MODERN BUILDING TECHNOLOGY AND LIVELIHOOD ADAPTATION AMONG MASONS IN RURAL IBADAN

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ABSTRACT
There have been several studies on the phenomenon of livelihood disturbances of rural farming households by scholars. However, few have emphasized the significance of livelihood disturbances to non-farm economic activities as a result of changing technology. This article examines livelihood adaptation practices among rural masons in the face of challenges thrown up by the emergence of modern construction technology in 3 selected rural communities in Ibadan. The data for the study was sourced through 24 in-depth interviews and 3 focus group discussion sessions conducted among traditional rural masons in the selected rural communities of Moniya, Lalupon and Aba-Nla in Ibadan. The result suggests that the shift occasioned by modern building technology is experienced by low skill patronage, livelihood disturbance and income volatility among traditional masons. Adaptive responses by the masons took two dimensions. While some masons chose to cope by reverting to farming to survive, others opted to upgrade their skills from traditional knowledge to modern construction technique. In conclusion, livelihood disturbance is real among rural masons and government cannot afford to neglect the implication of this on rural poverty.

Keywords: Livelihood adaption, rural communities, masonry, building technology

INTRODUCTION
This article examines livelihood adaptation practices among rural masons in the face of challenges thrown up by the emergence of modern construction technology in rural areas in Ibadan. The research was prompted by two rather contemporary housing problems in rural communities. One, is the changing homeownership aspirations of rural dwellers (Ugonabo and Emoh, 2013; Agbola, 2005) which appear in favour of modern construction techniques. Two and more importantly is the concern about the socio-economic conditions of rural masons (known locally as Olomo) who are trained with and trade in indigenous construction techniques. Going by the rate at which traditional houses are replaced by modern construction designs and technology in rural areas (Raheem, 2011; Adesina, 2008) traditional masons would appear economically vulnerable.

The question then of the extent to which contemporary homeownership aspirations in the Nigerian rural areas conform to traditional building technology may not be a question that requires much empirical details, but its effects on rural builders’ livelihood are imperative to understand and appreciate its dynamics on rural poverty. Thus, the concern (of this article) is not restricted to the emergence of modern building technology on the rural scenes; any more than arguing in support of continual use of traditional/pre-colonial building practices and technology without any significant upgrade. Rather, the purpose of the article is to (1) explore how rural traditional masons socially construct the challenge of loss of their livelihood as a consequence of change in technology of construction and (2) understand how they (rural masons) adapt to this social condition and the coping strategies employed to survive.

Literature on housing study has confirmed the gradual changing landscape of rural housing towards patronage of modern building technology (Atolagbe, 2010; Liangyong, 2009; Nguyen, 2007; Aluko, 2004). However, little scholarly interest has been directed at understanding any latent implications arising from widespread neglect of traditional materiality of construction one of which is how rural masons experience loss of livelihood. Meanwhile, other studies have shown that emergence of modern building technology has not always been beneficial to everyone in society. For instance, Tipple (2005) and Salazar (1999) argued that wherever it is introduced modern concrete technology has the tendency to weaken traditional building skills. Miles (2006) confirmed this as he argued that while modern building technology offers new tools and methods for construction of modern buildings, it also imposes the intrusion of modern masonry skills that appear to have “eroded the vitality of traditional building technology”. In Tipple’s (2005: 151) words, “with the growth of modernity, the traditional building system and division of labour had begun to break down” as newer technology emerged on local building industries around the world. Consequently, the ‘encroachment’ of modern construction technology in areas where indigenous building designs used to flourish would make the practitioners (traditional rural masons) appear to now exist in an “environment of risk and uncertainty” (O’Laughlin, 2002: 514) and must adapt by seeking alternative means to survive or wallow in poverty (Groeneward and Bulte, 2013; Paavola, 2008; Selvaraju, Subbiah, Baas and Juergens, 2006, Francis, 2002).

In the rural livelihood field, sociological studies incorporating adaptation dimension, for instance, have mainly examined how rural farm
households relate with the consequence of socio-economic change (Yaro, 2006). Chandy, Keenan, Petheram and Shepherd (2012) have investigated how introduction of hydropower project in Sikkim, a village in India, caused changes in land economy of the village; causing the conversion of agricultural land into roads, tunnels, buildings and other components of the projects. Chandy et al (2012) described how development of the hydropower project forced much of the farm household of Sikkim community to abandon expanse of agricultural lands; losing the primary source of livelihood. While the project brought about some menial employment to some of the villagers, the capital inclined change associated with the project play what Chandy et al described as “livelihood vulnerability” (p. 123) for the farming households who lost arable farmlands but forced to adapt to low paying menial jobs provided by the hydropower project.

Although most rural poor households face survival challenges, the nature and extent of vulnerability may depend on intensity of difficulties faced by individuals or group. Berman, Quinn and Paavola (2013) argue that coping strategies of rural households facing livelihood difficulties depend on different hazardous climatic conditions. The authors found livelihood vulnerability among the inhabitant of rural Uganda to be hazard specific. They also suggested that majority survive by investing their efforts in non-farm income generating activities such as market-trading, fishing and employment outside the village. Similar analytic descriptions have been used to elucidate the link between “vulnerability and poverty” (Philips and Rayhan, 2004), and migration as an alternative to livelihood strategy and as an “ex-ante risk management strategy” for rural poor (Osawe, 2013).

Thus, research examining rural livelihood vulnerability has often acknowledged the link between poverty in rural areas and individual and collective adaptive capacity. Nevertheless, in Nigeria as elsewhere, the concern about the increasing reality of poor rural livelihood can be viewed as a subset of wider stakeholders’ concern for the endemic poverty in much of the country’s rural sector, intense out-migration of young people and the seemingly unchanging socio-economic conditions of rural youths (IFAD, 2015, Adepoju and Obayelu, 2013; Akpan, 2013). This has made scholars’ attention to be firmly placed on rural farm household’s poverty level, livelihood and survival techniques (Aferia, 2015; Ogbeide and Agu, 2015; Hong and Yun, 2014; Bury, 2004; Cook, 1988; McSweeny, 2004). But, while there is extensive literature in livelihood field especially on farming, fishery and other agricultural activities in coastal (Agbeja and Jenyo-Oni, 2013) and non-coastal rural areas, the present article contributes to existing literature on livelihood adaption by shifting focus from how smallholders survive as a result of socio-economic changes to exploring a livelihood adaption of a group (rural mason) whose livelihood is not mainly farming. This may extend the utility of livelihood adaption construction in understanding how vulnerable rural non-farming households respond to economic and livelihood disturbances.

METHOD

In this study, the subject of traditional rural masons’ livelihood and livelihood adaptation was explored using in-depth interviews and focus group discussions with active and retired rural masons skilled in construction of indigenous Yoruba housing style. The study was conducted in three purposively selected rural communities in Ibadan – Moniya (Akineye LGA), Lalupon (Lagelu LGA) and Aba-Nla (Oluyole LGA). These communities were chosen based on availability of a number of respondents needed to satisfy the objective of the study. However, the author was unable to ascertain the total number of traditional masons in the selected communities due to a number of factors including; lack of organisation and official data of practitioners of indigenous rural masonry as well as the absence of membership of a registered association. In other words, unlike their modern counterpart, traditional masons seem to have no association at least in the study area where the research was carried out. The reason for this may not be farfetched. It is a fact that most of the practitioners of indigenous rural masonry are very old and few, if any, young person today is aspiring to acquire the skills and technology of the trade leading it towards gradual extinction. Hence, the interviewees and discussants were selected through snowballing technique. The fieldwork was carried out between August and October 2012. In all 24 in-depth interviews and 3 focus group discussions (this consist of 7 indigenous masons on the average) were conducted to gather data used for the study. The respondents were chosen based on certain criteria including, 1) Age, 2) knowledge of the object of study, 3) their current social and economic engagements, and 4) their ability to be confirmed by other masons in the areas as active or veteran traditional masons.

The selected traditional rural masons were asked to describe; technology and skills required; the influence of modern building technology and construction on their own means of livelihood and how they adapt to threats to their source of livelihood. Data derived from the narrative of the masons were content analysed.

RESULT AND DISCUSSION

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Here, we first describe rural masons’ understanding of how widespread neglect of indigenous technology by many rural inhabitants affects their source of livelihood. In this way, the socio-economic conditions of the participants and the ways in which declining patronage of their skills combine to challenge masons’ primary source of livelihood are discussed. The significance of livelihood adaptation mechanism adopted to circumvent this challenge is then considered.

Modern Building Technology and Traditional Masons’ Livelihood in Rural Ibadan

In spite of the rural nature of the study areas, observation reveals an increasing number of buildings constructed with modern construction technology. Houses built in concrete and hollow blocks are present everywhere. These buildings – modern houses built with cement and blocks – in all the study areas - sharply diverge from the scholarship on rural housing. Some housing and urban and regional planning scholars (for example, Ifesanya, 2007; Wahab, 2007), have attempted to present rural housing as mainly a system of construction based on traditional earth materials. Current construction situation in the selected communities however point to the contrary. Apparently rural community construction landscape has changed from what Wahab (2007) and Ifesanya (2007) reported with the existence of numerous completed and incomplete houses built with modern materials in these rural areas.

The emergence of these buildings suggests a trend in construction activities that has largely moved away from the indigenous construction methods. As a matter of fact, all masons interviewed described building constructed with modern construction technology as the first choice of many inhabitants of their communities. Their views show sufficient understanding of the consequence of this shift, although many of them expressed sadness at how this is affecting their livelihood:

We are in modern times. Things are changing and few people want to remember the past. Personally, I feel the change in building mainly from the point that I hardly get called to build anymore. In the past, here (in Lalupon) I helped built many houses and people requested for my service as far as Ile-Igbon and Ejioku (communities outside Lalupon). But because people now prefer to build with cement blocks, hardly do people call for my service these days.

Traditional Mason IDI/Lalupon, Lagelu LGA (October 18, 2012)

Available Federal Government statistics in Nigeria show that of the total population of housing units built with any kind of building materials, 38.46% are constructed with traditional/mud/reed materials (FGN, 2007). The state wide data show lower figures especially in parts of Southwest, Nigeria. In Oyo state, for example, the total number of housing units recorded by the 2006 National Population and Housing Survey is 1,248,105 out of which only 26.8% is constructed with traditional materials. Naturally, and as scholars (see for example Wahab, 2007) are accustomed to show, the rural axis of the state are expected to house more dwellings constructed of what is commonly referred to as traditional materials. However, it appears that the tide of modern building technology has overtaken traditional material even in the rural areas. In the three local government areas where this study was carried out, the FGN (2007) figures for materials used for wall finishing are: Akinyele (Mud 25.7%; cement 70.95%), Lagelu (mud 29.7%, cement 65.57%) and Oluyole (mud 17.10%, cement 79.19%). Other housing materials such as the one adopted for flooring and roofing appear to have met with similar fate.

The implication of the above scenario is that while modern masons are experiencing higher rates of demands for their skills, the older (traditional) masons are experiencing sharp decline in patronage. Majority of traditional builders confirmed this and view this circumstance as having adversely affected their livelihood and economic conditions. For example, a traditional mason explained that:

Introduction of modern methods and tools of building has greatly affected those of us who have no other means of livelihood order than building work. In this community, for example, the people used to call on me to build new (traditional) houses or amend the old ones for them. But now even if the old ones (traditional houses) collapsed the owners will rather call upon a bricklayer to help them rebuild than call upon my skill. I only get called to do some little repairs especially during the rainy season from those who could not afford to build modern type of houses.

Traditional Mason IDI/Aba-Nla, Oluyole LGA (August 15, 2012)

Furthermore, in a focus group, pattern of discussion among discussants appear similar to the one offered by individual interviewees. More importantly, what they seem to be suggesting is the view that traditional rural masons’ main source of livelihood has been slowly eroded:

Modernity has brought new method of building. Bricklayers are those who have acquired the new skills and knowledge that come with modern method of building. For those of us who could not have the modern skills of building, people do not tend to call us any more for jobs. Except for minor amendment, we hardly obtain any building job throughout the year. Traditional Mason
Traditional rural masons also described in specific terms the kind of skills they have to acquire, suggestive of the tools and construction materials they need to learn to handle for them to be able to continue to be relevant among their peers in the industry. For many of this group of masons survival by readapting to their environment is the paramount concern:

To survive, I had to go and learn how to build with blocks. I learnt the use of trowel, plum and range to be able to set and plaster blocks.

**Traditional Mason IDI/Moniya, Akinaye LGA (October 18, 2012).**

To traditional rural masons declining preference for traditional building skills only left them with the option of flowing with the tide of modernity. But they also recognise that the root cause of their problem is outdated building skill/knowledge. All the livelihood disturbances they face are caused by the type of houses, construction materials and the attendant skill requirements. Thus, they appreciate the fact that their continuing relevance, if not survival, depends on understanding how to build houses using modern construction technology. When the traditional rural masons begin to speak about this it was clear that they seem not to mind the fact that this would require them to acquire ‘new’ skill, process and technical capability of building distinct from the ones hitherto possessed by them.

*When I discovered that within my community my skills and building knowledge was no longer relevant to what the people want I decided to become a bricklayer.*

**Traditional Mason IDI/Lalupon, Lagelu LGA (October 18, 2012).**

In accepting to acquire modern knowledge of construction, the traditional masons have sharply aligned with the conventional wisdom of the Yoruba people who say: *bi esin badani a tungu ni* (one only needs to remount a horse following a fall from its back). The action of the masons is also a rational action, because scholars have also stressed the fact that human survives, in the face of mundane and spiritual challenges, by self-reinvention (Berker, 2011). For the rural masons, their reinventions (adaptation mechanism) take the shape of skill upgrade. The decision to opt for retraining and skill upgrade to the more conventional construction skills is to provide the masons with a widened job horizons and economic scope. This adaptive mechanism appears to offer the traditional rural masons a somewhat extended opportunity to obtain construction jobs within both traditional and modern built environments. However, the questions are, how did they acquire this new skill? From where/whom did they learn? Did they earn any other type of income during retraining? Or how did they take care of their...
family? The following quotes help clarify these questions:

“I was already a matured man (aged 34) with a large responsibility when I decided to go and learn bricklaying method of building. I just decided to learn the trade by myself to escape from becoming a social miscreant. Even when I told my mother she scornfully said it was too late. But then I contacted my friend who was a bricklayer and told him that I was coming to learn the trade and he agreed. So he took me under him as his apprentice but I was always going back to my family in the evening after the day’s work has ended.”

In-depth interview/Moniya, Akinyele LGA (September 08, 2012)

When probed if he was earning anything while the training lasted, he says: Well yes. In fact I was not really treated the way a new apprentice is always treated in the job. This may be because I already have knowledge of building and have been building and earning before I decided to go for retraining. At the end of the day’s job I was always given some reasonable amount of money to take home.”

In-depth interview/Moniya, Akinyele LGA (September 08, 2012)

There are questions to be asked about the picture the interviewee attempts to paint about his retraining experiences. This is because his views suggest that the process and social relation of retraining between those who already had prior experiences in building (even when such knowledge and skills are in traditional type of building) and the modern master (from whom they now have to learn the rudiments of modern masonry techniques) are always smooth. So the question is: was the seemingly ‘smooth experience’ that this interviewee holds a result of the facts that he had prior “knowledge of building and have been building” before opting for retraining? Or was his cordiality with his master a function of his familiarity/friendship with his supposed ‘master’?

This question is asked because although prior knowledge may be an important asset that such trainee brings into the new social relations, it may not be enough condition to guarantee smooth or hectic free and non exploitative relations between him and his master. In fact, if there was no prior friendship bond between the two, it is possible that the nature of social relations between these social actors may only be a little less than the ones entered into between young and inexperienced apprentices and master masons. This is because as one interviewee explains, it was a challenge for a master mason to revert to becoming an apprentice:

“At the time of my converting to bricklaying, there was nobody in this (Lalupon) community who had the capacity to build with modern bricklaying knowledge. So there was little option left for me but to go to Ibadan since I have decided to learn the work. My uncle who lived in Ibadan was a carpenter; it was through him that I met my master who then was living at Beere area. But there were many challenges. It was not easy because to change from someone who is a master (oga) to someone who has become an apprentice is not easy. It took courage and perseverance.”

In-depth interview/Lalupon, Lagelu LGA (October 10, 2012)

When I asked this interviewee to describe specific challenges he faced, he offered this:

“To start with, until after six months since I became an apprentice under my oga (master) did he decide to start giving me some little amount of money. Prior to this time, he never ventured to offer me anything at the end of a day’s work. Though he was aware that I was married and that I had been building in the traditional ways, he decided to treat me like any other apprentice. This was initially hard for me to take particularly because I have a family to which I have the responsibilities to take care. So this (lack of regular income) affected me and my family a lot. The saving grace at this time was that we all lived on my wife’s earnings as she was a trader in kola nut.”

In-depth interview/Lalupon, Lagelu LGA (October 10, 2012)

The above information suggests that the decision to stick with building was essentially economic survival in nature. This conclusion becomes obvious with the fact that everyone of the masons was already married; with family responsibilities at the time they decided to go for retraining. Also, they all faced the same question on their future. They had concerns on the future prospects of their occupation as well as how to financially care for their family. Perhaps, this concern played a pivotal role in their decision to stick with what they knew how to do even if they had to shift focus to the modern aspect of housing construction.

Nevertheless, the above descriptions further show that traditional rural masons that took the option of going for retraining encountered different experiences. While the general pattern of responses tells a story of challenges and difficulties, others seem to have soothing experiences. In other words, although they all had prior building experiences in traditional building system, their retraining experiences (in terms of social and economic relations with their masters) differ. Consequently, pattern of social relations during the process of retraining between the master and apprentice appears to be based on how respondents became an ‘apprentice’. In this case, the network of kin or familiar relation is an important factor to be considered. Those who had prior kin/friendly relations with those they learnt from expressed less
stressful experiences. Cordial social and economic relations, with their masters, were reported. The case (experience) however appears different with those who encountered their master on a more neutral ground.

The second pattern of action taken by traditional rural masons whose skills are in less demand – and who could not avoid the option of skill upgrade – suggests a return to farming or other vocations to earn a living. According to an interviewee:

Since I have no capacity to build modern type of houses, there has been a little work for me in construction. And this is not just me, many of us (traditional builders) who could not go for retraining have returned to the village. Many of us have family responsibilities; we have to provide for our wives and children, so it is difficult to go and start some kind of training now. Therefore, many of us have to go back to farming in the village.

Traditional Mason IDI/Lalupon, Lagelu LGA (October 14, 2012)

Another interviewee supports this statement by equally saying that:

Look at me will it be normal for me to go and start learning how to build with modern equipments at this age? Where will I start from? Well to answer your question, I go to my farm every morning; that is what I do now to cater for me and members of my family.

Traditional Mason IDI/Aba-Nla, Oluyole LGA (August 14, 2012)

Yet another said:

Well, personally I do not see why people should not go for retraining if they still have the strength to continue with house building work. You can only sell your wares if that is what the people want to buy. You cannot force them to buy what you sell especially if that is not what they desire. So I think for those who still have the power to retrain I will say good for them. But for me, I am too old for building work. So the issue of retraining is not for me. What I do now is farming.

Traditional Mason IDI/Moniya, Akinleye LGA (September 5, 2012)

The above statements show the second coping option adopted by traditional masons (those who could not upgrade their skills) to cope with dwindling economic position as a result of decreasing demand for their skills. In this case, masons’ opinions show that they had to return to farming to cope with the problem of declining demand for their services and that of dwindling financial wherewithal. This category of masons appears to have totally abandoned construction work for other means of survival. An important factor which aids this action is age. Many of those who opined that they moved on to farming are relatively older and more aged than those who took the option of skills upgrade. In their opinions, it seems unwise or ‘abnormal’ for them to go for any kind of modern training considering their age. Hence, returning to farming appears a rational choice for them since the combination of lack of strength for the job and declining demand for traditional building lead to erosion of good financial standing. Therefore, beyond economic survival – as a decisional factor – other factors such as old age and weak strengths are prime motives and deciding factors which shape this course of action among this category of masons.

CONCLUSION

The article analysed livelihood adaptation among traditional masons in selected rural communities in Ibadan, Nigeria. Using a qualitative approach by which we explored the adaptive responses of traditional rural masons to threat posed by low skill patronage, we are able to demonstrate that livelihood adaptation is a reality in the context of traditional rural masons in Ibadan. Adaptive responses by the masons took two dimensions. While some masons chose to cope by reverting to farming to ensure continuous survival, others opted to upgrade their skills from traditional knowledge to modern construction technique. For the first group, factors of age and strength are major setbacks even if they desire to upgrade and continue in the building profession. The second group however who happened to be relatively younger in age mostly reported that they opted to acquire the skills to participate in modern construction system. This result leads to the conclusion that:

1. Traditional rural masons experience livelihood disturbances (as a result of low skill patronage) because of lack of capacity to engage in modern construction system which is becoming widespread in the selected rural areas.
2. Younger rural masons with the capacity to construct traditional housing but who are still interested in building practice are rather opting to upgrade their construction skills than reverting to farming as source of livelihood.
3. Finally, whatever livelihood adaptation adopted by traditional rural masons to ride out of the storm of modern construction technology on their livelihood, it is clear that the society cannot afford the luxury of having to neglect non-farming craftsmen such as traditional masons to their fate.

It is thus not too wide off mark to suggest that traditional rural masons will benefit a great deal from conscious attempt to embrace modern construction technology, enhance their current skill level and old construction methods to suit or conform to current housing aspirations/realities in their communities. This of course is not to suggest a complete abandonment of traditional construction
methods and uncritical acceptance of modern techniques and technology of building, but that a conscious effort to acquire conventional construction skills in addition to old methods will, to a large extent, improve patronage and economic wellbeing since they will have wider market horizons and capacity in more than traditional form of construction.

But this cannot be easy without some assistance to augment any financial difficulties that masons willing to acquire new skills may initially have to face. To promote skill upgrade through retraining among traditional rural masons, the Federal Government of Nigeria may need to:

1. Widen the scope of its current social safety net programmes to capture traditional rural masons willing to undertake retraining. Since retraining may involve becoming an apprentice again to acquire necessary/modern skill of construction (this may be discouraging because of the financial implications that may accompany such action). It is therefore imperative for the Nigerian government to encourage or induce the interest of traditional rural masons by offering support (financially and technically) during retraining period. Such incentive will go a long way in solving some of the financial concerns of traditional masons wishing to migrate from traditional masonry to modern construction system.

2. Establish modern vocational schools equipped with necessary tools and experts in rural communities to aid easy access to modern technical masonry knowledge. One of the challenges that may be faced by masons willing to upgrade their skill is where to acquire the knowledge. Presently few, if any, rural communities have any established vocational training centre within the shortest distance. It may not be convenient or easy to move back and forth (that is from town where they learn and back to the village where they live). It is important to note that establishing rural vocational schools could form an integral part of integrated rural development. Finally this has the benefit of stemming rural-urban migration of manpower required for rural development.

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