Pathways out of poverty in South Sudan, the case of Renk County

Research Paper

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In the present paper the results of poverty prevalence and income inequality; poverty profile; and poverty determinants have been examined to pick out critical factors that highly influence poverty in the South Sudan – the case of Renk County. Then after, the critical factors were picked up and simulated into a number of scenarios that are useful for designing appropriate pro-poor policies that may help in alleviating poverty status in the south Sudan. The stated scenarios are the government shoulder: (1) 50 percent of the health expenses; (2) 50 percent of the health and education expense; (3) 50 percent for health, education, water and electricity supply expenses; (4) 100 percent of the health costs; (5) 100 percent of the health and education expenses; and (6) 100 percent of the health, education, water and electricity supply expenses. The results of the simulation show gradual reduction in poverty incidence (P0), gap (P1) and severity (P2) for urban and rural households. Simulation results showed that it is imperative to involve the government more closely in providing the social amenities especially supply of drinking water, health, education and electricity services to relieve pressure off the poor in both urban and rural societies in South Sudan.

Key words: South Sudan, poverty, pro-poor policies, pathways.

INTRODUCTION

The former South Sudan was developed into the world's newest country in July 2011 following a historic referendum on self-determination that took place in January 2011 (South Sudan National Bureau of Statistics (SSNBS) 2008, Ahmed et al., 2013).

Prior to secession of the South Sudan, The Upper Nile state is the fourth biggest state in the South Sudan by population with about thousand inhabitants in 2010, which constitutes 12% of the total population in the country (Ahmed, et. Al., 2013) SSNBS, 2010). The state has 12 counties of which the Rank County is the second biggest by population with 137,750 inhabitants, which constitutes 14.3% of the state's population. Accordingly, the Renk County is selected as a case study (Ahmed et al., 2013)

According to Ahmed et.al (2013), Renk County has an area of 23 thousand square kilometers and is located in the northern part of the state. Its climate belongs to the semi-arid zone with annual average rainfall ranging between 400-800 mm (De Zuviria, 1992). The county depends on the White Nile River, a few seasonal streams, man-made dug pools (haffirs) and irrigation canals as the main sources of drinking water (Anyong, 2007).

The county population amounted to 137750 persons (CBS, 2009 and SSCCSE, 2009). The income earned by most of the population in the county is low and the majority of the people are involved in a subsistence economy and small scale farming on clay and heavy loamy soils (Onak, 2005). Some of the population also relies on collecting Arabic gum and fishing (Guvele et al., 2009). Rank County has one hospital and few health centers and clinics, 38 primary schools, 8 secondary schools and 2 universities (RCAU, 2008).

The present study was based on the results of the three published preceding, namely (1) The Prevalence of Poverty and Inequality in South Sudan: The Case of Renk County (Ahmed, et al., 2013); (2) Poverty profile in South Sudan, the case of Renk County (Ahmed, et al 2014b) and (3) Poverty determinants in South Sudan (Ahmed et al.,2014c).In the above mentioned publications a comprehensive household income and expenditure survey with a sample of 200 respondents representing urban and rural households in the Renk County of South Sudan prior to the secession of the South Sudan, 2011 was used.

The first paper aimed at assessing the prevalence of poverty and inequality in the study area. To do so, the cost of basic needs was used to establish both food poverty line and poverty line and then after estimating poverty incidence, gap and severity as well as estimating different income inequality measures.

The aim of poverty profile paper was to develop poverty profile, identify and analyses the community, households and household-head characteristics most closely associated with poverty in Renk County in South Sudan. Profile paper answered three research questions, namely: Who are the poor in the Renk County?; Where do they live (Urban vs. Rural)? And what are their community, households and household head characteristics?. In preparing such poverty profile, the estimated food Poverty line, poverty line, the Foster Greer Thorbecke (FGT) poverty measures (Poverty incidence, gap and severity), were used.

The third paper, Poverty determinants in South Sudan, aim to identify and analyzed the main determinants of poverty in South Sudan prior it secession from Sudan in 2011 using multiple regression analysis.

According to Ahmed et al.(2013) the major results of the poverty prevalence paper showed that 87% and 73% of the urban and rural households respectively fall below the calculated poverty lines. The estimated Gini coefficient was 18% and 20% for urban and rural households, respectively. Results of other equality measures show higher inequality between the poorest and richest segments of households as the richest quintile among urban households consumes five times that of the poorest, while that of the rural households consumes four folds the poorest quintile (Ahmed et al., 2013).

The results of the second paper, poverty profile, showed that the more poor households in South Sudan are more likely to belong to households with: large size; younger headed household, those who do not own certain types of livestock mainly cows, sheep and poultry; small size cultivated land in the rural area; female headed households, household head engaged in private sector employment, involvement in petty trading and Gangos operations (Ahmed et al., 2014 b).

The results of the poverty determinants analyses (Ahmed et al., 2014 c) indicate that secondary education, widow household heads, female household heads, government and private sector employees, petty traders, Gango, dysentery infection, mixed source of water are the main poverty determinants in the urban area. While university education, married household heads, household size, female household heads, farmers, Gango, petty traders, total agricultural land, goats' ownership and numbers of chicken per households are the rural poverty determinants. As spending on education, health, drinking water, and electricity are not only the responsibility of the households but also of the government.

Thus, the aims of this study are to pick out critical factors that highly influence poverty in the south Sudan. Then after the critical factors were picked up and simulated into a number of scenarios that are useful for designing appropriate pro-poor policies that may help in alleviating poverty status in the South Sudan.

METHODOLOGY

This study is based on three preceding published articles, the analytical techniques used among other include:

FGT and Income inequality measures

According to Ahmed et al. (2013), for comprehensive assessment of the poverty situation in the study area, the poverty prevalence and income inequality paper employs several methods of analysis. First, it employs the cost of the daily calories intake to construct a food poverty line for the study. Second, it uses Engel Curve Equation to estimate the total poverty line. Third, it uses Distributive Analysis/Analysis Distributive (DAD) software to calculate: (1) the Foster Greer Thornback (FGT) measures including the poverty incidence, poverty gap and poverty severity; (2) the inequality measures including Gini Coefficient, estimation and construction of the Lorenz curve, besides. Moreover, the Quintile Dispersion Ratio (QDR) and food share were also estimated as inequality measures, these measures were discussed and described in details in Ahmed et al., (2013).

Poverty profile

According to Ahmed et al. (2014b) a poverty profile illustrates the main facts concerning poverty situation in the county. It investigates the prototype of poverty to observe how poverty incidence, gap and severity vary based on: location and community, household and household head characteristics. In preparing such poverty profile descriptive statistics and cross tabulation were used.

Table 1. Description of the Simulation Scenarios.

	Abbreviation	Description: the government shoulder
Scenario 1	SC1	50 percent of the health expenses
Scenario 2	SC2	50 percent of the health and education expenses
Scenario 3	SC3	50 percent for health, education, water and electricity supply expenses
Scenario 4	SC4	100 percent of the health costs
Scenario 5	SC5	100 percent of the health and education expenses
Scenario 6	SC6	100 percent of the health, education, water and electricity supply expenses

Table 2. FGT Measures Simulation Results (%).

Scenarios	Urban			Rural		
	P0	P1	P2	P0	P1	P2
Base situation	87	30	11	73	17	5.4
SC1	85	22	7	68	14	4
SC2	84	20	5.5	65	14	4
SC3	80	17	4	62	12	3
SC4	78.6	15	3	61	12	3
SC5	73	11	2	59	10	3
SC6	63	6	0.7	52	8	2

Poverty determinants

Multiple regression analysis was used to estimate the poverty determinants where is per capita expenditure/day in Sudanese Pound (SDG), was used as dependent variable while the explanatory variables include: education (illiterate, pre-secondary, secondary and university); household head marital status (married and widow); household size; female household headed; primary occupations (farmers, government employees, private sector employees, petty traders, and Gango); secondary occupations (farmers, government employees, private sector employees, petty traders, and Gango); amenities (Typhoid, Bilharzias, Dysentery, water sources-public net, water sources- mixed) and credit (Ahmed et al., 2014c).

Pathways out of poverty scenarios

Before liberalization policies, government shouldered total responsibility of providing education as well as health services free of charge. After liberalization policies all the subsided services were removed and become at cost. During the post liberalization policies most of the poor people and low income household could not afford to pay for education and health charges even in Khartoum town the capital of the country, and the situation is even worse in the other towns and particularly in the rural areas that are negatively affected by the war. Currently the numbers of private schools are growing at a faster rate than those of the government schools. For instance 91 percent of the pre-school education is under the private sector (Ahmed, 2011). The announced

policies of the government aimed at providing water and electricity to both urban and rural areas in the country. By doing so the government will provide subsidy to reduce non-food spending and hence reduce poverty incidence. Accordingly we have selected 50 and 100 percentages to accommodate the whole range from full payment of charges (base) up to 100 percent free of charge services. The results of poverty, prevalence and income inequality measures, profile, and determinants have been examined to pick out critical factors that highly influence poverty in the county. The results have revealed high incidence of poverty in the urban and rural households. Spending on health, education, water and lighting sources constitute high share of the non-food items. Health alone accounted to 36 percent of the total non-food items spending. Moreover, spending on health, education, water and electricity are not only the responsibility of the households but are also of the government. Based on the above justification six scenarios have been developed (Table 1).

RESULTS AND DISCUSSION

Table 2 shows the FGT measures simulation results for the base situation as well as simulation scenarios. The results of the simulation show gradual reduction in poverty incidence (P0), gap (P1) and severity (P2) for urban and rural households. When increasing government responsibility for subsidizing health services from base to 50 percent, the poverty incidence in the urban areas drops sluggishly from 87 to 85 percent, while when increasing the subsidies from 50 percent to 100 percent the poverty incidence drops remarkably from 85
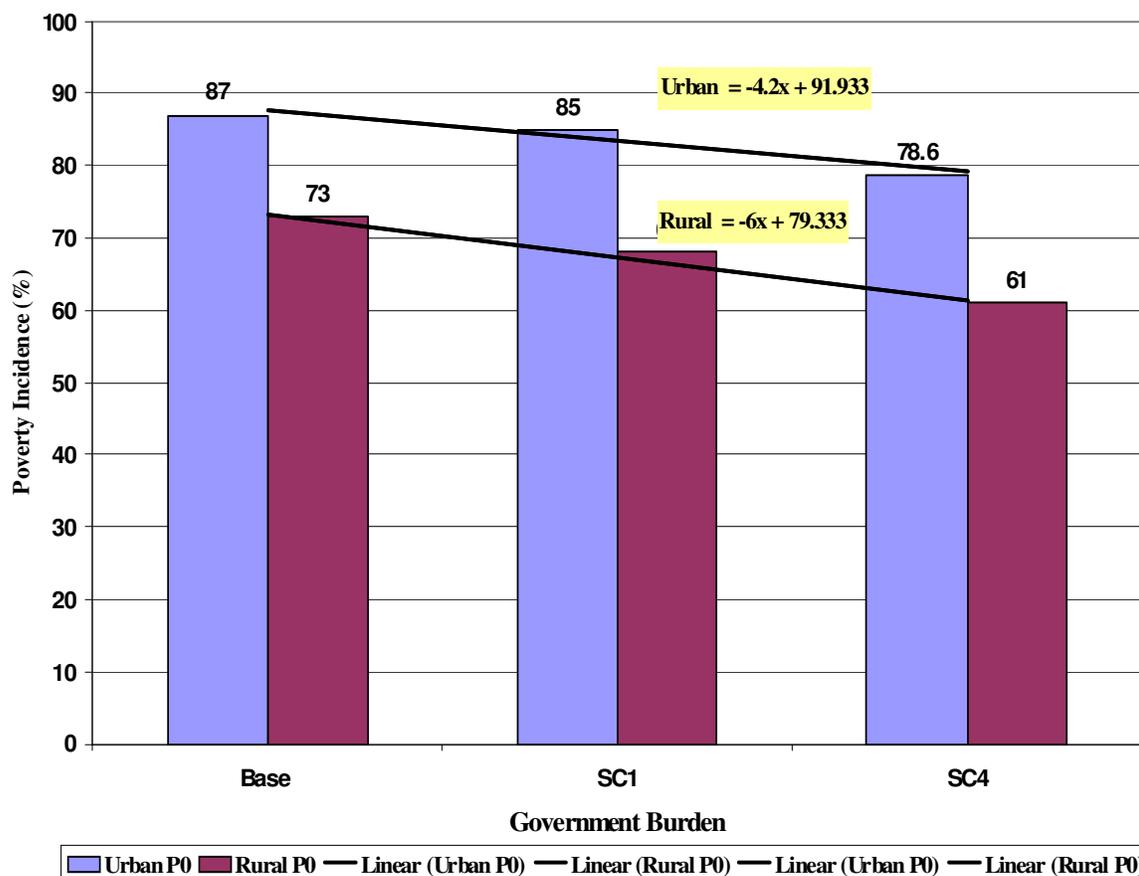
Figure 1. Government Subsidy to Health Service, (Sc1=50%, Sc4=100%), Compared to Non-subsidized Situation (Base).

percent to 78 percent (Table 2). Similarly the application of the simulation scenarios to the removal of cost burden by 50 and 100 percent successively would yield respective declines in poverty incidence and poverty gap and severity. The same results were obtained in the case of rural households. The Poverty incidence trend equations of the government subsidies to health (SC1 and SC4) showed declining trends in both urban and rural households. However, the reductions of the poverty incidence among rural households exceed that of the urban (Figure 1).

$$Urban_{SC1-SC4} = 919.33 - 4.2X \qquad 1$$

$$Rural_{SC1-SC4} = 79.33 - 6X \qquad 2$$

On the other hand when using government subsidies for education and health services by 50 percent (SC2) and 100 percent (SC5) the trend equation picked out the same reduction in poverty incidence among both urban and rural households (Figure 2).

$$Urban_{SC2-SC5} = 95.33 - 7X \qquad 3$$

$$rural_{SC2-SC5} = 79.667 - 7X \qquad 4$$

The third trend equation of SC3 and SC6, where the government assumed to subsidies, health, education, water and electricity for both the urban and rural households by 50 and 100 percent, the results yield a decline in poverty incidence of both household, but urban household registered higher reduction in poverty incidence than rural household (Figure 3).

$$Urban_{SC3-SC6.} = 100.67 - 12X \qquad 5$$

$$Urban_{SC2-SC5} = 83.333 - 10.5X \qquad 6$$

Conclusions and Recommendations

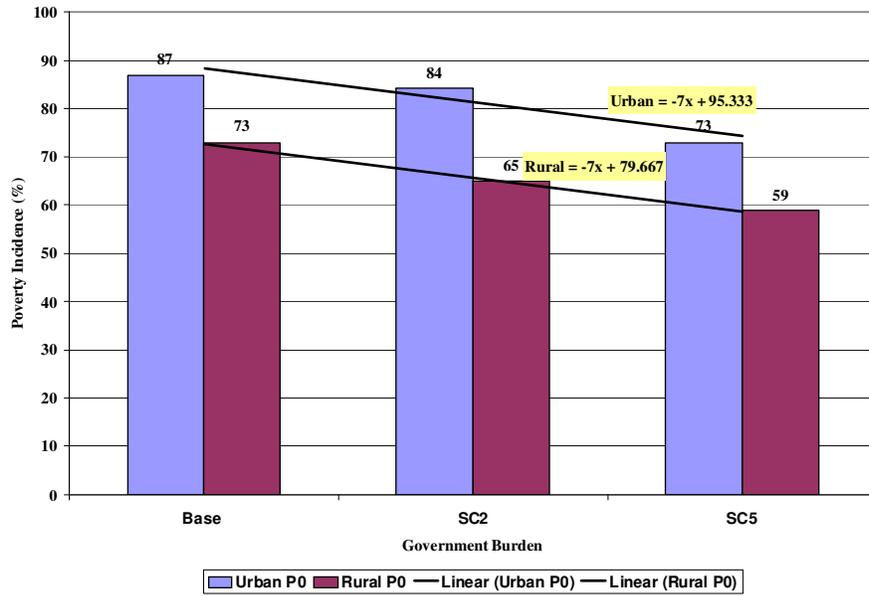In the present paper the results of poverty prevalence

Figure 2. Government Subsidy to Education and Health Services (Sc2=50%, Sc5=100%) Compared to Non-subsidized Situation (Base).
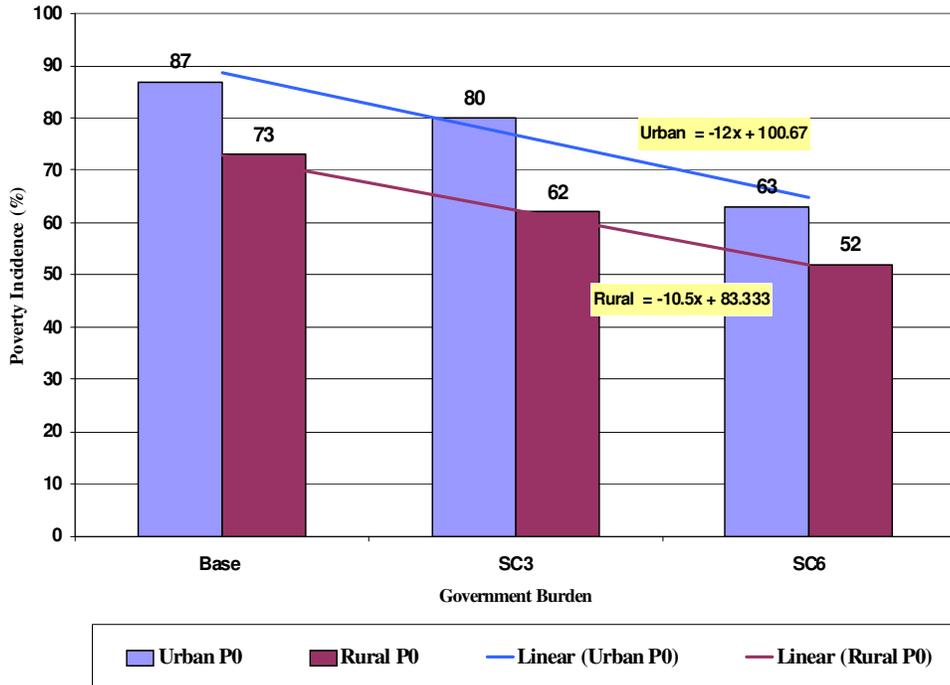

Figure 3. Government Subsidies to Health, Education, Water and Electricity Services, (Sc3=50%, Sc6=100%), Compared to Non-Subsidized Situation (Base).

and income inequality measures; poverty profile and determinants have been examined to pick out critical factors that highly influence poverty in the south Sudan.

Then after the critical factors were picked up and simulated into a number of scenarios that are useful for designing appropriate pro-poor policies that may help in

alleviating poverty status in the south Sudan**.** Simulation results showed that it is imperative to involve the government more closely in providing the social amenities especially supply of drinking water, health, education and electricity services to relieve pressure off the poor in both urban and rural societies**.** Moreover, It could be concluded that most of poverty determinants could be resolved if the government shoulder its responsibility in providing   education, health, drinking water, electricity services as well as providing sufficient salaries for the government employees' and creating, supporting and financing the income generating activities for the non-government employees for both urban and rural households in the State.

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