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RURAL GROWTH LINKAGES IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

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ABSTRACT

This report addresses the impact of rising smallholder incomes on local non-agricultural development in the Eastern Cape of South Africa. It determines how increased rural incomes are spent on a mix of goods and services, and debates the implications of these spending patterns for growth in rural areas through the alleviation of demand constraints. These results make it possible to identify areas of intervention necessary for sustaining growth originating from stimulus to tradable agriculture from economic reforms. This report thus contributes to an emerging literature on the possible impact of promoting smallholder agriculture in South Africa on rural livelihoods.

1. INTRODUCTION

In June 1996 the Land and Agricultural Policy Centre (a NGO based in Johannesburg) in collaboration with IFPRI and 3 South African Universities (Pretoria, Natal and The North) launched a research programme on “promoting employment growth in smallholder farming areas through agricultural diversification”. This research programme addresses the continued pessimism in South Africa about what small-scale agriculture can do for rural areas.

Evidence from elsewhere in the world and most particularly from elsewhere in Africa overwhelmingly demonstrates that small-scale agriculture has been the principal motor of development in rural areas, and that small-scale agricultural units have achieved higher returns to land and capital over time than large-scale agricultural operations (Delgado, 1997). Furthermore, there is a general lack of appreciation of the extent to which non-agricultural employment opportunities in rural areas depend upon vibrant growth in local farm incomes. Without purchasing power generated within local areas themselves, employment in the non-tradable sectors, such as services, will be totally dependent on the maintenance of a steady flow of remittances from outside local areas, without which these industries will die off. Employment policy in South Africa—as elsewhere--that addresses the rural poor must be informed by detailed information on the competitiveness and overall employment impact of smallholder agriculture. In this context, two issues that must be explored are the capacity of smallholder farmers to produce agricultural or livestock items competitively vis-a-vis alternative sources of supply in given markets, and the impact of the resulting increases in incomes on local production of non-farm items.

The first issue intends to show that there are agricultural activities that smallholder farmers can undertake both profitably and efficiently in today's South Africa. It needs to be shown whether small-scale producers of agricultural commodities in South Africa have a comparative advantage in anything, or whether such producers should continue to abandon their own agriculture in favour of work in industrial plants or on industrial farms. A closely related question is whether present policy distortions prevent small farmers from being able to compete with larger scale operations.

The second main issue is the impact of increases in agricultural incomes on overall local employment in rural areas. It requires showing that many non-agricultural activities in poor South African rural areas are dependent for their viability on an external source of income, either from remittances and pensions, or from sales of agricultural and livestock items to cities and more prosperous areas. In that sense, additional agricultural income from sales outside local areas has a multiplied effect on total local income because it is re-spent on local non-agricultural items and services. It has been shown extensively elsewhere in Africa and Asia that increasing small-farm agricultural production under agricultural intensification can boost regional employment by creating a market for local goods and services that would not otherwise have been sold because of transport costs and differences in quality and tastes. If local production is responsive to this new local demand, the total amount of employment created indirectly through additional sales of non-agricultural goods and services can be twice the direct impact of the original influx of smallholder revenue (Delgado, Hopkins and Kelly with others, 1998).

The first issue was investigated as Track 2 of this collaborative research project involving LAPC and its collaborators looking for enlightenment with regard to the wisdom of promoting smallholder farming as a means to better rural livelihoods.

This study assessed the relative competitiveness of various agricultural activities in selected smallholder areas. Track 1 of this research was published by IFPRI, and surveyed the evidence from the rest of Sub-Saharan Africa on the role of smallholder agriculture in rural economic development (Delgado, 1997).

With Track 2 establishing that smallholder agriculture does have comparative advantage it can now be argued that promoting smallholder agriculture in certain commodities would at least not waste resources, save the country foreign exchange and could promote local economic activity. This report specifically addresses the issue of the impact of rising smallholder incomes on local non-agricultural development, with data from one of the rural areas included in Track 2 of the research, namely the Eastern Cape.

The study determines how increased rural incomes are spent on a mix of agricultural and non-agricultural goods and services. It also debates the implications of these expenditure patterns for the potential to stimulate growth in rural areas through the alleviation of demand constraints. From these results it should be possible to identify areas of intervention necessary to sustain growth originating from stimulus to tradable agriculture from economic reforms.

The study therefore surveyed households in close proximity (in terms of location of households) to the agricultural activities, which were included in Track 2. The combined results of the two studies should then provide a good indication of the possible impact of promoting smallholder agriculture in the Eastern Cape on rural livelihoods[1].

[1] The 3rd track of the research programme was only possible through additional funding provided by IFPRI. The initial funding provided by LAPC was not available for the continuation of the 3rd track and we are therefore grateful for IFPRI's intervention to see the completion of the research programme – at least then for the Eastern Cape.

The report is divided in 6 sections. The second section describes the study area and the survey process. Section 3 deals with the method of analysis followed in the study while Section 4 provides and discusses the results of the expenditure patterns of the households included in the survey. Section 5 calculates the growth multipliers and discusses the implications of the results. Section 6 concludes and discusses possible policy implications.

2. THE STUDY AREA AND THE SURVEY PROCESS

THE STUDY ZONE

Eastern Cape province, in which this study is based, is the second largest in terms of surface area, of the nine South African provinces. Physically, the province has been often referred to as an area of contrasts. It borders with the warm Indian Ocean responsible for the sub-tropical coastal belt climate in the east and the Karoo semi-desert in the west. The land area of the Eastern Cape incorporates that of Ciskei and Transkei, two homelands that formed part of the old demarcations before the national democratic elections in 1994.

The Central Statistical Service (1997) reports interesting facts about the Eastern Cape. Occupying almost 14% of the total area of South Africa, the province is inhabited by just over 15% of the total population of 41 million. Its population density of 38.2 persons per square kilometre is higher than the average of 33.8 for the whole country. The Black population in the province forms an overwhelming majority namely, 87% of the inhabitants, 83% of which use Xhosa, one of the eleven national official languages, as their home language.

The population of the Eastern Cape has the second lowest life expectancy (60.7 years) of all the provinces in the country. This contrasts with the national average of 62.8 years. Its adult literacy rate of 72.3% is well below the average of 82.2% for the country.

Only less than a third of all dwellings in the province have running tap water. About 41% of these still use wood as their main energy source for cooking, with

paraffin and electricity as their second and third sources respectively.

In 1994 the total unemployment rate was 45.3%, the second highest in the country. The per capita income for 1993 was approximately R4, 151(US $690) compared to the country average of about R8, 704 (US $1,450). The main contributor to the Gross Geographic Product (GGP)[2] is manufacturing with community, social and personal, general government and other services also contributing significantly.

Agriculture contributed between 7 % and 9% to the Eastern Cape Provinces Gross Geographic Product (GGP) and recorded 0.4 % real growth between 1980 and 1991. The most economically important sub-sector in the Province is livestock, with its 76% contribution to the gross value of agricultural production, followed by horticulture with a 21% contribution. The least important sub-sector is field crops, accounting for only 3% of agriculture's gross income (Eastern Cape Province, 1995).

It appears that agriculture is still only a minority share of the income of the farm-based Eastern Cape population. On aggregate, approximately 90% of the value of agricultural production in the former homelands of Ciskei and Transkei is not marketed, leaving a mere 10% for the market (Eastern Cape Province, 1995).

The province is divided into three main regions namely eastern, western and central. This study was conducted in two villages in Middledrift district, which is one of the over forty municipal districts in central region the largest of the three regions. The two villages surveyed differ in a number of areas with respect to land use, infrastructure and general socio-economic characteristics. The first

[2] The Gross Geographic Product (GGP) represents provincial or regional contribution to the Gross Domestic Product (GDP)

village, Ann Shaw bears features that are attributed to a “small town” while the second one, KwaNdindwa is regarded as a remote rural location. The fully electrified Ann Shaw town is situated two kilometres from the main tar road while the same road is approximately 20 kilometres from the KwaNdindwa village, which is without electricity. The central business area of Middledrift district, which is two kilometres away from Ann Shaw, has a post-office with public telephone facilities, a supermarket and a number of food and agricultural input stores. KwaNdindwa inhabitants on the other hand have to travel at least 20 kilometres to get access to comparable facilities. According to the survey data for this study, an average household in Ann Shaw boasts R3, 808.30 (US $635) worth of household assets such as televisions, radios and refrigerators compared to R1,544.00 (US $257) for in an average household in KwaNdindwa. This indicates as significant difference in life style between the two villages. Table 1 below gives a summary list of some commercial enterprises in the two sample sites.

Table 1 – Listing of formal and informal commercial enterprises in KwaNdindwa and Ann Shaw, Middledrift, Eastern Cape

Small Town Ann Shaw	Rural KwaNdindwa
Formal activities: • General dealer (food,clothing, butchery) • Supermarket • Fast food restaurant • Small café • Brick maker Informal activities: • Shebeen (liquor hawker) • Fruit and vegetable hawker	Formal activities: • General dealer • Brick maker • Small grocery store Informal activities: • Paraffin, sweets, cigarette hawker • Fresh vegetable hawker • Handicraft hawker • Fresh-cut pork hawker • Home-sewn clothing hawker • Shebeen (liquor hawker) • Livestock (cattle, sheep & goats) seller

Source: Ngqangweni (1998). Household survey in Middledrift district, Eastern Cape "Promoting Employment Growth in Small Scale Farming Areas Through Agricultural Diversification".

In other respects, however, the two villages share some common features. Maize, vegetables and livestock are the main agricultural commodities produced throughout Middledrift district. On average a household has access to 0.08 ha of cropland per capita, which comprise a small backyard vegetable plot and a larger crop field situated a distance away from the main dwelling. There is no clear direction as to who administers land issues under the current local government setup. In the past, however, a traditional authority headed by an area chief or a more village-based headman would handle such matters.

Ann Shaw and KwaNdindwa were purposively chosen to be representative of a typical rural setup in the Eastern Cape. The degree of contrast between the two locations makes it possible to make comparisons between any special factors that would perhaps explain some important findings of this research.

THE SURVEY PROCESS

This study utilized data collected with the use of structured questionnaires (see Appendix 1) over three rounds between February and April 1998. A total of 100 randomly sampled households were interviewed - 50 in each of the two above-mentioned villages in Middledrift district in central Eastern Cape. The sample size was largely due to the limited resources at the disposal of the researchers.

A total of four assistants worked on the survey. Two were allocated in each of the two villages. Three of the four assistants were local residents of the two survey locations. This was an added advantage in terms of knowledge of the dynamics of the location whenever this was needed.
The three rounds over which the interviews were conducted were carefully scheduled around the major expenditure periods during the first quarter of the year. First, the mid- and end-month periods of February and March during which many of the professional, regular and casual wage earners get paid. Second, the month of March during which the second old age pension cheques for the year are handed out. Third, the major expenditure time of Easter during the first week of April at which time most food and consumer non-durables are purchased during the first quarter of the year. However, the results should be interpreted in the context that this research excluded an important expenditure time of Christmas.

Each survey round lasted for one week on average. In order to fill any major data gaps, for example, missed expenditure for items such as consumer durables, the recall period was extended to a maximum of one year in such cases. However, because of their sensitive nature, certain types of data were particularly challenging to probe. These include data on income earnings, formal savings, and alcohol and stimulants expenditure. Notwithstanding these challenges, data

of major significance to the objectives of this research were adequately and satisfactorily captured. The surveys recorded information on household composition, decision making, household income and income sources, assets, agricultural production, and the household's consumption and expenditures on foods and non-food goods and services. Table 2 below summarizes some of the characteristics of the sample.

Table 2 – Characteristics of the Middledrift samples, 1998

Characteristics	Overall sample	Small town Ann Shaw	Rural KwaNdindwa
Number of sample households	100.00	50.00	50.00
Weighted average HH size	6.10 (2.76)[a]	5.79 (2.81)	6.41 (2.70)
Number of children[b] per capita	0.07 (0.09)	0.06 (0.09)	0.08 (0.09)
Number of youths[c] per capita	0.20 (0.17)	0.19 (0.16)	0.21 (0.19)
Number of adult women / capita	0.56 (0.21)	0.56 (0.24)	0.56 (0.19)
Size of HH garden[d] (m^2)	509.67 (526.87)	193.68 (297.52)	825.66 (518.23)
HH garden size per capita (m^2)	91.63 (108.19)	35.51 (62.39)	147.76 (115.46)
Total HH cropland[e] (ha)	0.32 (0.49)	0.53 (0.60)	0.11 (0.18)
Total HH cropland / capita (ha)	0.07 (0.15)	0.13 (0.19)	0.02 (0.02)
Total expenditure per capital yr (R)	1427.12 (1170.94)	1722.39 (1378.80)	1132.18 (831.13)

Source: Calculated from Ngqangweni (1998). Household survey in Middledrift district, Eastern Cape "Promoting Employment Growth in Small Scale Farming Areas Through Agricultural Diversification".

Notes:

[a] Figures in parentheses represent standard deviations from the mean values given above them.

[b] Children one to five years old.

[c] Youths 6 to 15 years old.

[d] Refers to a small backyard plot of land normally used to grow vegetables.

[e] Refers to the total area of cropland comprising the backyard plot and the main fields.

The total sample was divided equally between the two villages in order that any sharp contrasts between the two may be adequately captured. Of particular interest are the sizes of household lands. On average the small town sample households possess larger cropland than their rural counterparts. This could be attributed to the apparently relatively larger main field areas at Ann Shaw (not shown in the table) as compared to those of KwaNdindwa. A final area of interest is total expenditure per capita in the two areas. Figures in the table show an apparently higher purchasing power for Ann Shaw, which could be attributed to its close proximity to the market.

The sampling unit for this study was taken as the “household”. This was defined as the family head, his/her spouse, children, grandchildren and any other relatives, workers who normally live in the house and share the same meals and have rights to the same cropland. Those members of the household who work but visit the family on weekends or month-ends were also included in this definition. The respondent was male or female household head, or an adult familiar with the household’s farming and other income-generating activities and their consumption.

3. METHOD OF ANALYSIS

ANALYSIS OBJECTIVES

This analysis had two primary objectives. The first objective was to examine how increased rural incomes will be spent on a mix of tradable and non-tradable agricultural and non-agricultural goods and services in rural Eastern Cape. Secondly, it was to assess the implications of these expenditure patterns for potential to stimulate growth in rural economy through removal of demand constraints. Similar studies have been conducted elsewhere in Africa and in Asia in the past (see *inter alia* Dorosh and Haggblade, 1993; Haggblade and Hazell, 1989; Haggblade, Hazell and Brown, 1987; Hazell and Röell, 1983; Hopkins, Kelly and Delgado, 1994 and King and Byerlee, 1977).

To these ends, the survey data were first aggregated and categorized into sixteen groups, then further aggregated into “farm tradable”, “farm non-tradable”, and “non-farm non-tradable”. This was done in order to allow calculation of average budget shares and marginal budget shares by expenditure group and by sector and tradability group. Growth multipliers of sector and tradability groups would then be readily derived.

CLASSIFICATION OF HOUSEHOLD EXPENDITURES

Characterization of expenditure goods and services according to sector and tradability is central in the interpretation of multiplier results. In their linkages study in Niger, Delgado, Hopkins and Kelly with others (1998) elaborate on this assertion. For example, treating a non-tradable good as tradable inevitably leads

to underestimation of the amount of additional growth that can be derived through linkage effects. This is taking into account the fact that tradables, by definition, are imports or exports. Therefore their additional demand leads to leakage of income from the region of concern rather than to stimulation of new local production.

In this study household expenditure items were first classified into 16 groups. These are: food, household cleansing materials, fuel and lighting, clothing and footwear, furniture, housing, transportation, liquor and tobacco, medical, educational, entertainment, insurance and savings, communication, family and social obligations, agricultural and other/miscellaneous expenditure. These were further aggregated into farm tradable, farm non-tradable, non-farm tradable, and non-farm non-tradable.

“Farm” goods were relatively simple to classify as these originate on farm. These include horticultural, crop, livestock items produced on the household land. “Non-farm” goods on the other hand originate off farm, that is, all consumption durables and non-durables.

Tradability was observed on the basis of local boundaries. The definition by Delgado, *et al.* (1998) of ‘local’ as radius of 100km around the household) was adopted. Non-tradables were defined as those goods that were freely traded within the local area, but were not traded outside it. Such factors as perishability and bulkiness were incorporated in determination of whether or not a good was tradable in the local context.

Derivation of marginal budget shares from household expenditure models, which is central in the study of inter-sectoral linkages, requires the above classification

exercise. The next sub-section describes the household expenditure behaviour model.

THE HOUSEHOLD EXPENDITURE ANALYSIS MODEL

Based on the literature above, it is hypothesized that the MBS for non-tradable goods are the main factors driving the estimates of growth multipliers (see Haggblade, Hammer and Hazell, 1991). These marginal budget shares depend on the pattern of rural consumption, which may differ by location and by income category (Delgado, *et al.*, 1998).

Marginal budget shares were obtained by employing the modified Working-Leser model (Hazell and Röell, 1983) for each good category, adapted to cross-sectional household level data. This model entails using total expenditures as a proxy for income in order to estimate Engel functions. Marginal budget shares would then represent marginal propensities to consume, provided the total expenditures were a good proxy of household income (Delgado, *et al.*, 1998).

The linear Engel curve is:

$$E_i = a_i + b_i E \qquad (1)$$

The function above, however, does not permit the marginal budget share (b_i) to vary at all. A modified Working-Leser model was thus chosen:

$$S_i = b_i + a_i / E + g \log E \qquad (2)$$

To allow comparison of expenditure behaviour of households with different incomes, allowance was made for differences in their other socio-economic characteristics. Engel functions of the following form were thus estimated:

$$E_i = a_i + b_i E + g_i E \log E + S_i (m_{ij} Z_j + l_{ij} E.Z_j) \quad (3)$$

Where E_i is expenditure on commodity i

E is total consumption expenditure

Z_j are household characteristic variables, and

a_i, b_i, g_i, m_{ij}, l_{ij} are constants

Instead of a restrictive linear Engel curve, this functional form allowed for non-linear relationships between consumption and income. It also controlled for household characteristics that may affect both the intercept and slope of the Engel function. The model was estimated in share form in order to mitigate potential heteroskedasticity problems (Hazell and Röell, 1983). Dividing equation (1) by E gives,

$$S_i = b_i + a_i / E + g \log E + S_i (m_{ij} Z_j / E + l_{ij} Z_j) \quad (4)$$

Where $S_i = E_i / E$ is the share of commodity i in total expenditure.

The marginal budget share (MBS_i), average budget share (ABS_i) and expenditure elasticity (x_i) for the ith commodity is:

$$MBS_i = \partial E_i / \partial E = b_i + g_i (1 + \log E) + S_j l_{ij} Z_j \quad (5)$$

$$ABS_i = S_i \quad (6)$$

$$x_i = MBS_i / ABS_i \quad (7)$$

For the average household, these equation terms are evaluated at the sample mean values for E and Z_j. But across expenditure groups (say upper and lower expenditure halves, as done in this study), then E and Z_j are assigned their mean values for relevant halves. These share equations were estimated by ordinary least squares (OLS).

CHOICE OF EXPLANATORY VARIABLES

Table 3 below summarizes the independent variables that were selected for inclusion in the share equations for the two villages studied.

Table 3 – Independent variables included in the Middledrift regressions

Description	Name	Unit
Intercept	INTERCEPT	R
Reciprocal of total expenditure	1/E	R
Log of total expenditure	LOG_E	
Distance from nearest tar road	TARDIST	km
Distance from nearest tar road divided by total expenditure	TARDIST/E	
Size of household	HHSIZE	# of people
Size of household divided by total expenditure	HHSIZE/E	
Age of household head	AGEHEAD	years
Age of household head divided by total expenditure	AGEHEAD/E	
Value of household assets (e.g. TV, radio, refrigerator)	ASSETSR	R
Value of household assets divided by total expenditure	ASSETSR/E	
Number of babies (less that one year old) per capita	BABIES	# of people
Number of babies per capita divided by total expenditure	BABIES/E	
Number of children (one to five years old) per capita	CHILD	# of people
Number of children per capita divided by total expenditure	CHILD/E	
Number of youths (6 to 15 years old) per capita	YOUTH	# of people
Number of youths per capita divided by total expenditure	YOUTH/E	
Number of adult women per capita	WOMEN	# of people

The variables in Table 3 above were included on the basis that they logically explain the relationship between income and consumption of individual commodities. All these are self-explanatory. Many household characteristic variables were included to prevent bias in the estimator arising from omission of significant sources of inter-household variability in expenditure behaviour.

Hazell and Röell (1983) noted some disadvantages to estimation of the above share equations. First, R^2 coefficients are typically smaller. Second, the inclusion of many explanatory variables in the equation for every commodity or expenditure group wastes some degrees of freedom. This was particularly the case in the Middledrift regressions due to the small sample size. Third, the need to use the same functional form in each equation cancels out a common approach of fitting several different functions for each commodity, and then choosing the one that fits best.

THE GROWTH MULTIPLIER MODEL

Growth multipliers are a measure of how much extra net income growth can be derived in rural areas from stimulating the non-tradable (demand-constrained) sectors with a stream of new income from the tradable sectors. This new income originates as a result of technological progress or policy changes affecting the profitability of production of rural tradables but could even come from any source outside the local area including remittances (Mellor, 1966).

A multiplier is a numerical derivation from a regional model that incorporates household demands and intermediate demands between sectors. Regional semi input-output models require definition of the ‘catchment area’ which is the key in estimation of multipliers. In other words it should be clearly stated what is inside the region of interest and what is outside. In Middledrift the catchment area was

restricted to the local boundaries. The concept of tradability and classification of goods and services was treated in more detail in Section 3.2 above.

This study employed a simplified version of the four-sector variant of the regional semi-input output model of Haggblade and Hazell (1989). Without going into the formal derivation of the model, it could be pointed out that the following simple formula was used to calculate the agricultural production multiplier:

$$Multiplier = \frac{1}{(1 - MBS\ nontradables + s)}$$

where “s” is the share of income saved.

The above formula is only true if one ignores the fact that even tradables use non-tradable inputs. It therefore assumes that the value added ratio is one resulting in an underestimate of the true multiplier.

4. HOUSEHOLD EXPENDITURE BEHAVIOUR

Table 4 below summarizes the expenditure behaviour of the average households in Middledrift. The sample is subdivided into lower and upper expenditure halves and rural and small town locations. These findings are a result of evaluation of equations (5), (6) and (7) above for MBS, ABS and expenditure elasticities.

Average budget shares measure the percentage of total household expenditures going to a good/service or sector/tradabiblity group. Marginal budget shares measure the percentage of additions to income that are allocated to the commodity group concerned. They are an equivalent of the marginal propensity to consume, measuring the direct impact of income changes on consumption of the group in question. Expenditure elasticity measures what happens to the relative importance of a given commodity/service group as income (or total expenditure) increases. Positive expenditure elasticity for a group implies that consumption or expenditure on that group increases as income (or total expenditure) increases. If goods are “elastic” (*i.e.* expenditure elasticity greater than 1), then their relative importance in consumption baskets increases at a greater rate than income increases.

Results in Table 4 in the whole sample columns reveal that households in Middledrift spend more of their budget on basic food than on any other good or service group. Up to a third of the total budget of the average household in Middledrift is spent on food. These include starches such as maize meal, samp (stamped maize) and rice and other grocery items such as fresh and sour milk, bread flour, vegetables, sugar, oils, and meat. Steyn (1988) found an even higher figure in the adjacent Peddie district. Along with that of transportation and

other expenditure (church contributions, support for relatives, donations and pocket money), the expenditure elasticity of food in Middledrift is less that unity, which suggests that these items are necessities among Middledrift households.

Food remains a necessity in the rural half of the Middledrift sample at expenditure elasticity of 0.23. This is consistent with findings by Nieuwoudt and Vink (1989) in rural KwaZulu-Natal province. However, in the small town half of the sample, food staples are increasingly becoming inferior, judging from their negative elasticity. It seems that family and social obligations (family and social traditional festivities and ceremonies) occupy most of incremental incomes. Also, as incomes increase, this group becomes the most important in rural budgets.

The bottom section of Table 4 presents results on whether household income growth will stimulate production of farm or non-farm (demand-constrained) non-tradables. The results show that households in Middledrift allocate almost half of their budgets to non-tradable goods. Ann Shaw households, with their easier accessibility to the markets, spend more (57 percent) of their incomes on tradables than their rural counterparts who spend 51 percent. Half of Middledrift incremental incomes are spent on non-tradables. The better parts of these expenditures (64 percent) are on non-farm non-tradables. Non-farm non-tradables will become a more important part of their budgets as incomes increase. It appears that non-farm sectors such as transportation, liquor and tobacco, furniture, education, medical, communication, and family and social obligations will grow the most as rural incomes in Middledrift increase.

Table 4 – Expenditure behaviour of an average household in Middledrift

	Whole sample			Lower Expenditure 50 %			Upper Expenditure 50 %			Rural location			Small town location		
Group	ABS	MBS	Elasticity	ABS	MBS	Elasticity	ABS	MBS	Elasticity	ABS	MBS	Elasticity	ABS	MBS	Elasticity
By commodity															
Food	0.36	0.33	0.94	0.35	-0.69	-1.97	0.36	-0.67	-1.86	0.34	0.08	0.23	0.37	-0.01	-0.02
Cleansing materials	0.07	-0.06	-0.85	0.07	0.55	7.68	0.07	0.45	6.94	0.05	-0.11	-2.20	0.09	0.15	1.69
Fuel and lighting	0.08	0.09	1.12	0.08	-0.19	-2.44	0.09	-0.16	-1.87	0.05	0.02	0.38	0.11	0.23	2.04
Clothing and footwear	0.04	-0.01	-0.40	0.04	0.47	11.25	0.03	0.40	13.71	0.04	0.02	0.61	0.03	-0.04	-1.23
Furniture	0.06	0.12	2.03	0.06	0.16	2.64	0.06	0.15	2.53	0.08	0.05	0.61	0.04	0.17	3.88
Housing and construction	0.02	0.05	2.18	0.03	0.35	13.32	0.02	0.33	16.50	0.03	0.07	2.16	0.01	-0.01	-1.05
Transportation	0.08	0.07	0.92	0.07	0.19	2.53	0.08	0.17	2.16	0.08	0.10	1.17	0.07	0.15	2.17
Liquor and tobacco	0.01	0.04	2.88	0.01	-0.01	-0.69	0.01	0.004	0.28	0.01	0.03	2.19	0.01	0.07	5.51
Medical	0.05	0.07	1.39	0.06	0.61	10.38	0.05	0.15	3.12	0.06	0.10	1.61	0.04	0.08	1.80
Educational	0.04	0.10	2.35	0.04	-0.27	-7.12	0.04	-0.12	-2.82	0.04	0.11	2.93	0.04	0.09	2.03
Entertainment	0.002	-0.01	-3.61	0.003	-0.03	-9.30	0.002	0.0002	0.10	0.003	-0.01	-4.83	0.002	-0.02	-11.45
Communication	0.05	0.08	1.71	0.04	-0.01	-0.30	0.05	0.03	0.66	0.04	0.05	1.38	0.06	0.30	5.42
Family/social obligations	0.04	0.05	1.36	0.04	-0.08	-2.12	0.04	0.04	0.93	0.06	0.45	8.00	0.02	-0.03	-1.04
Agricultural	0.01	0.02	3.27	0.01	0.08	13.98	0.01	-0.01	-2.33	0.01	0.02	1.99	0.002	0.001	0.44
Other expenditure	0.09	0.05	0.50	0.10	-0.13	-1.35	0.09	0.24	2.57	0.10	0.02	0.17	0.08	-0.12	-1.44
By sector & tradability															
Farm tradable	0.19	0.18	0.94	0.20	0.39	2.02	0.19	0.04	0.22	0.17	0.24	1.41	0.21	0.29	1.40
Farm nontradable	0.16	0.18	1.09	0.16	-0.43	-2.75	0.17	-0.07	-0.39	0.17	0.03	0.17	0.16	0.14	0.84
Non-farm tradable	0.35	0.32	0.92	0.36	0.84	2.34	0.35	0.44	1.26	0.34	0.26	0.76	0.36	0.36	0.99
Non-farm nontradable	0.29	0.32	1.09	0.29	0.19	0.66	0.29	0.59	2.00	0.32	0.47	1.47	0.27	0.21	0.80

Source: Calculated from Ngqangweni (1998). Household survey in Middledrift district, Eastern Cape “Promoting Employment Growth in Small Scale Farming Areas Through Agricultural Diversification”.

5. GROWTH MULTIPLIERS

Table 5 below summarizes growth multipliers calculated for the Middledrift household analysis. Figure 1 below also graphically illustrates these results.

Table 5 – Estimated total extra income for *R*1 in extra income from production of tradables (in *R*)

Sample category	Tradable sector	Farm non-tradable	Non-farm non-tradable	Total Multiplier
Overall sample	1.00	0.35	0.63	1.98
Lower Expenditure 50%	1.00	-0.35	0.16	0.81
Upper Expenditure 50%	1.00	-0.14	1.22	2.08
Rural sample	1.00	0.06	0.92	1.98
Small Town Sample	1.00	0.21	0.33	1.53

Source: Calculated from Ngqangweni (1998). Household survey in Middledrift district, Eastern Cape "Promoting Employment Growth in Small Scale Farming Areas Through Agricultural Diversification".

The figures in the above table show the total net additions to average household income in South African Rands (that result from an initial shock of 1.00 in the local tradable farm or non-farm sectors. The sources of growth have been decomposed into new spending on farm and non-farm demand constrained non-tradable goods. The sample has also been subdivided into rural and small town halves, as well as into lower and upper expenditure halves.

The "overall sample" part of the table shows a *R*1.00 increase in household incomes through an outside positive effect (for example, a policy change) affecting local tradables. It also shows that such an increase will lead to *R*0.35 of additional income from spending on farm non-tradables, and to *R0*.63 of

additional income from spending on non-farm non-tradables. This means a total multiplier of *R*1.98, of which *R*0.98 is the net extra growth from spending on demand-constrained items.

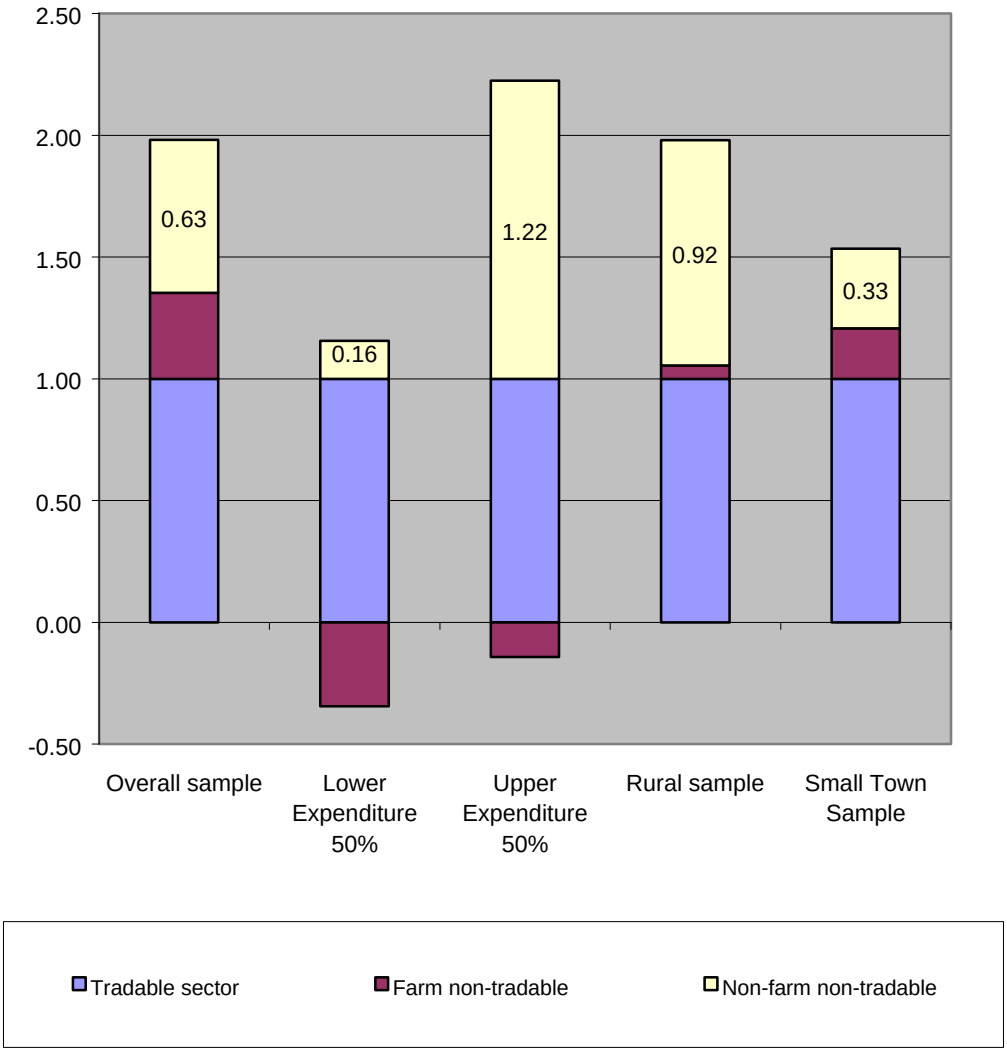

Figure 1 – Rural growth multipliers in Middledrift, Eastern Cape, 1998

Source: Plotted from Ngqangweni (1998). Household survey in Middledrift district, Eastern Cape "Promoting Employment Growth in Small Scale Farming Areas Through Agricultural Diversification".

An important assumption underlying these results is that increased demand for non-tradable goods and services will be met by new production of these items. In other words the supply response of non-tradables is assumed to be elastic. This is because, by definition, new demand for these items cannot be met from imports.

Table 5 above illustrates a number of interesting facts. First, 'local' level linkages in South Africa seem to be generally comparable with those reported for the rest of Africa. This is as shown in studies previously done in Sub-Saharan Africa Haggblade, Hazell and Brown (1989), particularly in Zambia (Hazell and Hojjati, 1995), Nigeria (Hazell and Röell, 1983), and Burkina Faso (Reardon, Delgado and Matlon, 1992).

Second, it shows that multiplier figures for the rural sample are almost a third more than those of the urbanized households. This carries tremendous policy implications for policy focus towards rural communities.

Third, overall multipliers from the non-farm sector in Middledrift are higher than those from the farm sector. In fact the farm sector multipliers constitute only 18 percent of the composition of the total multiplier compared to 32 percent of the farm sector.

6. CONCLUSIONS AND POLICY IMPLICATIONS

This study covered a topical issue of how to bring previously disadvantaged rural South Africans into the mainstream economy through informed policy decisions. Research needs to identify possible avenues through which such decisions could be effectively turned into sustainable programmes to enhance rural welfare. An environment of pessimism about potential for smallholder agriculture to drive such a rural economic recovery process is still prevalent. This pessimism has overlooked the role of deliberate and purposeful policy focus towards this sector.

The proponents of smallholder-driven rural economic growth, so as to clear the current pessimism must address two major questions. First, are smallholders profitable in producing anything? In other words, would it even be worth for government to invest in the smallholder farming sector if it hopes to remedy the high unemployment rate in the country? Or should it rather focus on other sectors of the economy? Second, if smallholders are profitable in anything, how strong are its linkages with the rest of the rural economy?

The first question has been addressed in part by a study by Ngqangweni, Lyne, Hedden-Dunkhorst, Kirsten, Delgado and Simbi, 1998) commissioned by the Land and Agricultural Policy Centre (LAPC). They found that smallholders indeed do produce certain horticultural, field crop and livestock products effectively. This study presented a firm base from which the currently empty database on South African smallholder farming and its dynamics would be developed.

The present study is a follow-up on the LAPC study, which is aimed at addressing the second question, posed above. It represents one of the first efforts to study how rural growth linkages present an opportunity to be exploited to aid rural income and employment growth in South Africa. It relied heavily on foundations laid in work done in Asia and Africa by World Bank and IFPRI research teams.

A number of policy implications have been derived from this research. First, although only based on the 'local' level the findings clearly show that rural growth linkages in South Africa are particularly strong. They match those recorded from similar studies in elsewhere in Africa and Asia. This emphasizes a need for demand-led growth policies in the rural areas of South Africa. In other words, there is tremendous extra growth potential through boosting rural incomes, which in turn would stimulate demand for non-tradable goods and services. Under-employed resources would then be brought into production.

These consumption-side growth linkages in South Africa exist probably due to the significant inflow of pension and other remittances. It could be argued that this cash inflow has been responsible for erection of small-scale industries such as brick factories and small rural stores. Sale of local agricultural tradables would more appropriately serve to lessen dependency of rural areas on such transfer payments from cities.

Second, most of the extra growth in non-tradable sectors would come from spending on non-farm goods and services. Rural consumers prefer to spend their net income increases on non-farm non-tradables such as services (transport, education and health). Although policy should continue to aid supply-responsiveness of these items it should especially appreciate that survival of these items will hinge on income growth from some other tradable source.

Last, tradable agricultural commodities that possess a comparative advantage have potential to act as the initial stimulus for the non-tradable non-farm sector. Whilst this has not been analyzed here, evidence from Ngqangweni, *et al.* (1998) point towards livestock and citrus in the Eastern Cape province. Investments in support services such as extension and training, credit, infrastructure, research and information is therefore strongly warranted as this would clearly lead to multiplied benefits for the rural areas.

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