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Accessibility to Health Care Facilities: A Panacea for Sustainable Rural Development in Osun State Southwestern, Nigeria

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ABSTRACT Accessibility to health care facilities has been identified as a major indicator of development. The importance of adequate health care facilities in providing sustainable rural development can therefore not be over- emphasized. Convergence of opinions agreed that lack of basic health care facilities have led to inefficiency in production, declining productivity, reduced life expectance and increased infant mortality rate. In this paper we examine accessibility of people to healthcare facility especially in rural areas. Our findings indicate that the available healthcare facilities are grossly inadequate and their distribution depicts serious inequality. We conclude that there is an urgent need for serious intervention on the part of the government in the provision of health care facilities in the state focused on equitable distribution and accessibility to enhance sustainable rural development.

INTRODUCTION

The potential significance of economic infrastructure (which are often termed public utilities) in the process of economic growth has been recognized for a long time. This derives from the characteristics of infrastructure output as both a final good providing services to consumers (e.g. power for radio and television sets) and as an intermediate input that enter into the production of other sector and raise the productivity of factor employed there (e.g. power an input into manufacturing). In addition the availability of an efficient infrastructure network can stimulate new investment in another sector. Conversely shortage of infrastructure in certain areas can raise costs.

The lack of infrastructures in rural sector has led to inefficiency in production and declining productivity increase. The rural areas constitutes a reservoir for generation of surplus due to untapped resources and there is substantial room for efficiency if the problem of lack of infrastructures such as poor roads. Poor water, electricity and inadequate health care facilities can be eliminated. Inadequate or lack of infrastructure has serious impact on the well- being of the rural populace. In fact, the increased level of poverty in the rural areas of Nigeria is further compounded by the inaccessibility to public infrastructure particularly health care facilities. Despite the clamor by the successive government for improved health condition for their citizen, the situation on ground for now is far from been adequate. The clamour for sustainable rural development can only be meaningful if, adequate provision for their health is made available to them with easy access and at affordable costs.

Provision for adequate health facilities in the rural areas required adequate information and data about the present situation in order to determine the areas which required what, and what strategies to adopt in providing the this facility where there are gross inadequacy. Thus paper examined the accessibility to healthcare facilities in the rural areas of Osun State and its implication for sustainable development is highlighted.

HEALTH AND SUSTAINBLE DEVELOPMENT

Increased productivity by individual in all sectors of the economic depends on the health condition of the labour force. While improved health and quality of life depends to a great extent on the availability of, and accessibility to health care facilities at affordable cost.

The impact of inaccessible health care service has already taken its toll in the developed countries. For instance, Benachi and Yasui (1999) have identified that there is a positive correlation between deprivation and mortality rate. In their analysis of 2200 small areas of Spain they obtained two indices of deprivation: one related to over crowding illiteracy and low income and the other related mainly with unemployment. They concluded that, there was excess mortality in deprived areas estimated at 35,000 deaths. Thus they called for government

intervention in the deprived small areas of the country. They also found that there are inequalities in other aspects related to health care, such as for example, waiting list times, or the access to preventive health services.

In another study in Northern areas of England and Wales; Law and Morries (1998) attributed excess mortality from diabetes and chronic renal failure in rural areas, to differences in health care facilities. This is supported with the evidence that Diabetic patient in rural areas were less likely to attend a diabetic clinic since hospital with such specialized health service are remote from the rural areas.

Most developing countries of the world and particularly Africa, faces more serious health problems unlike the developed countries. Africans on the average face lower life expectancies, higher infant mortality rates and a greater risk of disease than people in most other part of the world. Many people in Africa suffer from preventable disease, which are rare or easily treated in the developed countries: diseases like cholera diarrhea and malaria. Particularly hard hit by some of these diseases are African's children, many of whom die before reaching 5 year of age. According to WHO (1998), African's children under 5 accounted for 40 percent of all death in 1995.

There are numerous causes for the thousand of health problem, which afflict poverty. The 1998 WHO world Health Report sums this up clearly:

"*poverty is the main reason why babies are not vaccinated, why clear water and sanitation are not provided, why curative drugs and other treatment are unavailable and why mothers die in child birth. It is the underlying cause of reduced life expectancy, handicap, disability and starvation. Poverty is a major contributor to mental illness, stress, suicide, and family disintegration. Every years in the developing world 12.2 million children under five years die, most of them from causes which could be prevented for just a few US cents per child. They die largely because of World indifference, but most of all they die because they are poor, (WHO, 1998).*

Probably the single greatest cause of infectious disease in much of Africa is contaminated water Cholera is often spread through the water supply, as many of the diarrhea diseases, which are particular deadly to young children. Most Africans do not have easy or affordable access to health care. Without adequate care, disease, which might readily be cure go untreated, frequently resulting in death.

Seventy percent of the total population in Nigeria still lives in the rural areas. These rural areas are blessed with abundant mineral resources most of which have not been exploited. The few whose resources appear explored are living with extensive damage to the rural environment (Agbonoga, 1998). Over 80 percent of these rural populations are engaged in agricultural pursuit and majority of them are still using unscientific methods characterized with low yield. Aloba (1983) and Akinola (1997) confirm that only few roads in the rural areas are partially motorable during the short peak-period of the dry season. This adversely affected evacuation of agricultural production to urban centers. Sources of water supply in most rural areas are streams, rivers, shallow wells and rain water, which are often subject of variations with climate and many of them are unsafe for domestic uses. These unsafe sources of rural water supply are responsible for high prevalence of water- borne diseases in these areas.

Due to lack of social infrastructure facilities (i.e. water, electricity roads and health care): the rural areas have not been attracting personnel in the few available institutions like primary and secondary schools, dispensaries, maternity centers etc. when these personnel are posted to the rural areas rather than stay and work in these areas, they prefer to live in nearby urban centers and continue to shuttle between the urban centers and the location of their posting in the rural areas. The shuttling in most cases is usually one day per week affairs. This does not allow for meaningful contribution through their work performance to the welfare of the rural people. Hence rural areas are characterized with high illiteracy and mortality rates. The rural population of many developing countries including Nigera has been suffering different kinds of deprivation. Quality of services for many rural people is considerably poorer than for urban areas (Okafor and Onokerhoraye, 1980).

The resultant effect of inadequate access to health care delivery, on sustainable development can best be exemplified by the number of man hour loss annually to malaria alone. These culminate into lower productivity by workers. In the rural areas, the problem is more

compounded as inadequate access to health care have reduced the life expectancy of rural inhabitants and infant mortality is on the increase.

Rural people, waste a lot of time getting to the nearest health care centre, of which they have to trek long distance on many occasion. They easily fall victims of quacks and semi- qualified medical staffs leading at times to preventable death. The scenario painted above depicted the situation in many states of the federation. Despite the slogan of health for all by years 2000 and even the proclaimed free health policy by some states government, the accessibility to health care facilities are still far from been adequate.

THE STUDY AREA

Osun State which was created on August 27th 1991, is located within latitude 6.55 and 8.10 North and longitude 3.55 and 5.05 East. It covers total landmass of about 12820 square kilometers. Politically, the state is divided into three senatorial, presently it has 30 local government councils. It is situated within the cocoa belt of Southwestern Nigeria. Though there are patches of savanna in the Northern part of the state much of the state areas are still under tropical rain forest vegetation type with large expanse of forest around Ife South, Ife North and Isokan LGAs.

According to the 1991 National population census. Osun States has a population of 2.158 million inhabitants made up of 1.043 million males and 1.11million female. Osun States may be classified as largely rural states with 19 out 30 LGAs been non- urban local government councils, accounting for 60 percent of the 1991 population. That is, local government with one or two small towns as the principal settlement while the remaining population are in the rural areas.

Since the last census in 1991, the population in each local government has increased tremendously. Using a growth rate of 3.5 percent the projected population of Osun State for 2001 now stood at 3,044,276, while the rural population has risen to 1.817,290 (see Table 1)

Table 1: Population distribution by local government in Osun State

Local Government	*Population 1991*	*Projected population 2001*
Ayedade	94777	133692
Ayedire	41636	58751
Atakumosa East	38105	53751
Atakumosa West	60037	84688
Boluwaduro	42392	116215
Boripe	82387	97879
Ede North	69388	97879
Ede South	72975	102939
Egbedore	40293	56837
Ejigbo	69366	97848
Ife Central	96580	136236
Ife East	95877	135216
Ife North	127677	180101
Ife south	88170	124373
Ifedayo	24671	34801
Ifelodun	76565	18003
Ila	50585	71355
Ilasa East	78471	110691
Ilasa West	60974	86010
Irepodun	153457	216466
Irewole	57445	81032
Isokan	56944	80325
Iwo	105401	148679
Obokun	61218	86354
Odo-Otin	82314	116112
Ola- Oluwa	39454	55659
Olrunda	83347	117569
Oriade	80833	114023
Orolu	20944	28830
Osogbo	106386	150068
Total	2,158,143	3,044,276

* 1991 Population by National Population Commission
** 2001Projection using 3.5 percent rate by The Authors

METHODOLOGY

Data of this work were collected from two bodies in Osun State. These are the ministry of Health and Osun State Hospital Management Board. The raw secondary data from these sources were compared to validate it and to remove flaws in the data set.

The data set was segregated based on the local government in the state. The segregation of the data generated the pattern of distribution of the health care facilities in the states. The pattern evolved revealed the extent of inequality among the local government in terms of the provision of the health care facility by both government and private sector in the state.

The index of accessibility to health care services was computed using three variables from the data set. The variables used are population ratio to bed space in each LGA: population ratio to medical doctor and population ratio to nurses/ mid – wife. The choice of these three variables is because doctors and nurses are directly involved in providing health care services to the people and bed spaces is a basic requirement in

health care delivery.

RESULT AND DISCUSSION

The result of the study is discussed here under two sections. First is the spatial distribution of health care facilities as provided by both government and the private sector. The other is the level of accessibility to health care service based on the evolved pattern in the state.

Spatial Distribution of Public Health Care Facilities

Table 2 showed the spatial distribution of public health care facilities, these, include Teaching Hospital, State Hospital, General Hospital, comprehensive Health centers and Primary Health centre or local government health centres. The levels of operation and availability of supporting equipments at each level decline from the Teaching Hospitals down the scale to primary health centre. While specialized service are carried out in the Teaching Hospitals, General and State Hospital perform consultations and minor operations depending on the available consultant and necessary equipment. The comprehensive and primary health centres mostly provide out patient clinic, maternity and dispensary services.

In Osun State, there are three Teaching Hospitals at Ile-Ife, Ilesa and Osogbo as a result of University Institution at Ile- Ife and Ladoke Akintola University, which have its teaching Hospital at Osogbo. By the nature of the establishment and the type of service been rendered, one cannot expect too many teaching hospital in a state. Osun State may even be counted luck to have the three, since there are other states that cannot boast of one.

The distribution of other types of hospitals, which are the sole responsibility of the state government is therefore used to illustrate the inequality in health care facilities among the LGAs in the State.

State and General hospital are of equal rank thus they are taken together. There are 6 state and 5 General hospitals distributed among 10 LGAs. These are Ede North, Ife Central, Ife North, Ifelodun, Ila, Ilesa West, Irewole, Iwo, Oriade and Ogsogbo. Out of these LGAs only four belong to the rural LGAs, i.e Ife North, Irewole, Iwo, and Oriade. It implies that the state

Table 2: Distribution of public health care facilities in Osun State

Local Government	*T.H*	*S.H*	*G.H*	*CHC*	*PHC*
Ayedaade	-	-	-	2	23
Ayedire	-	-	-	2	20
Atakumosa *East*	-	-	-	2	20
Atakumosa *West*	-	-	-	2	16
Boluwaduro	-	-	-	3	08
Boripe	-	-	-	3	25
Ede North	-	1	-	-	12
Ede South	-	-	-	-	08
Egbedore	-	-	-	1	18
Ejigbo	-	-	-	1	27
Ife Central	1	1	-	-	15
Ife East	-	-	1	1	16
Ife North	-	-	-	1	20
Ife south	-	-	-	1	33
Ifedayo	-	-	-	1	25
Ifelodun	-	1	-	-	14
Ila	-	-	1	-	30
Ilasa East	1	-	-	-	12
Ilasa West	-	1	-	-	08
Irepodun	-	-	-	-	14
Irewole	-	-	1	-	15
Isokan	-	-	-	-	05
Iwo	-	1	-	-	22
Obokun	-	-	-	2	31
Odo-Otin	-	-	-	2	68
Ola- Oluwa	-	-	-	1	16
Olrunda	-	-	-	3	25
Oriade	-	-	2	2	37
Orolu	-	-	-	1	14
Osogbo	1	1	-	2	13
Total	3	6	5	32	610

TH Teaching Hospital SH State Hospital GH General Hospital CHC Comprehensive Health Centres PHC Primary Health Centres .

Sources: Ministry of Health Osun State and Hospital Management Board Osogbo.

and general hospitals are located in the urban centres and at the headquarters of the LGAs. Considering the nature of road networks in Osun State, particularly the rural roads, the location of these hospitals put the rural inhabitants at disadvantage than their urban counterpart.

The distribution of comprehensive health centres also revealed the disparity between local government. Through there are 32 CHC in all, which should be at lest 1 per LGA, however, the distribution revealed that the location of these type of health facility was influenced by politicians and administrator to favour certain areas than the other. For example Olorunda, Boluwaduro and Boripe have 3 CHC each been

the highest, eight other LGAs that have 2 CHC each; nine LGAs have CHC each and ten LGAs have non. At least 7 out of the ten LGAs that have none belong to the rural LGAs.

Primary health centre seems to be ubiquitous among the list of health facilities in the state either provided by the local or state governments but mostly by the local government. This is due to the fact that, it requires little investment, since the hosting community are to provide the house to be use and accommodation for staff that are posted there, which are usually not more than two.

There are 610 Primary Health Centers in the State, which translate to an average of 20 PHC in each LGA. The situation however revealed inequaity among the LGAs. Odo – Otin local government lead with a total of 68 PHC, followed by three LGAs having between 31 and 33 PHCs. Six LGAs have PHCs within the range of 21-30, twelve LGAs in the range 11-20 PHCs, and the rest four LGAs have less than 10 PHCs. The most distressed local government in the provision of PHCs is Isokan local government with only 5 PHCs shared between the two principal towns with nothing for their rural settlement. In fact, sixteen out of thirty LGAs in the state have PHCs less than 20, which is the average, while the rest eleven have above the state average.

Table 3: Distribution of privatie health care facilities in Osun State.

Local Government	*Hospital*	*Clinic/ Maternity*	*Optical / Lab.*
Ayedade	-	3	-
Ayedire	-	2	-
Atakumosa East	-	4	-
Atakumosa West	5	2	-
Boluwaduro	-	1	-
Boripe	2	8	-
Ede North	3	4	1
Ede South	3	4	-
Egbedore	-	5	3
Ejigbo	5	19	8
Ife Central	17	12	-
Ife East	7	2	-
Ife North	2	4	-
Ife south	2	5	-
Ifedayo	-	16	4
Ifelodun	11	11	-
Ila	3	12	5
Ilasa East	12	14	5
Ilasa West	7	6	-
Irepodun	1	6	1
Irewole	5	10	-
Isokan	2	5	-
Iwo	5	19	1
Obokun	1	5	-
Odo-Otin	5	11	-
Ola- Oluwa	-	7	-
Olrunda	23	17	12
Oriade	5	11	2
Orolu	1	3	-
Osogbo	14	14	4
Total	141	247	46

Sources: Hospital Management Board, Osogbo

Spatial Distribution of Private Health Care Facilities

We also look at the Private sector participation in the provision of health facilities in the state. As shown in Table 3. the privately owned health institution are grouped into three based on the type of services, been rendered and the qualification of the highest qualified staff. Those with at less one qualified medical doctors are designated as hospital, while other with at least a trained nurse are designated as maternity/ clinic. The third group is the medical laboratory/ optical centers, managed by qualified medical labouratory/ scientists and opticians.

In all, there are 141 private hospital, 247 maternity/ clinic and 46 mdeical laboratory / optical centers. The distribution pattern of the privately owned institution is understandable as it revealed high concentration in the urban local government areas. this is because they are all out to maximize profit, and also they prefer to locate where other essential infrastructure are available especially electricity which is not available in the rural areas. In fact, many of these privately owned health institutions are established by medical staff of government hospitals.

Out of the 141 private hospitals in the state, Olorunda take the lead with 23 private hospital, four LGAs have between 11-20 hospitals. All the five belong to urban LGAs and the location of these hospitals is in all major cities of the state which include Osogbo, Ilesa, Ile- Ife and Ikirun. Eighteen LGAs have less than ten private hospitals the highest been seven. The rest seven LGAs have none.

The distribution of maternity/ clinic is more wide spread as there is no local government without at least 2 maternity at the local government headquarter. In the there are 247 private maternity clinics in the state. It also depict the disparity in health care facilities in the state as 13 LGAs have private maternity/

clinic in the range of10-20, the highest been nineteen. The rest 17 LGAs have less than ten each while the highest in the group is seven.

The service of medical laboratory and optical centres are concentrated in the few urban centres in the state as show in the table. This is due to the fact that they rendered specialized services which are usually requested by medical consultant in the Teaching and .General Hospital for diagnosis thus such cannot be located in the rural areas.

The spatial distribution of health care facilities provided by both private and public sector revealed inequality among the LGAs and between the urban and rural centres within the state. It implies that the rural inhabitants, which constitute over 60 percent of the population in the state are at disadvantage compare to the urban residents. The deprivation been suffered by the rural inhabitants is manifested in the increase mortality rate, reduced life expectancy, and man hour shortage during the period of illness and time spend when taken wife or children to the hospital in the city. The resultant effect on the rural economy is low productivity in terms of their agriculture produce, transforming of low income and thus, increase poverty in the rural areas.

Accessibility to Health Care Service

Different methods have been used by different scholars to access services centres. One is the use of distance to the location of the service in item of real and time and money cost (Adejuyigbe, 1973; Agun, 1999). Others have used the ratio of population to a particular service. In this study the later was adopted. Given the available data, three indexes of accessibilities were computed these are population per medical officer population ratio per nurse and population ratio per hospital bed space. These indexes were

Table 4: Index of accessibility to health service care in Osun State

Local Government	*Doctors*	*Pop/doc*	*Nurse*	*Pop/ Nurse*	*Bed Space*	*Population / Bed Space*
Ayedade	2	66846	27	4952	65	2057
Ayedire	1	58731	10	5873	40	1468
Atakumosa East		-	14	3839	50	1075
Atakumosa West	2	42344	16	5293	50	1075
Boluwaduro	1	59798	19	3147	90	664
Boripe	3	38738	23	5052	110	1056
Ede North	2	48940	27	3625	35	725
Ede South	2	62187	27	4606	135	762
Egbedore	-	-	2	28419	40	1421
Ejigbo	1	97848	7	13978	80	1223
Ife Central	3	45412	35	3892	2000	681
Ife East	1	135216	2	67608	20	678
Ife North	2	90051	17	10594	60	3002
Ife south	1	124373	7	17767	30	4146
Ifedayo	1	34801	2	17401	20	1740
Ifelodun	2	54002	34	31777	350	309
Ila	1	71355	13	5489	200	356
Ilasa East	2	55346	28	3953	140	791
Ilasa West	2	43005	28	3953	140	614
Irepodun	1	216466	14	15461	70	3092
Irewole	3	27010	53	1529	150	540
Isokan	-	-	2	40163	20	4016
Iwo	7	21240	48	3097	260	572
Obokun	2	43177	4	21589	70	1234
Odo-Otin	2	58785	16	7257	180	645
Ola- Oluwa	-	-	2	27827	20	2783
Olrunda	2	58785	43	2734	200	588
Oriade	3	38008	21	5430	320	356
Orolu	-	-	3	9610	40	720
Osogbo	38	3949	84	1787	300	500
Total	87	20888	682	2894	3585	507

Source: Authors Computation and Hospital Management Board Osogbo

computed from the public health care facilities data, since the private facilities are costly and exclusive for those who can afford it. It is only the public owned health centres that are general to the entire population.

The population ratio per medical officer, determines the workload of the officer and his efficiency on the job. The number of people to attend to per clinic determine the time/ day spent on the waiting list by patient, thereby measure the accessibility of patient to medical consultation. The lower the population per medical officer the better the accessibility. This statement is also true for other index of accessibility compared in this study (Table 4). There are 87 medical officers distributed among the health institution in Osun State. The state average of population ratio per medical officer based on the 2001 population given 1.20,888 that is one medical officer is responsible for 20,888 populations. The computation of this index for all the LGAs revealed serious inequality. There are five LGAs which do not have access to medical consultation within their areas since no doctor was posted to these LGAs. The population and the number of available doctors affect the disparity of the index ratio among the LGAs.

However, the rest 25 LGAs have population ratio per medical officer far above the state average except Osogbo LGA which have 38 out of the 87 medical officer in the state. Its own ratio is as low as 1:3949 the closest figure to the state average are 21240 and 27010 for Iwo and Irewole LGAs, while many others have above 30.000 population per medical. A part from the five LGAs without medical officers there are three other that also experienced serious deprivation in terms of accessibility to medical consultation. These are Irepodun., Ife South and Ife East LGAs, with 216466,124373 and 35216 respectively.

The implication of this serious deprivation is the exposure of the generality of the rural inhabitants to sub-standard medical services, which they considered as the best alternative. Such alternatives include the use of herbs, spiritual churches, private clinics and quacks.

The impact of the activities of quack claming to be medical staff is even detrimental. They have caused many preventable deaths through the use of un-sterilized instrument, overdose drugs and complete wrong diagnosis of patient. The rural inhabitants also incurred higher cost on their health bill in term of transport cost when they have to travel to the cities for medical services, while the private clinics and quacks continued to charge heavy bill on them.

Nurses are next to the medical officer in the continuum of medical services because trained nurse can at least attend to patients to a better level in the absence of medical doctors. Accessibility to these trained nurses can go along ways in reducing deprivation suffered by the people as a result of inadequate medical doctor. However, the index of accessibility to trained nurse computed in the state reveled further gross inadequacy in the provision of medical services in Osun State.

In Osun State there are 628 trained nurses. The distribution is not evenly spread, but there is no LGA without at least 2 or 3 nurses. The population ratio per nurses for the state is 2894 persons per nurse. Only two LGAs Osogbo and Irewole have their ratio below the state level while all others are far above it. The worst LGAs are those with above 10.000 persons per nurse (see Table 4). The scenario depicted a gross inade-quate of nurse to cater for the entire population and the rural inhabitants are worse off than their urban counterpart.

In the case of available bed space the state have a total of 3.585 bed specs distributed among its health establishment. This gives a state index of 507 populations per bed space. A few of the LGAs have their index below the state level, these are Oriade, Ila and Ifelodun LGAs. Others have there above the state level. Eight LGAs are worse off with above 1500 population per bed space. In all, the revelation is the same as earlier noted for the former indexes computed. Therefore one can assert that health care facilities in Osun State is grossly inadequate, with attendant deprivation suffered mostly by the rural dwellers.

CONCLUSION AND POLICY OPTIONS

It has been revealed by this study in Osun State that serious inadequacy exists in the provision of health care facilities and service by both private and public sectors. Also, it was revealed that inequality persist in the distribution of the existing facilities among the LGAs and between Urban and Rural Settlements in the state. The most deprived people are the rural inhabitant. The deprivation suffered by these

people has resulted in the many preventable deaths among the rural people. Also, it has led to reduced life expectancy, increased infant mortality, reduced man-hour in agricultural activities and increased poverty among the rural inhabitants.

The basic aim of sustainable development is to achieved increased productivity on a continuous basis, retain the rural population and improve the level of living in the rural environment. All these cannot be achieved without adequate provision for health care facilities and services for the rural populace. Therefore, there is a need for serious intervention to bring about equitable and adequate provision of healthcare facilities to the entire population and particularly the rural inhabilitants.

Two policy options are recommended here; a short term policy option is for the state government to employ more medical and para-medical staff and to ensure equitable distribution of same among the LGAs. Also the third tier level of government should be mandated to employ at least I medical officer and 2 nurses per ward in each local government. These will collaborate the effort of the state government.

A long term policy option is to provide enabling environment for the private sector participation in health care delivery in rural areas These will include the provision of essential infrastructures, such as electricity, water and good roads in the rural areas. these will not only encourage the private sectors to invest on health care delivery alone, it will also encourage investment in others sector of the state economy. Provision of water in the rural areas alone can reduce the rate of epidemic of many of the water borne disease that causes most of the preventable death in the rural environment. Such steps as mentioned here will reduce the rate of emigration from the rural areas and thereby retain the threshold population required for viability of private hospitals at affordable cost. If these policy are faithfully implemented it will go along way toward sustainable rural development.

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