PROVISION OF PUBLIC GOODS AND SERVICES AND QUALITY OF LIFE: A SURVEY OF FOUR DISTRICT IN GHANA

By

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1. Introduction

Any attempt to reduce poverty and thus improve the quality of life requires an increased supply of basic services and infrastructure[2]. These basic services and infrastructure are mainly public goods and services. Better access to basic health, education, water supply and sanitation services generally requires an increased supply of these services – which in most cases implies increased investment in service-related facilities.

The outcomes of the better access to public goods and services are reflected in the quality of life of the users. This study focuses on health and education as public goods and services[3] and test the hypothesis that provision of public goods and services leads to improved outcomes or quality of life.

The remainder of the paper is organised as follows: section 2 explores the linkages between provision of public goods and services and quality of life while section 3 is devoted to the Ghanaian setting. Section 4 discusses the data needs and method of analysis. The results and discussions are presented in section 5 and the conclusions are made in section 6.

2. Linkages between Public Goods and Services and Quality of Life

Provision of public goods and services is the main prerogative of Government, especially since these goods and services are generally financed by public funds.

[2] Basic services and infrastructure are at least of two kinds: economic and social services and infrastructure.

[3] Public good/service is a commodity for which use of a unit of the good/service by one agent does not preclude its use by other agents. This good/service possess the feature that they are non-depletable. In this study public goods/services are commodities that have an inherently 'public' character. They can be provided by the local or central government or privately.

Some provision[4] activities (especially planning) may be devolved to or at least shared with community groups and civil societies.

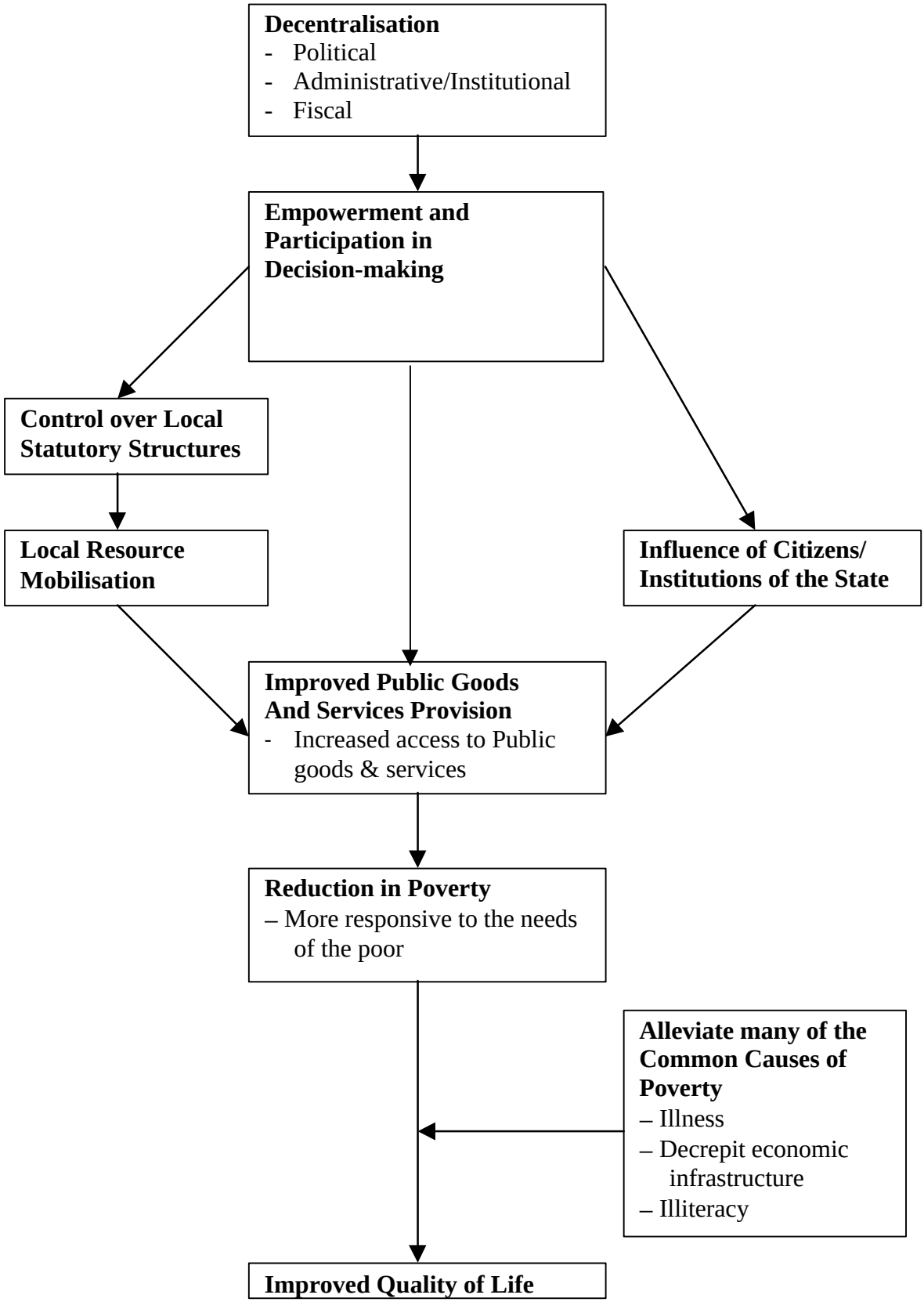
According to Alderman (1998) and Jong et al. (1999) decentralisation has shown that local government officials are likely to be better informed about the members of their communities and better able to recognise those who are genuinely poor. Moreover, because poverty in one community may be characterised by different indicators than poverty in another community, a decentralised system may also increase efficiency of access to public goods and services by allowing local authorities to determine the local eligibility criteria.

Through empowerment 'space' is created for people to effectively participate in decision-making processes (including setting of priorities on the allocation of aid budget). When people are given greater control over local statutory structures, they may be motivated to pay more to the common good (resource mobilisation). This process may also be seen as a more effective means of providing basic social services, thus alleviating many of the common causes of poverty such as illness and illiteracy, which in turn improve the quality of life of the citizens (see figure 1).

The quality of life is defined broadly as the degree to which a person enjoys the important possibilities of his or her life (Center for Health Promotion). The possibilities result from the opportunities and limitations each person has in his or her life. The sensitivity to the specific life situation of individual people also presents a limitation, namely that people may be highly satisfied with the important possibilities of their lives within an environment that is of poor quality. This may result from people being unaware that better quality is possible, or from people being consciously aware that they have to suppress the importance of some possibilities because of their

[4] Provision functions include planning, arranging financing, assuming responsibility that management and maintenance are undertaken and, ultimately, assuming accountability of service quality.

Figure 1: Linkage between Provision of Public Goods and Services and the Quality of Life



present circumstances. Thus the quality of life needs to include the quality of the environment in which the person lives.

3. The Ghanaian Setting – Provision of Health Care and Education

Health

The health sector in Ghana is managed by two institutions. The Ministry of Health (MOH) and the Ghana Health Services (GHS). The MOH is responsible for budget allocation and policy definition, while GHS, with offices both at the regional and district levels, is responsible for the implementation of the budget and policies. In addition to these two institutions, non-governmental organisations are also involved in the provision of health care.

Health facilities in Ghana consist of four levels in the urban areas and five levels in the rural area. The health posts are the first-level health care providers in rural areas. The MOH also provides mobile health services, including immunisation and family planning, to rural residents. The higher-level health providers (in descending order) are tertiary hospitals, regional hospitals, district hospitals, and health centers or clinics. Ghana has also a network of maternal homes (although they are mainly privately owned) and many private clinics that provide health services.

There are also four main financial sources for public health services. These are the Government of Ghana (GOG), financial credits, internally generated funds (IGF)[5] and donor-pooled health funds. The GOG provides free public health services for immunisation and certain communicable diseases. It also provides free health services for vulnerable groups like children under 5 years old, people over 70 years old and

[5] IGF are the fees collected from patients who use the services and buy drugs provided by the health facilities.

pregnant women. The GOG also pays salaries of all public health personnel through the banking system.

Education

Since 1987, the GOG has been reforming the education system. One of the main reforms was to change the pre-tertiary education system from 17 to 12 years, with 6 years of primary school, 3 years of junior secondary school (JSS) and 3 years of senior secondary school (SSS). The attendance of primary and junior secondary schools, which is the basic education, is compulsory and free[6]. There are also a significant number of private schools, especially at the primary and JSS levels.

The GOG finances and manages the education system through two institutions, the Ministry of Education (MOE) and the Ghana Education Service (GES). While the MOE primarily oversees budget allocation and education policies, the GES (with offices at both the regional and district levels) implement the budget and policies. Like in the health sector, the GOG pays the salaries of all government employees' in the education sector.

The other channels that distribute recurrent expenditures from the MOE to the schools are the district GES and the GES headquarters. The district GES receives its budget from the GES headquarters and distributes the budget to schools. The budgets that pass through the district GES are recurrent expenditures (excluding salaries). The GES headquarters also receive allocations to procure education materials, such as textbooks and supplies, and it distributes the materials either through the district GES or directly to the schools.

[6] In practice, basic education is not completely free because all schools obligatory collect contributions from students to supplement government subsidies.

In addition to the above stated channels that distribute recurrent expenditure in the health and education sectors, the District Assembly Common Fund (DACF) distributes the budget for rehabilitation and development purposes in all public sectors (which include health and education). The DACF receives budget allocations from the Ministry of Finance and channels the funding to the district assembly office, which in-turn distributes the budget among all public facilities. Table 1 shows some indicators of the outcome or quality of life of the health care and education services in Ghana.

4. Data and Method of Analysis

Data

A household and community survey of four districts in Ghana carried out using a structured questionnaire in 2000 is used in this study. In all, about 400 households were interviewed from 7 communities in the 4 districts.

Table 1: Indicators of Quality of Life in Ghana

Health	
Under 5 Mortality Rate (per 1000)	
Male (1999)	118
Female (1999)	109
Life Expectancy at birth (years)	
Male (1999)	54.2
Female (1999)	55.6
Average Population per Health Facility (per 1000)	11
% of Population with Access to Health Services*	
Urban	80
Rural	37
Education	
Gross Enrolment Ratio	
Primary (1997)	84
Secondary (1997)	43
Tertiary	1.4
Literacy Rate (Population 15+) (1999)	70
School-Age Children per Teacher	
Primary	43
Junior Secondary School	32
School-Age Children per Classroom	
Primary	46
Junior Secondary School	60

Source: Selected tables from Canagarajah and Xiao Ye (2001).

* Defined as people who take 30 minutes or less to reach the nearest health facility.

Empirical Model

The ultimate outcome of health and education depends on both the quantity and quality of the services provided. The quantity variables are treated as predetermined and focus is on the quality of the outcome. Thus, the following empirical model is estimated using ordinary least squares (OLS):

$$Q_{ji} = Q_{ji} (E_i, Y_i, H_i, C_i , DC_i)$$

Where

Q is an indicator of the quality of the outcome of the public service (quality of life)

E is the expenditure on the public service

H is the household (individual) characteristics

C is the community (environment) characteristics

DC is an indicator of the level of decentralisaton

j is 1 and 2 for health and education services, respectively

i is the household (individual)

Health and education outcome indicators such as level of school enrolment and infant mortality rate (under 5 years old)[7] are estimated from the household data collected in the survey and are used as the dependent variables in the empirical analysis. Improved access to good quality services is a key input in influencing health and education outcomes (Mahal et al., 2000).

[7] The enrolment rate is the number of children in the age group 6-14 years currently enrolled in school. The infant mortality rate (under 5) is the ration of all children ever born to the woman in the household survey sample who died before age 5 to all live births, for the same set of woman

Enrolment Status

The enrolment rate of basic school age children is likely to be influenced by several factors, some raising the demand for schooling, and other affecting the supply and quality of schooling. Factors that are likely to directly increase enrolment rate via increase demand for schooling include the socio-economic status, the level of parental interest in educating their children (investing time and money on children's education, their participation in parent teacher association), the opportunity cost of schooling and simply better access to quality schooling in terms of infrastructure, cirricula and teachers (World Bank 1997).

The increased availability of schooling depends on various factors. Increased government spending is one important factor. Also important is the distance of the community from urban centers. This is crucial in determining whether schools (private or public) are able to attract high quality teachers, and regularity of their attendance. Civil society groups such as non-governmental organisations and other community based groups such as parent teacher associations can promote the quality of schooling by enforcing better accountability among teachers and officials of the education department (Probe Team, 1999 and World Bank, 1997).

Infant Mortality Rate (under 5 years old)

The factors influencing the infant mortality rate include access to health facilities and personnel, the socio-economic status of the household in terms of education, income, clean water and sanitation facilities. As in the case of education, non-governmental organisations have the potential to improve the quality of health services, either by directly providing the service, or by increasing accountability of public sector providers through advocacy and other actions (Robinson and White, 1997).

Finally, in both models, participation in decision-making generally at the local community level is used as a proxy for the level of decentralisation.

5. Results and Discussions

The results of the estimated model are presented in tables 2 and 3. The results for health outcomes (table 2) confirms some of the a priori expectations. The household income has a positive impact on infant mortality and also significant. Presence of a public health center in the community and general participation in decision making at the community level also has a positive impact on infant mortality rate. The share of health in total household expenditures is negatively correlated with infant mortality rate and highly significant. This does not capture the quality of the health outcome and may be due to the government policy of free medical care for children under 5 years old. There is a negative impact of civil society/NGO in the provision or influence of the quality of the health care.

The result of the education outcome model is shown in table 3. The household income, share of education in total household expenditures, presence of civil society/NGO in the provision and influence of the quality of education and presence of a parent teacher association in the schools has a positive impact on education outcome and quality. The coefficients of distance to the nearest bus stop and to the nearest urban center are positively correlated with enrolment.

Table 2: Estimated Model of Health Outcome

Dependent variable: Infant Mortality Rate (under 5 years old)

	Coefficients	T-values
Constant	2.106 (1.843)	1.143
Log household income	-0.254 (0.102)	-2.502*
Dummy for Public health center in community	-0.339 (0.642)	-0.528
Distance to nearest health center	-0.009 (0.057)	-0.157
Dummy for Civil society/NGO in health	0.237 (0.077)	3.056*
Participation in decision making	-0.061 (0.084)	-0.732
Distance to the nearest urban center	-0.008 (0.024)	-0.345
Distance to the nearest bus stop	-0.243 (0.753)	-0.323
Dummy for potable water	0.144 (0.121)	1.197
Dummy for higher education of household head	0.099 (0.090)	1.103
Dummy for female head of household	-0.094 (0.076)	-1.245
Share of health in total household expenditures	1.003 (0.273)	3.678*

N = 38
F-test = 2.458*
R-square = 0.50

( ) standard errors
* significant at 0.05 level

Table 3: Estimated Model of Education Outcome

Dependent variable: school enrolment in basic education

	Coefficient	T-value
Constant	-0.234 (1.983)	-0.118
Log household income	0.158 (0.334)	0.474
Dummy for higher education of household head	-0.390 (0.306)	-1.274
Dummy for female head of household	-0.379 (0.274)	-1.381
Share of education in total household expenditures	9.015 (2.371)	3.803*
Distance to the nearest bus stop	0.350 (0.639)	0.549
Distance to the nearest urban center	0.015 (0.035)	0.431
Dummy for Civil society/NGO in education	0.298 (0.377)	0.792
Participation in decision making	-0.093 (0.267)	-0.348
Presence of a PTA	0.534 (0.696)	0.767

N = 132
F-test = 2.419*
R-square = 0.15

( ) standard errors
* significant at 0.05 level

6. Conclusions

This paper uses data from a household and community survey conducted in 2000 to test the hypothesis that provision of public goods and services leads to an improved quality of life of Ghanaians. The empirical findings suggest that the provision of public goods and services improve the quality of life (though some variables showed the expected signs they were not significant). The extent of improvement depends on the type of public good/service, how it is provided and the role of the community (in influencing decisions) and civil societies/NGO (in the provision and influence of quality of the public good/service).

For example, while the presence of civil society/NGO in the provision of public goods/services had a positive impact on education outcome it had a negative impact on the health outcomes. Household income had a positive impact on both the education and health outcomes.

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