Dedication

To my family…

To the memory of my father…

To the soul of my brother Abu-Aglla…

To my Wife Mashair… and my loved one ...Mafaz…

Acknowledgement

Throughout my life, may special praise and thanks be to the Almighty God, Allah, the all Gracious, the all Merciful, for his innumerable bounties.

I'm particularly grateful to my supervisor **Prof: Nur Eldin Ahmed Maglad** for his close supervision, close follow-up-of this work through helpful suggestions and corrections during the research work and writing with enthusiasm, diligence, keen interest and patience.

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Abstract

The ultimate objective of this study is to evaluate the impact of public services programs on poverty and inequality in Gadarif State. To achieve the objectives of the study, the World Bank method of benefit incidence analysis (BIA) is used as techniques and tools to evaluate the impact of water, electricity, and health programs on income distribution of population or individual households to identify the current beneficiaries access (average benefit), and the beneficiaries of an increase in access (marginal benefit). Also, several poverty measures have been evaluated to design an effective policy for reducing inequality and poverty. The study adopted various methodological approaches to estimate poverty measures, such as the poverty line, poverty indices and relevant indicators of poverty; it estimated the poverty line based on the consumption pattern approach following the Cost of Basic Needs (CBN) method. Accordingly, the poverty line was estimated as the food poverty line, the non-food poverty line and the total poverty line. However, average and marginal benefit indicators are obtained for the various groups of Gadarif State geographic areas.

Given the time series data are not available in Gadarif State, a simple cross section data is used. Beside secondary data of the state expenditure on these programs, the primary data of Gadarif State from three sources; a household survey which we carried out in 2008, a community level survey data of the selected sample and consumer prices; where the field survey was used to collect data through informal interviews and group discussion bases, including community leaders. The study followed the method proposed by Sudan Household Health Survey (SHHS) 2006 for sample selection. Therefore, 40 clusters were allocated in the state, with the final sample size calculated at 1000 households (i.e., 40 clusters of Gadarif State X 25 households per cluster). In addition to these 40 clusters for community level data and 40 clusters for consumer prices are used; where the data was collected during the period of January 2008 up to December 2009.

The results indicate a widespread of poverty in Gadarif State where estimated of 60.4%, which is significantly high in rural areas where most of populations live and also estimated about 70%. i.e., small farmers are most vulnerable to poverty in rural areas in Gadarif State. This perhaps reflects the high weight of the poor who joined the rural areas as a result of the deterioration of agriculture sector elsewhere. On the other hand, a higher access rates of water and health programs than electricity program is indicated; this is due to low government expenditure to these programs and hence the limited population access in the latter two areas, and the need to pay to access these services instead of government program transfer. Water and health programs are most beneficial to the poor in Gadarif State, i.e., are most pro-poor and pro-urban areas, and displayed strong pro-poor effect and have a greater role in decreasing inequality and poverty; however participation rates raise as expenditure per person increases; and the average participation rate are actually highest for the poorest quintile. While electricity program has a lowest benefit incidence to the poor; and the average participation rate is only slightly higher for the richest quintile than the poorest. On the other hand, the rich population benefits most for all programs which are based in rural areas; this is

consistent with pro-rich and pro-rural distributional weights in the social welfare function of local governments for these programs in Gadarif State. At the margin, an expansion of water and health programs would be decidedly pro-poor, while an expansion of electricity program would be pro-rich.

Gadarif government should adopt rural, pro-poor policies; and locally balanced development should increase allocation of resources in the field of water and health programs to reduce poverty and inequality, and may choose to take into account distributional weights (strong pro-poor policy) in their implicit social welfare function in the field of water and health programs in general and in electricity program in particular. For example, an increase of government expenditure for each program by (1%) will reduce the poverty gap ratio by (26%) for all programs, (32%) for water program, (2%) for health, and (1%) of electricity program. However, absence of any individual program, will increase the headcount ratio by (water 64%, health 63% and electricity 63%), respectively; and would increase Gini index by (water 97%, electricity 59% and health 92%). A discontinuing of all programs will have a greater impact of increasing poverty by 64% and inequality by 52%.

While the results indicate that, most of population in Gadarif State depends on agriculture sector for their employment, income and consumption, we suggests that the priority of pro-poor policies for poverty alleviating in Gadarif State should be towards agricultural development, rural development and industrial development. Hence, land reform is more effective policy in the context of poverty reduction in Gadarif State. However, the policy makers should increase growth and make it more pro-poor (meaning more poverty reducing). A continuous evaluation must be made, to know the beneficiaries and non-beneficiaries, the characteristics and the places of their residence; and it is important for those who make economic policies to distribute public services in a way which make the poor benefit most from these services. Knowing the effect of these public services programs on the poor, conduct to planning with precision and efficacy so as to achieve the objectives of the eradication of poverty through adoption of sectral pro-poor polices that accelerate the speed through which the poor benefit more and faster.

الـمستـخـلص

إنّ الهدفَ النهائيَ من الدراسة هو تقييم اثر برامج الخدمات الحكومية على الفقر وتوزيع الدخلَ بولاية القضارف. لتحقيق أهداف الدراسة، تم إتباع منهجية البنك الدولي بتحليل استجابات المنافع كتقنيات وأدواتلتَقييم اثر برنامج خدمات الماء والكهرباء والصحةَ على الفقر وتوزيع الدخلَلتَمييز المستفيدين الحاليين و الذين سيستفيدون من زيادة الإنفاق علي هذه البرامج. بالإضافة إلى تقدير عدد من مؤشرات الفقر المختلفةلتَصميم السياساتَ الاقتصاديةفعالّةَ لخفض حدة الفقر وتحسين عدالة توزيع الدخل بالولاية.

تَبَنّتْ الدراسةُ مناهجُمُخْتَلِفة لتقدير مؤشرات الفقر، كخط الفقر، مقاييس ومؤشرات الفقر الأخرى ذات العلاقة. تم تقدير خط الفقر علي أساس منهجية النمط الغذائي بإتباع طريقةكلفةَ الحاجات الأساسية. وفقاً لذلك، حسب خط الفقر علي أساس خط الفقر الغذائي، خط الفقر غير الغذائي وخط الفقر الكلّي. كما تم تقدير نسبة الاستفادة الحالية والمستقبلية من هذه البرامج استنادا على الُأخْتِلاف الجغرافي للمناطق بالولاية. وبما انه لا توجد بيانات سلسلة زمنية لتقييم اثر هذه البرامج، استخدمت الدراسة بالإضافة إلي بيانات الإنفاق الحكومي علي هذه البرامج، بيانات مقطعية عرضية من ثلاث مصادر هي: بياناتَ المسح الأسري، بيانات مسح الخدمات لمجتمع الدراسة ومؤشّر أسعار السلع الاستهلاكية ، لَجْمع هذه البياناتِ استخدمت المقابلاتِ الشخصية ومُناقشةَ المجموعات السكانية حيث تضمن ذلك وجهاتِ نظر قيادات المجتمع. فيما يتعلق بعينة الدراسة، اتبعتَالدراسةَ منهجية المسح الأسري الصحي بالسودان لسنة 2006؛ حيث تم اختيار 40 قرية أو حي بالولاية لتمثل عينة الدراسة وبمسح 25 أسرة لكل قرية أو حي يصبح حجم العينة النهائي 1000 أسرة بالإضافة ألي 40 استبانة لبيانات مجتمع الدراسة و40 استبانة خاصة بأسعار السلع الاستهلاكية؛ حيث أن هذه البيانات تم جمعها في الفترة من يناير 2008 إلى ديسمبر 2009.

تُشيرُ نَتائِجُ الدراسة إلي الانتشار الواسع للفقر بالولاية والذي قد بلغت نسبته 60.4%، خاصة في المناطق الريفية التي يعيش فيها أغلب السكانِ حيث بلغت نسبته 70%. وبمعنى آخر؛ صغار المزارعين أكثر عرضة للفقر في المناطق الريفية. هذا يَعْكِسُ أن النسبة العالية للفقر في المناطق الريفية نتيجة لتدهورَ القطاعِ الزراعي. من الناحية الأخرى، نسَبة حصول السكان على برنامجي الماءِ والصحة أعلى بكثير مقارنة ببرنامج الكهرباء؛ و بسبب انخفاض الإنفاق الحكومي علي هذه البرامج والذي حال دون حصول السكانَ عليها يؤدي إلي زيادة مدفوعاتهم للحصول على هذه البرامجبدلاً مِنْ الإنفاق الحكومي عليها. الفقراء أكثر استجابة للاستفادة من برنامجي الماء و الصحةَ ؛ البرنامجان متحيزان أكثر للفقراء في المناطق الحضريةً ولَها الدور الأعظم و القوي لخفض عدمِ عدالة توزيع الدخل والفقر؛ كذلك مشاركة السكان للحصول علي هذه البرامج ترتفع مع زيادة الإنفاق الاستهلاكي لهم؛ و تزيد نسبة المشاركة في هذه البرامج لمجموعات الفقر المتوسطة. بينما الأغنياء أكثر استجابة للاستفادة من برنامج الكهرباءِ من الفقراء؛ ونسبة مشاركة السكان في البرنامج اكبر للشرائح الغنية من الفقيرة. من الناحية الأخرى، الأغنياء أكثر المستفيدين من كل هذه البرامج حيث أن أغلبهم في المناطق الريفية؛ هذه النتيجةمتّسقة مع تحيز هذه البرامج للأغنياء دون الفقراء وبالتالي يعكس ذلك الدالة الضمنية للرفاهية ألاجتماعية لحكومة الولاية لهذه البرامج. وكذلك إذا كان هناك تمويل جديد لبرنامجي الصحةَ والماءَ سيفيد الفقراء أكثر من الأغنياء، بينما التوسّع في برنامجِ الكهرباءسيفيد الأغنياء أكثر من الفقراءَ .

يَجبُ علي حكومة الولاية أَنْ تَتَبّنى سياسات تنموية متوازنة ومتحيزة للفقراء أكثر من الأغنياء وللمناطق الريفية أكثر من المناطق الحضرية؛ وأَنتَزيدَ الحكومة تخصيصَ الموارد لبرنامجي الماءِ والصحة مع الأخذ في الحسبان السياسات المتحيزة للفقراء وذلك بتغيير الدالة الضمنية للرفاهية الاجتماعية، وكذلك زيادة الإنفاق الحكومي لبرنامجِ الكهرباء بشكل خاص ليصبح أكثر تحيزا للفقراء من الأغنياء. فعلي سبيل المثال، زيادة الإنفاق الحكومي لكل برنامج بنسبة 1% سيقلل فجوة الفقر بنسبة 26% لكل البرامج، بينما زيادة الإنفاق الحكومي بنسبة1% لبرنامج الماء سيقلل فجوة الفقر بنسبة 32% و 2% لبرنامج الصحة و1% لبرنامج الكهرباء. كذلك توقف أو غياب هذه البرامج سيزيد انتشار الفقر بنسبة 64% وعدم عدالة توزيع الدخل بنسبة 52%، بينما توقف برنامج الماء فقط سيزيد انتشار الفقر بنسبة 64% وعدم عدالة توزيع الدخل بنسبة 97%، توقف برنامج الصحة سيزيد انتشار الفقر بنسبة 63% وعدم عدالة توزيع الدخل بنسبة 92% وغياب برنامج الكهرباء سيزيد انتشار الفقر بنسبة 63% وعدم عدالة توزيع الدخل بنسبة 60%.

وبما أن نتائج الدراسة أشارت إلي أن أغلب السكانِ في الولايةيعتَمدون على القطاعِ الزراعي في توظيفِهمودخلِهم واستهلاكهم، فتقترح الدراسة بأن تكون أولويات السياسات الحكومية المتحيزة للفقراء نحو التنمية الزراعية و الريفية والتنمية الصناعية. وكذلك، سياسات الإصلاح الزراعي أكثر فعّالية ضمن سياقِ تخفيضِ الفقر في الولاية وبالتالي، يَجبُ علي صُنّاع القرارات الاقتصادية أَنْ يعملوا علي زيادة النمو الاقتصادي المتحيز للفقراء وتوزيعُ مكاسبه ليصبح الفقراء أكثر المستفيدين منه. كما يجب علي صُنّاع القرارات الاقتصادية أيضا إجراء التقييمِ المستمر لهذه البرامج لمعْرِفة المستفيدين و غير المستفيدين ومعرفة خصائصِهم وأماكنِسكنِهملتَوزيع الخدمات الحكوميةِ بطريقة تجعل المنفعةَ أكثر للشرائح الفقيرة في المجتمع من خلال التخطيط الجيد والكفاءة العالية لمحاربة الفقر بالولاية بتبني سياسات اقتصادية قطاعية ومتحيزة للفقراء بحيث تجعل معدلات استفادتهم أكثر وأسرع من هذه البرامج.

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Abbreviations

ABS	Agricultural Bank of Sudan
BIA	Benefit Incidence Analysis
CBN	Cost of Basic Needs
CGE	Computable General Equilibrium
CPI	Consumer Price Index
FAO	Food and Agriculture Organization
FPL	Food Poverty Line
GDP	Gross Domestic Production
ILO	International Labour Organization
LDCs	Less Developing Countries
MDGs	Millennium Development Goals
MLFS	Migration and Labour Force Survey
MMA	Money Metric Approach
NBHS	National Baseline Household Survey
NGOs	Non Government Organizations
OLS	Ordinary Least Square
PSU	Primary Sampling Unit
SHHS	Sudan Household Health Survey
UNCHS	United Nations Cairo Household Survey
UNICEF	United Nations Children's Fund
WB	World Bank
WHO	World Health Organization