														
	153.														
	155														
	156														
_	157														
Region 2	158												100		
Commodities	159	108	151	93 26				128 18 116 6			0	0	0	0	
	161	126	176	26				126 7			0	0	0		
	162	694	969	107				194 45			0	Q	0		
	163	1,074	1,500	383	194		1 1.7	163 86	658	131	D	Ô	0	0	-
	164	51	101	, , , ,			0	10 5			0	0	0		
	165 166	4.812	6,658	1.533				968 2,77 40 5			0	0	0		
	167	552	771	136				126 38			0	0	0		
	168	-							-	81	0	0	0	0	
	169	5,246	7,312	2,330	539		3 10.7				0	0	0	0	
	170	2,066	1,770	2.539				1.61			0	0	0		
	171	6,309	5,372	3,263				10 3			0	0	0		
	173	496	331	418				142 47			0	0	0		
								7.0					-		

				Region 2	Region 2	Banton *	Region 2	Stanion F	Region 2	Service 4	Banks #	Senten 9	Service #	Banks #	Region 2
		Region 2 Households	Region 2 Households			Region 2 Households		Region 2 Households			Region 2 Government				
		Traditional		Commercial	Commercial	Commercial	Urban &	Urban &	Urben &						House-
				farmers	temers	fermers	Other	Other	Other	Central	Education	Provincei - Health	Other	Local	holds
		Medium 208	Low 200	High 210	Medium 211	Low 212	High 213	Medum 214	Low 215	216			219	220	
	174	85	- 200	2.444	2.054		1,524		30	- 211	211	216	- 211		221
	175	1,495	979	1,044	527	1	1,486	1,096	1,213	347	0	0	0	0	
	176	114	64	159 571			215 733		10	110 2.562		0		0	
	178	2.182	2,601	1,577	425	1	4,064		1,106	651	0			0	
	179	882	950	4,191	68	0	5.286	1,621	202						
	180	1.577	1,012	1,280	131	0	2.364 4.347	1.362	301 219	5,885	0	0	0	0	
	182	497	847	2,490	265	0	2,843	1,096	514	1,309	0	0	0	0	
	183	497	847	2,490	265	. 0	2,843	1,096	514	1,660	0	0	0	0	
	185									57	0	0	0	0	
	186	0	150	24	90	0	57 6.417	16	10						
	167	290 327	276	5,122	93	0	683	1,945	204	5,497	. 0	. 0		. 0	
	189	385	221	2,456	223	0	6,350	2.065	492	1,836	0	0	0	0	
	190	2,340	1,450	917	477	0	1,149	886	1,024	3,423	0	0	0	C	
	192	2.353	1.434	14.602	1.904	2	54.917	17,279	3,432	6,376	0				
	193	327	276	314	53	0	683	456	203						
	194	407	722 57	2.490	265	0	2.843	1,096	514						
	195	1346	1,161	2.765	589	0	7,361	2 564 743	635 196	1,160	0	. 0		0	
	197	564	345	191	4	0	241	74	9	5,186	D	0	0	0	100
Region 2	198									36,806	0	1	0	0	*
Labourers	199									12.715	0		0	0	
	201														
Region 2 Capital	202									136	0	C	0	0	
Capris	204														
	205	-		-						349	0	0	0	0	
	206									70	0	0	0	0	
	206									279 558	0	0		0	
	209									-					
Region 2	210									138 345	0	0	0	0	
-norprises	212				-					69	0	0	0	0	
	213	-								138	0	0	0	0	
	214									276 69	0	0	0	0	
	216				- 6					345	0		0	0	
	217	-								0	C	0	0	0	
Region 2 Households	218	195			30		697	262		1,692	0	0	0	0	
riccare roca	220	909	462		142	0	310	1,222	234	7,882	0	0	0	0	
	221					*				328	0	0	C	0	
	222			134						27 963	0	0	0	0	
	224			201						1,600	0	0	0	0	
	225	130		134	30		890	262		1.684	0	0	0	0	
Region 2	226	909	448		132	0	232	1,135	241	2.872	0	0	0	0	
Government	228	27	30	159	7	0	323	36	15						
	229	3.427	3,821	29.475	853	2	41,669	4,608	1,994						
	230										100				
	232				1										- 1
	233												-		
	234 235		9	47	0 2	0	96	11	0 6						
	236								. "						
	297														
	238 239	.,			. 0	. 0	16	2							
	240	172	192	1.030	43	0	2,097	232	100						
	241	-									-		-		
Region 2	242												-		
Capital	244	900	446	2,580	199	0	6,708	1,210	233						
	245									78,950					
Region 3 Rest of SA	246	143	61	31	22	. 0	142	192	32	-	-	*			
	248														
Region 3	249	5	2	1	1	0	5	7	1	-	-		-	-	
Rest of Swaziland	250														
Region 3	252	429	182	94	67	0	427	577	96						
Rest of the world	253													*	
	254 258							-			-			-	
	1000	_						_						-	
	_														

		Region 2 Capital Incorpo- rated sector	Region 2 Capital Govern- ment	Region 3 REST Fector Payment Hansfen	Region 3 OF Goods and services	Region 3 RSA Captal	Region 3 REST Factor Payment viranciers	Region 3 OF SWA- Goods and services	Region 3 ZILAND Capital	Region 3 REST Factor Payment vitanulers	Region 3 OF THE Goods and services	Region 3 WORLD Capital		
		220	2 22	3 224	225	2	22	7 226	22	29 230	0 231	232	Peridual	Totals
Region 1 Activities	1 2	:	:				:					:	:	321,962 11,568
	3													362,108
	5													12,208
	6 7													45,171
						-							100	2,377
	10										-			13,115
	11				:									3,307
	13													19,437
	14													762,842
	16												-	103,019
	18													60,620
	19												:	211,311 54,873
	21		-											52,989
	22 23													34,402 22,336
	24 26													12,307
	26													10,476
	27													83,963
	29													18,292
	30			- 2										74,376
	32			- 1							-		:	311,397 16,430
	34				- 7									125,005
	36			- 1			-							13,220
-22-1	37 36				14.837			333			1,500			503,975
Commodities	39	:			21.529 56.886			56,886			2,392 75,848			53,380 234,578
	40				8.951			30,506			40,676			125,473
	42				28.251			635			2,867			49,046
	43				2 409	:		260 541			1,967			65,233
	45				10,142 292,940			350 292,940		:	6,994 146,470		:	34,532 785,591
	47				118,237									125,612
	40				4.904 77.668			1,745			7,854			132,582
	50				2.698			61			273			101,134
	51				164 016			3,686			16,580			215,094 76,152
	53				37.905			852			3,633			13,472 72,436
	55			-							2,630		:	50,003
	56										-			83,865
	58		-				-							102,799
	60				6.969			157			705		- :	372,717 146,546
	61				2.191			49			222		:	35,000 33,529
	63				9.274			208			938			276,810
	65			- 1	7,473 27,314			168 614		-	756 2,762		- 1	105,588 71,453
	66										100			155,230
	67				2.839	:		. 64	:		287			86,360 47,090
	70				18.225	:	-	410			1,842	:		70,882 176,216
	71				11,100			249			1,122			481,084
	72		:		350						35			18,231
	74				58,156			1,307			5,881			126,485
	75 76	:	:		108,411			2,436			10,963 46			91,278
Region 1 Labourers	77 78										:		:	332,043 288,804
	79													208,948
Region 1	80			4,360			736			795				303,963
Capital	82			4,359			736			795				15,583
	83 84		-	892			117			126			:	2,433 50,967
	85			38						7				3,218

E.50

							E.50							
		Region 2				Region 3	Region 3	Region 3	Region 3	Region 3	Region 3	Region 3		
		Capital	Capital	REST	OF.	RSA	REST	OF SWA-	ZKAND	REST	OF THE	MORLD	- 1	1
		incorpo-	Govern-	Fector	Goods	Capital	Factor	Goods	Capital	Fector	Goods	Capital		
		refec	ment	Payment	and services		Payment	and services		Payment	and services			
		sector		+transfers			+transfers			+transfers				
						224	917	204	220		77.1	222	Recidue!	Yotals
		22		223 22		226		228	226					
	86		-				116		*	126				60,847
	87						743			802				304,028
	88						19			21				18,360
Regon 1	80							-						263,718
Enterprises	90													17,324
	91		-											2,462
	92				-									50,691
	93													4,498
	94													48,584
	95													268,500
	96			-										8,042
Region 1	97			537		*	7							179,901
Households	90		-				2			,			-	60,676
	99					-	,			,		(8)		64,835
	100						,			,				264,890
	101	100		1			0			0				24,231
	102						0			0				2,476
	103		-	608			7							362,166
	104			68			1			1			- 1	129,059
Barret	100			13			0			0			- 1	49,071
Regon 1	106													- 0.0
Government	107												-4	1,462
	106												-858	242,718
	109												-892	251,500
	110												36	-8,834
	111			-					*				-801	152,290
	112	-												
	113			-		-						-	4	3
	114					7							-2	430
	115			-								-		-
	116								-			-		
	117					-			-					-
	118								-		-	-	-01	74
	119					-	-	-	-				-37	9,481
	120								-					
Berne t	121							-						
Regon 1	122							-	-	-			- 1	
Capital	122							-						129,186
	124				-		-			-				-35,002
Region 2	126						-							314,784
Activities	126					-	-	-					- 1	9,736
	127							-						54,471
	128	-					-	-						7,000
	129						-		-	-			- 1	4,001
	130		-		-		-	-		-				19,414
	131													4.1
	132							-						4,74
	133													* 1
	134													
	136													580,975
	136		-			-			-					
	137												. 1	21
	138			-		-	-		-		-	-		
	139													
	140			-		-								332,147
	141										-			:1
	142											-	-	
	143													96,788
	145											-		3,183
	146											-		1,653
														23,772
	147											-		2,800
	148													24,736
	149			-										17,860
	150													5,312
	151												- 1	29,001
	162													1,21.4
	153												-	18,121
	154			-										7,625
	155			-										83,080
	156			-									. 1	90,373
Bear 9	157												-	8,022
Region 2	158		*	-		•		2.005						350,268
Commodities	150			-	65			2,905			294			6,942
	160			-	8,951			8,951			11,935			32,410
	161				4,409			4,409			5,878		-	17,709
	162				67			2,520			256			8,284
	163		-	-	-							-		8,461
	164			-				-						81,776
	165			-	9			405			41			34,985
	166				******			******				-		3,697
	167		-	-	216,111			216,111	-		108,055			544,093
	168				-			34,543						34,626
	169			-	-							-	- 1	47,070
	170				-									14,387
	171							****						50,696
	172	15		-	219,650			54,912				-		311,600
	173												-	25,380

		Region 2 Capital Incorpo- rated sector	Region 2 Capital Govern- ment	Region 3 REST Factor Payment *transfers		Region 3 RSA Capital	Region 3 REST Factor Payment +transfers	Region 3 OF SMA- Gents and services	Region 3 ZILAND Capital	Region 3 REST Factor Payment Hranslens	Region 3 OF THE Goods and services	Region 3 WORLD Capter		
		222	223		225	226		228	221		231	232	Residual	Totals
	174		:		1,196			53,210	2	-	5.381		:	*** 8,186 77,400
	176						-		-					28,238
	177							- 1	-					28,588 30,274
	179													40,221 85,902
	181	3.760			1,548			58,891			6.966			111,896
	182													42,709 12,784
	184		3.434 9.284		25			1.101			111			105,088 31,654
	186				71	- 1		3,177		- 2	321			22,149 63,388
	188				150			159						30,063
	189			- 2	158			7.015			709			18,906 29,047
	191			2	2 610			1.812			3.480			108,785
	193		-											7,962
	194				849			37.765	-		3.821			9,144 56,429
	196	:			1,305	-	:	58.072	:		5.872			79,891 38,613
Regon 2	190			-										144,665
Labourers	199												:	138,438
Region 2	201			1,437			243			262			:	137,639
Capital	203			1.143		-	193			209				8,129
	205			518			31			95 33				17,897
	206			949			160			173				70 67,646
	208			1.730			292			316				120,064
Region 2	209	- 1		49			. *			. 9				95,783
Enterprises	211												1.0	15,852
	213						- 6				- 6	- 2		17,878
	214					- 2						- 0		63,649
	215			-										119,082
Region 2	218			280		- 6	3		- 1	6			- 1	110,026
Households	219			102	:		1	2		2 2			- 1	45,510 46,017
	221		:				0			0				#9,325
	223	-							1				- 2	12,110 578
	224			44			. 0						:]	193,710
Report 2	226			9			0			0				23,627
Government	226												55	785
	229 230												9,149 6,806	127,684 96,027
	231								-				-295	-3,972
	233												- 1	- 1
	234												16	228
	236 237													-
	238								-				- 1	- 1
	239		-										356	4,958
	241													
Region 2	243			- 2									- 1	
Capital	245												- 1	82,620 78,950
Region 3	245	-										-		229,958
Rest of SA	247 248		23,116	- 1		- 1						-	- 2	2,558,661 -210,974
Region 2 Rest of Sweziland	249 250												- 1	95,030
	251	-70,108	13.246	-										-56,911
Region 3 Rest of the world	252 253	-	-	-						-			- 2	261,352 293,457
	254 255		19.870		:	-210,947			-56,911	:		-224,171	- 1	-492,029 -224,171
		62,620	78,950	22,792	1,585,912	-210,947	3,519	853,391	-54,911	3,801	488,574	-224,171	12,619	

