



JOINT INTERNATIONAL CONFERENCE

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The Federal University of Technology, Akure (FUTA), Nigeria,
De-Montfort University (DMU), Leicester, United Kingdom
&
London South Bank University (LSBU), London, United Kingdom

PROCEEDINGS of THE JOINT INTERNATIONAL CONFERENCE JIC 2016

on
**21st Century Habitat: Issues, Sustainability
and Development**

21st - 24th March 2016

held at
The Federal University of Technology, Akure (FUTA) Nigeria.

EDITORS:

Prof. Ebohon, Obas J.
Dr. Ayeni Dorcas A.
Prof. Egbu, Charles O.
Prof. Omole, Felix K.



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**21ST CENTURY HUMAN HABITAT:
Issues, Sustainability and Development**

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(JIC) AKURE, NIGERIA**

Monday 21 – Thursday 24 March, 2016

Editors

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First Published 2016
ISBN- 978-1-898523-00-0

Published by the Joint International Conference Editorial Committee

© **Joint International Conference**
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For more information visit the conference website www.jic.futa.edu.ng

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British Library Cataloguing in Publication Data:

A catalogue record for this book is available from the British Library

PEER REVIEW PROCESS

The quality of the contents in this publication is guaranteed through thorough review process of abstracts submission and screening. All accepted papers were subjected to a blind peer review process. Papers in the various subthemes were reviewed by a minimum of two referees; from the abstracts submission through to the full paper submission and finally, the reviewers' reports were sent back to authors for modification and final submission.

Cover design
EGWUONWU, OBIORA AUGUSTINE
OLAWUNMI, ADESINA VICTOR

Desktop publishing

PALSTAR CONCEPTS & JIC Local Organising Committee
+23408066063229; +2348037006788

FOREWORD

This Joint International Conference is about sustainability in its wider sense.

Sustainability suffuses all we do and is, arguably, the world's most talked about concept and, perhaps, least understood. This is partly due to the level of complexity associated with how the discourse around sustainability issues is framed; how the contexts associated with it are imagined; how the challenges associated with it are addressed and grappled with, and how the resources and solutions offered are meaningfully operationalized. The lens at which we use to view sustainability is seemingly the problem and the solution at the same time, and therein lies the conundrum.

Sustainability is an important area of discourse, as it pertains to how we work and how we lead our lives, now, while considering the lives, communities, and workplaces of future generations. At the same time, few would question the power that lies within a collective and a channelled effort, where there is sense-making, joined up thinking, and the sharing of lessons learned in addressing key sustainability issues in pursuit of key 21st century human habitat needs, expectations and desires.

It is pleasing to see some level of agreement in the recent UN Sustainable Development Summit (2015) held at the UN headquarters in New York, and around the 17 Sustainable Development Goals.

A host of stakeholders have a significant role to play in this regard, not the least of which are governments, practitioners, communities, academics, the third sectors, and users. The wider architecture, engineering and construction (AEC) sectors consume in excess of one-third of our energy use; over one quarter of all raw materials; and about half of our water use. In addition to this all other sectors are serviced or service the AEC sectors. The issue becomes one of interconnectedness and complexity, calling for interdisciplinary, joined-up, and holistic considerations. There is much to know and share.

This joint international conference particularly sets out to explore some of the developments, challenges, innovations, environmental friendly and adaptability offerings around sustainability. It also offers the scope to address, real estate, valuations and management concepts and practices. In addition issues around landscape design, tourism, remote sensing and industrial design are explored. There is also a growing interest around education and professional ethics, which are further explored and discussed. Similarly, both developing and emerging economies are grappling with issues around physical planning, urban renewal and urban poverty. These important issues are to receive due coverage during the conference. Same goes with issues around architecture and national development in both emerging and developed countries.

A number of developed and developing economies continue to experience major unrest and challenges leading to massive immigration across countries and continents, and security issues. At the same time, the low oil prices raise significant economic challenges to development. Housing provisions, in terms of sustainability and affordability, also continues to be an issue in a number of countries and continents. As built environment academics and researchers, these changes would have an impact on us in one way or the other. No doubt, it would form an interesting area of debate in our conference.

For this Joint International Conference, the call for papers elicited 320 abstracts. The International Scientific Review Committee has also worked tirelessly to uphold standard of quality and consistency of the papers. After the two stage blind review processes, we have 201 accepted papers. This means that if your paper have been accepted for the conference, and is in the proceedings, then you should feel very proud of your achievement. It is pleasing to note that a good proportion of the papers have come from both new researchers, including those engaged in their PhD studies, as well as established researchers and academics. The papers have also come from over 12 countries. Similarly, the topics are wide, covering different aspects of sustainability research and practice.

It is also worthy of note that the content of the papers reflect the use of different research methodologies and philosophies.

We hope that this conference affords us the opportunity to address some of the challenges that confront research, practice, policy making, education and the wider areas of sustainability, in this very interesting and challenging time.

We also look forward to the usual networking which is one of the hallmarks of such international conferences; to renewing old acquaintances and making new friends during the conference.

Prof. Ebohon, O. J.

Dr. Ayeni, D. A.

Prof. Egbu, C. O.

Prof. Omole, F. K.

ACKNOWLEDGEMENTS

A conference like this would be impossible to run without the help and assistance of a huge number of volunteers who have worked tirelessly to ensure its success. Our special thank you goes to the Local Organising Committee and Sub-committees, the International Organising Committee, and the International Scientific Review Committee who have worked tirelessly to meet all deadlines for paper review and for upholding the high standard of academic quality.

A special mention of Dr. Dorcas Ayeni, who also took on the majority of the organisational and administrative burden for the conference.

Thank you also goes to, Prof. F.K Omole, Arc. Olufemi Samson Adetunji, Mr Bayode .T, Dr Adelabu Samuel, Mr Ewuonwu Obiora and Mary Samson. Who were instrumental in the arrangement of papers for the conference proceedings and making sure that we were "ready to go" for the printers.

We are grateful for the support received from The Federal University of Technology Akure (FUTA), London South Bank University, UK and De-Montfort University, Leicester, UK.

A huge thank you goes to the Vice Chancellor and the Chief Executive Officer of the Federal University of Technology Akure (FUTA), Prof. A. G Daramola, for his vision in sowing the seed for this joint conference. We are also indebted to the Dean of School of Environmental Technology (FUTA), Professor J.A.B Olujimi, for his unwavering support in the organisation of this conference. We equally extend our gratitude to all Heads of Department in the School of Environmental Technology, senior academic members of staff of FUTA and all sub-committee members for their various supporting roles, and for the opening of the conference and the welcoming of national and international delegates.

A number of organisations, industrialists and academics have supported the conference in a number of ways. We are thankful for their kind generosity and support.

A special thank you to the Keynote Speakers; Professor Olunride Lafe and Professor Charles Egbu.

Finally, we are also indebted to members of the professional and non-academic staff of FUTA for their support in the organisation of the conference, and making sure that all who attended the conference had a worthwhile and enjoyable time during their stay in FUTA, Akure, and in Nigeria.

Prof. Charles Egbu

MAJOR SPONSORS



The Federal University of Technology Akure (FUTA) was established in 1981 to give prominence to training in technology and applied science and to assist in ensuring rapid technological and industrial development of Nigeria. The University which formally took off in 1982, has grown tremendously since its establishment to become the best University of Technology in Nigeria. Currently, it has 30 academic Departments spread within eight (8) schools. FUTA is located in Akure, the capital town of Ondo state, Nigeria. The vision of the university is to be one of the best Universities of Technology in the world, committed to carving out an enviable niche for itself as a centre of excellence, epitomized by high quality programmes, products and contributions to the society. The mission is to promote technological advancement of Nigeria through emphasis on programmes that will engender the development of such products and services in which the Nation possesses great comparative advantage. In doing this, the university is committed to providing a conducive teaching and research environment attractive enough to retain highly motivated leading academics capable of channelling research outputs to meeting peculiar national needs. Through its research output, train and produce highly technological –oriented and self-reliant high level manpower committed to self-employment as basis for national development.



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Building Tradition, Slum and Housing the Urban Poor: An Exploratory Study

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ABSTRACT

In most developing countries today, the provision of housing is grossly inadequate, coupled with the fact that the available housing falls below the standard of appropriate habitable models. This is so despite decades of direct government intervention in the housing sector. It is estimated that more than 50 percent of the urban population in the developing countries lives at the level of extreme poverty. The adoption by the United Nations General Assembly of the Global Strategy for Shelter to the Year 2000 (GSS) in 1988 implied a global recognition of the severity of the housing problem in the developing and underdeveloped countries. There is the need to address these gross inadequacies in terms of quantity and quality of housing provided. According to the Nigeria population census figures of 2006, Nigeria has over 140 million people (currently estimated to be 173.6 million in 2015); placing it as the most populous country in Africa. Many of this population are found living in the major urban centres, with over 70 per cent classified as living under poor and inadequate condition of housing. The paper, using case study approach, explores the issues surrounding the provision of adequate housing in a millennium city of Akure, Nigeria. It made use of data and information collected from both primary and secondary sources. Data were collected through physical investigation of poor inner-city neighbourhoods of the study area; stating some of the findings as framework for the design of future developmental policy. In conclusion, the paper argues for a rethink of policies and increase in investment in the built environment to positively alleviate the adverse housing condition.

Keywords: housing need, human development index (HDI), inner-city neighbourhood, slum, urban poverty

INTRODUCTION

Considering the world population of six billion people, 1.1 billion people fall below the poverty line (Ravallion, 2013; Alkire, Conconi, Robles and Seth, 2015). Half of the people in Sub-Saharan Africa in which Nigeria is one, fall below this poverty line while one third of India are considered poor by this definition (Alkire and Santos, 2014). Poverty is a multidimensional phenomenon; hence it cannot be reduced to a single definition. However, to be able to have a full grasp of the distribution and depth of poverty, it is generally acceptable to evaluate real per capital expenditure on an indicator of welfare (Atkinson, 1999). Hence the need to draw a line that will help to define the cost of living standard below which a person is classified as being poor. Income can be used to draw an absolute poverty line or a negative poverty line can be drawn based on percentages of household at the bottom of the income distribution (Atkinson, Piketty and Saez, 2011). The poor are the most vulnerable of the masses and they often lives in deplorable condition, such as inhabiting ramshackle houses that has no door with leaking roofs (Stokols, Rall and Schopler, 1973). There are categories of poor people that include the not so rich, the moderately poor, the poor and the poorest of the poor. Parental death often thrown children into unwarranted poverty in Africa, hence the orphaned, the internally displaced (due to war, such as in Rwanda genocidal war and Boko Haram terrorist attacks in Northern Nigeria) and abandoned children form special group of the 'vulnerable' amongst the poor.

Odeyale, T. O. & Fagbemi, K. (2016). Building Tradition, Slum and Housing the Urban Poor: An Exploratory Study. In Ebohon, O. J., Ayeni, D. A., Egbu, C. O., and Omole, F. K. Procs. of the Joint International Conference (JIC) on 21st Century Human Habitat: Issues, Sustainability and Development, 21-24 March 2016, Akure, Nigeria, page number 1449-1456

LITERATURE REVIEW

Factors Contributing to Poverty in the Built Environment

There are three distinct components to the measurement of poverty. First, we have to specify what is meant by 'standard of living'. Second, we have to delineate a critical level of the standard of living below which there is poverty. Third, need to compress information in the standard of living below the critical level into an index of poverty (see figure 1). It has been noticed that what contributed to the underdevelopment of the poor nations is the stagnation of their agricultural output, which has failed to keep up with their population growth rates (Kanbar, 1991; Odeyale, Sodagar, Temple and O'Coill, 2011; United Nations, 2014). The standard of living has increased slowly in poor countries of the world. The gap between the rich and the poor nations due to the gap created as a result of free trade and protection exercised by the developed economic/countries. Factors that contributed to acute poverty in Sub-Sahara Africa, and Nigeria inclusive are identified as follows:

- i. Population increases due to lack of birth control, rural urban migration resulting into acute food shortages, high prices of food and services, inflation, poor housing and living condition and high rate of unemployment.
- ii. Economic recession with very low price for exports raw material high indebtedness, debt servicing, reduced capital inflow, and imbalance of trade.
- iii. Structural adjustment programme introduced by IMF to Nigeria during Babangida era, resulting in reduced government expenditure and high prices of food increasing the poverty of masses.
- iv. Political instability and insincerity brought corruption and financial downturn affecting housing and the built environment.

Although Nigeria as a country is blessed with natural resources, it still remains a poor developing country. Gilbert and Gulger (1994) suggested that human development in part of the comprehensive process of societal change. This encompasses the economic, social, moral, physical and financial aspects of the society. Pertinent question to consider is the link between housing condition and poverty and its consequences.

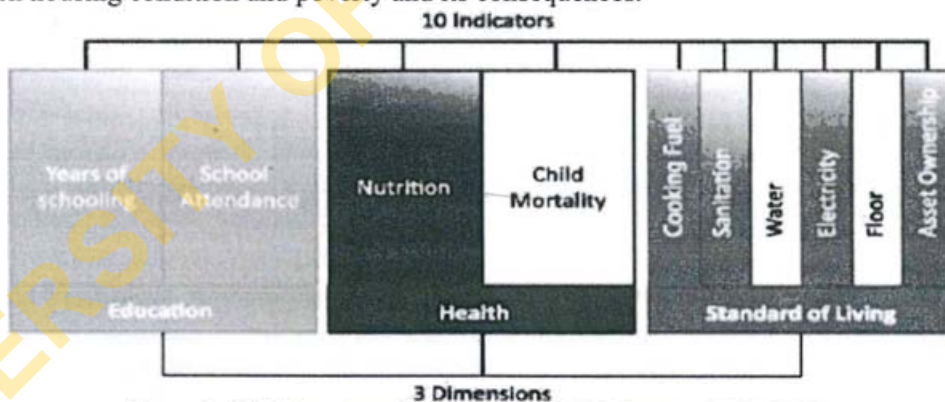


Figure 1: Multidimensional Poverty Index (MPI). Source: OPHI, 2015

There is the need to look at other economic platform in other part of the world, in order to draw out vital lesson for the alleviation of poverty and human development of Africa's most populous country Nigeria. The World Bank criterion for classifying economies is Gross National Product (GNP) per capita. Every economy is classified as low income, middle income (with lower middle and upper middle) and high income. Low-income economics are those with a GNP per capita of \$635 or less in 1991. Middle-income economics are those with a GNP per capita of more than \$635 but less than \$7,911. Lower middle income has

income per capita between \$2,555. High-income economics are those with a GNP per capita of \$7,911 or more.

Poverty Indicators

These are pointers to the level of poorness of an individual or group of people, such as nutritional, social welfare, economic factors. Examples of such indicators are:

Nutritional Indicators:

This is a measure of both health and wealth. These represent the result of insufficient food intake and/or inadequate access to basic health care. The results of insufficient food intake are stunted growth or severe growth in children below the age of 6, considering the height to age measurement (Roche, 2013; UN-HABITAT, 2003b).

Social Indicators:

As earlier stated, one parameter is not enough to adequately define poverty. Apart from per capital income per month, another strong indicator of poverty is the measure of the effective uses of social services such as (immunization, school attendance, nutrition and access to water) the accessibility and quality of such services e.g. maternal or child mortality rate (Kapoor, 1993; Alkire and Foster. 2011; Cribb, Robert and Phillips 2012).

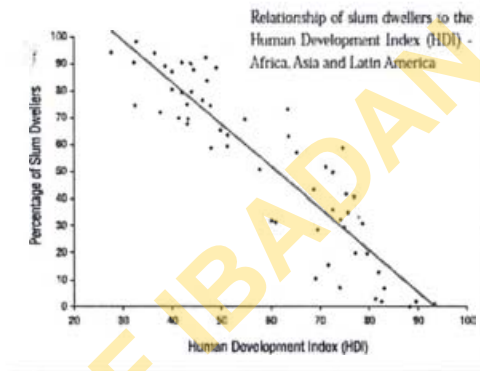


Figure 2: Correlation between Percentage of Slum Dwellers and Human Development Index (HDI). Source: UN-HABITAT (2003a).

Economic Indicators

These refer to the purchasing power of an individual or group of people in a given area. How much do they earn? How much is their expenditure, do they spend a larger amount on food? How much do they spend on education? For instance, considering the example of Uganda, the average of the total population spent an average of 1 percent on education and 67 percent in food which is quite high little or within is left for saving (UNDP, 2014).

Building Traditions, Development of Slum and Housing Problems in Nigeria

Housing itself is influenced by various factors that include social structure, climate, economic growth, technology and culture. The sociocultural heritage and tradition of a people can be observed through the evolutions of its housing forms, pattern and types. Hence, the pattern expressed by the buildings in a community is a pointer to its search for cultural identity and self actualization (Odeyale, 2010). The troubles facing the housing sector in Nigeria are enormous and complex. In Nigerian urban centres, the problem is not only restricted to quantity but also to the quality of available housing units and environment. Severe overcrowding and insanitary physical environment characterize the housing in these urban centres (Olotuah, 2000; 2002); culminating effect of this is the growth of slum areas. The result is clearly revealed in several poverty indices such as growing overcrowding in homes, neighbourhoods and communities; lack of adequate infrastructural facilities and rapidly

deteriorating environment resulting to slum like conditions. For instance, figure 2 provide a window into the relationship between the slum dwellers and human development index.

According to Turnstall et al (2013:5), evidence shows that “poverty affects housing circumstances is stronger than evidence that housing circumstances affect poverty”, such evidence is seen in the formation of slum. Slum condition in housing exists when a house or a neighborhood is in poor condition which is generally considered unsafe and not nice to live or be in (Costello, 1987). UN-HABITAT (2009:106) defines slum as “any specific place, whether a whole city or a neighbourhood, as a slum area if half or more of all households lack improved water, improved sanitation, sufficient living area, durable housing, secure tenure, or combinations thereof.” It is also an overcrowded area of a city in which the housing is typically in very bad condition (Davis, 2004; see also figure 3 below).

It is often quoted that the economies and societies of the poor countries had been “conditioned” by their relationship with colonial and neo-colonial powers (Deininger and Lyn, 1996; Dollar and Aart, 2002). One aspect of shelter that constitutes serious problem in housing delivery is its affordability to the low income class that forms a large percentage of many nations particularly a developing nation like Nigeria. The factor contributing to housing choice has been attributed to lower incomes, less wealth or less access to credit (typically due to worse employment positions). This led to less desirable or poorer housing conditions than others, including homelessness; and leaving in slum like conditions. The attendant high value of landed property and increasing labour cost in construction, the housing is beyond the reach of the majority of people, hence the springing up of slums and rickety building.

The problem of housing in Nigeria is not significantly different from those of the other developing nations of the world. Research findings have confirmed that there is a drastic housing shortage in Nigeria. Due to upsurge in urban population, the process of urbanization, diversified economic activities, poor management of activities within the framework of the National Development Programme and the heterogeneous nature of the society in urban centres, very many Nigerians cannot find an ideal environment or house (Izomoh, 1997; Odeyale, 2015). Onibokun (1990), estimated acute shortage in housing sector providing the following figures as summarized in Table 1.0.

Table 1.0 Estimated Housing Need between the periods of 1990 - 2020

Income Group	1990	2000	2020
Low-income	8,413,980	14,372,293	39,989,286
Medium-income	7,770,005	13,273,291	33,573,900
High-income	7,624,230	12,419,068	28,548,633

Source: Onibokun, 1990

Poverty and sub-standard housing are closely related (Onibokun, 1985), extreme housing densities coupled with pitiable environmental conditions in which the poor majority lives are characterized by acute sanitary problems and pollution of air, surface water, and solid waste; all pitiable significant conditions of slums (Mabogunje et al, 1978; Filani 1987; Wahab et al 1990). Olusanya (2001) attest to the fact that urban housing problems in Nigeria over the years have acquired an overwhelming proportion that threatens to undermine the very basic fabric of the urban society, underscoring the need for a rethink of policies.

METHODOLOGY

The study made use of data and information collected from both primary and secondary sources. Primary data were collected through physical investigation of poor inner-city neighbourhoods in core area of Akure, Nigeria. The methodology is driven by qualitative approach involving ethnographic field investigation, (with focus on core area of Akure,

namely Erekesan-Erekefa, Idiagba-Ijemikin, and Obanla) and comparing findings with archival documents. Other secondary data includes relevant information from related studies in literature.

DISCUSSIONS AND FINDINGS: STRATEGIES FOR POVERTY ALLEVIATION IN THE HOUSING SECTOR

The World Development Report of 1990 stated that the countries that have been most successful in attacking poverty have encouraged a pattern of growth that makes efficient use of labour and have invested in the human capital manpower especially the built environment. First, those countries give the poor the opportunity to use their most abundant asset – labour. The second step is to improve their immediate well-being and increase their capacity to take advantages of newly created possibilities (Kapoor 1993; Roche, 2013). If the Nigerian government is to make headway in poverty alleviation, it will have to make policies that will deliver key services to the poor. This will include investing in human capital and ensuring that the poor are able to participate equitably in that growth and make policies that will accelerate economic growth. These must be implemented efficiently, vis-a-vis:



Figure 3: Inner city configuration and ugly face of poverty in housing as exhibited in core-city neighbourhoods of Akure, Nigeria. Source: Author's Fieldwork (2014).

Accelerating Economic Growth and Macroeconomic Stability

The economy of the country in which urbanisation is taking place has been described as stagnant and the growth of industrialization is negligible (Salau, 1992); hence, the need for growth-oriented economic recovery and poverty alleviation. In order to ensure accelerated growth, a concerted effort by the government and private sector is required. This will empower the poor by giving them room to participate and share in the economic growth. This will also be accomplished by the reduction in the income inequality, increase in the standard of living and generation/operation of policies that will enhance labour intensive method of production for the large masses/urban poor by tapping into the rich building tradition. This gives people the opportunity to make long-term investment in any economy.

Non-Governmental Participation (NGO) in Poverty Alleviation

NGO have large experience in poverty alleviation through community self-help projects. There is need for proper coordination between the government and the NGO's for effective poverty eradication and inner city redevelopments to correct city anomalies such as seen in figure 3.

Facilitating High rate of Investment in Infrastructural Development

The need for increase in investment and developing indigenous technology is also observed in the study area. Adequate resource and platform for development of the built environment is a veritable deterrent to poverty, especially in the inner-city. Investment should be encouraged not only for foreign expatriate but local investments in forms of factories and small scale industries should be given room to take root in Nigerian and African economy.

Emphasis on Technological development and technical education

Need to master modern technological system, used in the developed nation of the world. There is every reason, for a "huge" technology transfer from the developed nations to the developing ones. This should be given a priority. Rapid growth in the housing sector demand more technical training.

Adequate Role of Information System

The policy makers need to be well informed on the happenings at the grassroots. Development is both bottom up and top-down. Policy makers need to know the need of the people and what impact their policies is having on the masses.

Stemming inflation rates

Government should get firm control over its budgetary spending. The transformation of the agricultural sector is at the heart of feeding the country, to supply food to the market, to produce raw materials and to act as catalyst for small scale industrial growth. The development of indigenous building materials and methods, this will lead to a decrease in the cases of capital flight through foreign exchange.

RECOMMENDATIONS

There are important steps and ways to develop the housing sector and offer required setting for the urban dwellers. Such steps include: the government should de-emphasise the reliance on oil economy through economic reforms in Nigeria, a step the current government is assiduously working on. Encourage technology transfer and training of manpower in modern science and technology. Establish policies and framework to cause the incomes and living conditions of the rural/urban to improve. Empower the masses and to break the shackle and circle of poverty. Eradication of illiteracy and improvement in high rates of literacy and numeracy, those are vital for rapid economic growth. Local investment should be encouraged and small scale industry favoured in policies formulation. Solution to the problem of incessant power outage and development of sustainable or alternative energy sources for the production of industrial scale building materials. The government in Nigeria, both at federal and state level should set up agencies and organs that will oversee wealth creation and job creation. The need to provide basic modern infrastructures in metropolitan centres across the country and natural economic empowerment development strategies should be encourage. The Nigerian government also need to popularise local entrepreneurship among the youth, in order to increase the economic base for wealth creation and sustainable lifestyle. Partnering with international donor agencies and Non-Governmental Organisations (NGO) in the development of rural and urban area in the country will decrease urban-rural migration. This will reduce the pressure on urban infrastructure and mitigate poverty.

CONCLUSION

There is need to strengthen the database and develop a poverty monitoring system which can provide policy makers with regular information in the impact of economic and social policies in the lives of the urban poor. Making land available to the working class and the poor for housing development and encouragement should be given to macroeconomic growth and stability that will revitalize the provision of adequate housing for all.

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