

Original article

## “The Reality from the Myth”: The poor as main agents of forest degradation: Lessons from Ashanti Region, Ghana

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### ABSTRACT

The prevailing literature on poverty-environment links mostly presents a rather deterministic view of the nexus between poverty and the environment, revolving around the negative impact of the poor on the environment. Specifically, in Ghana, empirical evidence on the prevalence of forest degradation is sparse because the requisite data are often difficult to obtain. Using a qualitative approach, data collected through in-depth interviews with 45 randomly selected participants and 5 purposively selected key informants (Traditional Authorities) and using a thematic analysis, the poverty-environment, specifically the forest degradation nexus was verified. This cross-sectional study leads the authors to posit that poverty has a minimal negative effect on major forest degradation in Ghana. The study found that the poor were rather conscious, and future-oriented with regard to the environment, specifically forests owing to how their livelihoods and survival are directly linked to their immediate environment. The results suggest that the poverty-environment nexus could be country, or context-specific and varies between geographical and historical contexts. By implication, the seemingly universal assertion that the poor are those who cause major deforestation in communities could be problematic. Henceforth, the study maintains that it would be a fallacy to make generalisations that poverty is the main cause of major forest degradation, since the link between poverty and the environment is very context-specific. We argued on the premise that reduction of poverty in Ghana may not lead to the reduction of forest degradation. Joint implementation of holistic poverty-environment strategies that incorporate both the poor and the rich should be adopted to curb the wanton forest degradation in Ghana.

KEY WORDS: livelihoods, deforestation, energy, sustainability, Ghana, Ashanti Region

ARTICLE HISTORY: received 8 June 2017; received in revised form 29 July 2017; accepted 10 Septembre 2017

### 1. Introduction

Environmental degradation resulting from the dynamic interplay of socio-economic, institutional and technical activities during the past few decades has come to prominence as one of the most crucial current global issues (DESTA, 1999). Environmental degradation is usually understood in terms of high use of scarce non-renewable resources, damage or destruction of key renewable resources (such as soils and forests) and the generation of wastes that are not easily assimilated or broken down by natural processes.

The key driving and underlying causes of wanton environmental degradation globally, particularly

Ghana, include unsustainable mining activities, unsustainable agricultural practices, agricultural land expansion, legal and illegal logging, wood fuel harvesting, wildfires and infrastructure development, population and economic growth, weak governance structures, policy intervention failures, poor institutional coordination, weak institutional structures, low forest taxes & fees regime, and population pressures (FAO, 2010; MINISTRY OF LANDS AND FORESTRY, 2010).

In the midst of this, many international reports and scholars claim that poverty is a major cause of environmental degradation, including the World Commission on Environment and Development's report while the World still lacks reliable quantitative

data on the extent of environmental degradation induced by both the rich and the poor. So much attention has been given to the social problem of poverty as a major factor in environmental degradation especially among emerging economies such as Ghana (NWAGBARA ET AL., 2012).

According to the Bruntland Commission report, poverty is a major cause of environmental problems (WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, 1987). Poverty is one of the greatest threats to the environment (UNDP, 1990). In addition, the WORLD BANK (1992) stated that poor families, who have to meet short-term needs, undermine the natural capital by excessive cutting of trees for firewood and failure to replace soil nutrients. Those who are poor and hungry will often destroy their immediate environments in order to survive. They are responsible for tilling tired soils and cutting down forests. They live in slums and throw waste into gutters and streams, because they lack the basic necessities of life. They lack resources and materials necessary for living within a minimum standard conducive to human dignity and well-being (HEADY, 2000; ANIJAH-Obi, 2001).

Notwithstanding, DURAIAPPAH (1998) suggested that enough evidence existed in the literature to refute the hypothesis that poverty is a major cause of environmental degradation. The powerful and wealthy only degrade the environment if there are institutional, or market, failures. Thus, there is a growing view that the poor are not necessarily the main agents responsible for resource degradation: quite often the rich play a much greater part in this process (METZ, 1991; PRAKASH, 1997; JODHA, 1998). On the other hand, SOMONATHAN (1991) argued that the poor do not have the resources, or the means, to cause environmental degradation. RAVNBORG (2003) also found that the immediate agents of environmental degradation are the non-poor farmers, not the poorest in the Nicaraguan hillsides.

Ghana's economic growth and achievement have come at a significant cost to its environment but a comprehensive, consistent and quantitative assessment of forest degradation is not readily available, especially for the savannah zone (FORESTRY COMMISSION, GHANA, 2012). Nevertheless, estimates indicate that the current rate of deforestation and forest degradation is related to economic growth (3% annual loss of forest cover). Having lost over 60% of its forest cover from 1950 to the turn of the last century (2.7 million hectares) and considering the current deforestation rate of approximately 3% per year (320,803 ha/year) since 2000 and a marked increase between 2013 and 2015 of 794,214 ha/year,

the future of Ghana's forests is an issue of major concern (FORESTRY COMMISSION, GHANA, 2017). Also, almost any single water body has been more extensively affected by harmful pollutants from illegal mining activities, unsustainable agricultural practices and waste disposal leading to water shortages and also negatively affecting public health.

In sustainable development, the link between poverty and the environment has been often mentioned and explored in different countries, and-time periods. Econometric models have been used to analyse the environment-poverty nexus and most studies have been conducted on these two phenomena as well (SIKOD, 1985; ANGELSEN ET AL., 1995; DEININGER & MINTZEN, 1996; DURAIAPPAH, 1996; CAVENDISH, 2000; SCHERR, 2000; RAVNBORG, 2003; DASGUPTA ET AL., 2005).

In any case, attempts to examine the linkages between poverty and forest resource degradation at both national and international levels, particularly in the developing regions such as Ghana have been proven to be incomplete since they mostly fail to integrate the views of the poor themselves. Mostly, when the poverty-environmental degradation link is discussed, the poor who are the main subjects for discussion are often not involved for their voice to be heard and incorporated into policy formulation that purports to tackle both poverty and environmental degradation. Rarely seen and conspicuously missing from the available studies on poverty-environment links are studies involving the views of the poor on issues of environmental degradation. Also, empirical evidence on the prevalence and importance of the poverty-environment nexus is sparse because the requisite data are often difficult to obtain in Ghana.

It is therefore apt, and empirically sound that, the findings from other studies that have been reported elsewhere are verified in Ghana, or otherwise by conducting a qualitative study on poverty-environment nexus with the poor households as the main unit of analysis.

The motivation for this paper is that, a confirmation from the poor as to the role they play in environmental problems, specifically forest degradation, is crucially needed to validate the poverty-environmental degradation link as well as informing on the implementation of appropriate strategies for combating issues of forest and environmental degradation at large. This motivation leads to the study's primary aim of enquiring from the poor, the role they play in many societal environmental degradation problems, specifically forest degradation, to validate the poverty-environmental link in Ghana. Our research questions are formulated as follows: Are the poor indeed

the cause of major societal forest degradation? What are the main livelihood activities and energy sources of the poor? Do the poor accept the blame for causing major forest degradation? The objectives of this study are: Firstly, to know the economic/livelihood activities of the poor. Secondly, to know the source of household energy of the poor for cooking and heating, specifically in the study areas. Thirdly, to ascertain the correlation between their livelihood activities and the sustainability of the forest. Lastly, to know whether the poor accept the blame for causing major societal forest degradation.

## 2. Literature review on poverty and forest degradation

The poverty–environment nexus, a set of mutually reinforcing links between poverty and the environment, has received tremendous attention from development organizations, research institutions and individual researchers (PASANEN ET AL., 2017). Thus, a considerable number of studies have been commissioned across the globe to investigate the veracity of the seemingly universal perception that poverty inevitably causes environmental degradation (RAVNBORG, 2002; SWINTON & QUIROZ, 2003; DASGUPTA ET AL., 2005; CARTER & BARRETT, 2010; CHOWDHURY & AHMED, 2010). It has, however, been established that the poverty–environment nexus exists, but not in all settings, while the nexus also depends on the environmental problem under investigation.

One of the most explicit environmental problems is forest degradation which is defined as a direct, human-induced, long-term loss, or reduction, in forest carbon stocks and forest values (GOFCC-GOLD, 2009). Deforestation and forest degradation are the principal causes of forest cover change and account for a large proportion of global carbon emissions and are threats to biodiversity, carbon storage and rural livelihoods (ACHARD ET AL., 2007; VAN DER WERF ET AL., 2009; CALLE ET AL., 2017). Charting causes for the current high rate of forest degradation has given rise to the perception that a multi-dimensional phenomenon of poverty is significantly related to deforestation and forest degradation. As a result, poverty-related deforestation and forest degradation have recently become urgent global challenges.

When considering the poverty–forest degradation nexus, the poor have been blamed as the main forest degraders in many settings, especially in developing countries including Ghana. Analyzing the poverty–environment literature, DURAIAPPAH (1998) found links between poverty and forest,

land degradation, water and air quality. A recent study conducted in Africa, in the Katonga basin, suggests that forest and wetland degradation exhibit a spatial correlation with poverty (NIRINGIYE ET AL., 2010). The argument is that the livelihoods of a large number of poor households depend directly on environmental resources. On the other hand, excessive reliance of households on environmental resources for their sustenance leads to high rates of deforestation and forest degradation (KEBEBE & SHIBRU, 2017). Activities such as peasant agriculture and charcoal production undertaken by the poor are considered crucial in deforestation and forest degradation. Moreover, as in many parts of the developing world, many poor households use woodfuel, fodder, construction materials, medicine and other products from forests and other natural environments to meet subsistence needs and generate cash income (VEDELD ET AL., 2007; ANGELSEN ET AL., 2014). Charcoal forms a key source of energy in both rural and urban poor households where nearly 80% percent of the population use it as the main source of energy for cooking (ZULU & RICHARDSON, 2013).

Irrespective of these arguments solidifying the perception that the poor are the main forest degraders across the globe, other previous studies have observed no relationship between poverty and forest degradation. For example, PASANEN ET AL. (2017) after conducting a household analysis of the poverty–environment nexus in the Laos PDR concluded that poverty has no relationship with deforestation. Also, CALLE ET AL. (2017) in Uganda found that deforestation and poverty exhibited, at best, an extremely weak relationship. By implication, the wealthier households are, in quantitative terms, the most significant users of environmental resources and as such more responsible for environmental degradation (DURAIAPPAH, 1998; CAVENDISH, 2000).

It is, however, important to note that there is limited quantitative information about some key elements, such as the extent of degraded forest areas, intensity of the degradation, spatial and temporal dynamics of the process (BOLOGNESI, 2015). Also, detailed household and community data are required to ascertain deforestation and forest degradation processes.

With this background, this qualitative study analysed household-level data from the selected communities to ascertain Ghana's perspective of the poverty-forest degradation nexus. Poverty was defined by lack of income and other basic needs such as food, shelter and clothing. The environmental problems assessed mainly included deforestation and forest degradation.

### 3. Materials and methods

#### 3.1. Study design and context

The study is a cross-sectional one with purely a qualitative strand of enquiry, focused on the assessment of the views of the poor on their role in environmental degradation with special emphasis on forest degradation in the Ashanti Region, Ghana. The study espoused the interpretivist paradigm and subjectivist epistemology (ANGEN, 2000) where the original feelings and belief systems of respondents are acknowledged with much prominence. GUBA & LINCOLN (1994) succinctly argued on the premise that, these perspectives ensure an adequate dialogue between the researchers and the interviewees to generate the desired collaborative meaningful reality. These paradigms avoid inflexible structural frameworks such as those in the positivist research and adopt more personal/flexible research structures which are receptive to capturing meanings in human interaction and make sense of what is perceived as reality. With this, the interviewer and his/her informants are interdependent and mutually interactive and remain open-minded to new knowledge throughout the study, developed with the help of informants (GUBA & LINCOLN, 1994; ANGEN, 2000). The study was conducted in five forest degradation hotspots: two urban areas of Bekwai and Konongo, two rural areas of Mpatuam and Teterem as well as one peri-urban area-Ejisu for diverse opinions from different prefectures. Bekwai and Konongo are mining, farming and commercial towns with a high human population and different economic activities, hence posing the risks of forest removal. Similar reasons justify the choice of Ejisu which is also a densely populated town in the Region with economic activities involving primarily mining which have direct links with forest degradation. However, Mpatuam and Teterem were selected for comparison purposes since these communities are rural. The communities are rural where farming and mining are the major economic activities making the risk of occurrence of bush burning and forest depletion high. The five areas are therefore hotspots for forest degradation where adequate and appropriate environmental degradation measures need to be taken. Information coming from these areas could easily be extrapolated to the situation of the entire country, though they are all found in the south and in one region.

#### 3.2. Selection of participants

Considering the study's overriding aim, two sampling techniques were used for the participants. The method used to select participants from the poor population was a simple random sampling. The sampling section involved three stages. Due to the difficulty involved in identifying the poor regardless of any criteria, the study relied on the poverty records provided by the Assemblies. In the first place, a list of the poor population who resided in the selected communities were obtained from the various Assemblies in the study areas. For a confirmation, two questions were used to ascertain and enumerate potential participants. These included whether a respondent was poor and whether his/her economic activity could impact on the environment. After asking these questions, the poor whose economic activities could impact on the environment were identified. Secondly, after the identification of potential participants, the researchers selected the required number of participants from the pools of names in each study area. Overall, 45 poor were selected for the study with a total number of 9 participants from each study community. Lastly, the randomly selected respondents were further randomly allocated to respond to interview. The purpose of the study was not to generalize the results; however, the authors were interested in giving equal chance to all study participants so as to get comprehensive information from both urban and rural perspectives and also to avoid bias in the interpretation of results. Moreover, 5 traditional authorities were selected purposefully to serve as key informants for the study due to their critical role as the overlords of the environment. Participation in the study was purely voluntary, thus informant consent was obtained from each study participant before the data collection process was started.

#### 3.3. Data generation tool and procedure

In order to explore the actual role that poverty plays in environmental degradation through the views of the poor themselves, data were collected using in-depth interviews. In-depth interviews were chosen because they are considered to be the method for understanding perceptions amongst participants (RITCHIE ET AL., 2013). An interview guide was designed in English and then translated into 'Twi', the local dialect of the study participants. The interview guide was subjected to the field test and retest process with potential participants from the study prefectures for the necessary corrections to be made. Also, to ascertain the

validities of the interview guide, face and content validities were ensured. The interview guide was professionally scrutinized and evaluated. This checking and piloting process ensured reliability of the instrument. The outcome interview guide covered participants' socio-demographic information; participants' economic activities; sustainability of the economic activities; participants' general knowledge about forest degradation; participants' suggestions for remedying the current rate of forest degradation in Ghana. In all, 50 interviews were conducted with an average duration of 45 minutes to an hour and took place at the time and place of the interviewees' preference. The interviews were conducted by one of the researchers who was fluent in the local dialect of the participants. Interviews were conducted from March 10 to March 20, 2017. The interviews were audio recorded with prior consent from the participants. The interview guide was used flexibly in response to how the participants responded in the interview. Reflexivity in the research process and attention to new cases was ensured during the data collection procedure.

### 3.4. Ethical consideration

Generally, social scientists are usually faced with ethical problems and cannot carry out research that involves people without any informed consent (ISRAEL & HAY, 2006). With regard to this, various ethical issues were considered and addressed before data collection took place. Firstly, a field introductory letter indicating the purpose of the study was obtained from the Department of Geography and Rural Development, KNUST, Kumasi, Ghana. Secondly, verbal and informed consent was obtained from the study participants. The study participants were briefly informed about the purpose of the research and they were assured of the anonymity of the information they provided. For further assurance of strict confidentiality and anonymity, no names were assigned to the interviewees and no personal identifying details were recorded.

### 3.5. Data management and analytical procedure

All interviews were transcribed verbatim and then translated into English. Informal terms and local dialects were interpreted with the guidance of one of the researchers who is native to the study area. The transcripts were reviewed among the researchers to ensure that all had been translated and transcribed correctly. The transcribed data were re-checked by an experienced qualitative

researcher for quality assurance and control. The study applied *a posteriori* inductive reduction methodology to develop broad and consistent themes (GLASER & STRAUSS, 1967). The thematic techniques were adopted by comparing the responses in order to identify common trends, similarities and contrasts through the application of the Grounded Theorising Approach (GUBA & LINCOLN, 1994). BRYMAN (2004) and BRAUN & CLARKE (2006) noted independently that thematic data analysis is one of the best methods for identifying, analysing, and reporting patterns within data, while also organising and describing the data in rich detail. This method has, therefore, been used to analyse data from qualitative interviews because of its usefulness in exploring contexts and meanings guided by specific themes. Any explanations or theories that emerged were derived from the data-set itself rather than from the researchers' prior theoretical perspective. Specific normative and subjective views from the perspectives of the study participants have been presented as direct quotes. Finally, the analytical techniques used for the study allowed us to make proper discussions, interpretations, and conclusions by triangulating the data with secondary information.

## 4. Results

The findings constitute the inferred views of the participants gathered by the researchers in the field. The perspectives of the participants on forest degradation in the Ghanaian context were the constructed categories from the data. The explanations of the construct identified in the interviews were organised into four themes: economic/livelihood activities of the poor, the source of household energy of the poor for cooking and heating and the correlation between the poor's livelihood activity and the decision as to whether the poor accept the tag of main forest degraders. A total of 50 in-depth interviews were included in the final analysis. Generally, aside from the five traditional authorities, participants were from the general population of poor and included representatives of different occupational groups, such as farming (29), petty trading (2), charcoal production (9) and artisanship (5). All participants in our study were within the age group of 30–60 years. Also, the participants were mostly females (31), indicating the gendered dimension of poverty in the study communities. Most of the participants had no form of formal education (37). The major environmental degradation problems in the communities include deforestation (21), water pollution (20), conversion

of wetlands for mining (4), erosion (3) and low soil fertility (2) in order of severity and intensity. These problems have been associated with ecological degradation, low crop productivity and poor water quality. Further details of the participants are shown in Table 1.

Table 1. Sample characteristics

Variable	Frequency	Per cent
<b>GENDER</b>		
Male	19	38
Female	31	62
<b>OCCUPATION</b>		
Traditional authority	5	10
Farming	29	58
Petty trading	2	4
Charcoal production	9	18
Artisanship	5	10
<b>AGE</b>		
30-39	11	22
40-49	13	26
50-59	16	32
60 and above	10	20
<b>LEVEL OF EDUCATION</b>		
None	37	74
Basic	4	8
Secondary	5	10
Tertiary	4	8
<b>MAJOR DEGRADATION PROBLEMS</b>		
Deforestation	21	42
Water Pollution	20	40
Erosion	3	6
Conversion of wetlands	4	8
Low soil fertility	2	4

#### 4.1. Economic/livelihood activities of the poor

The majority of the study participants revealed that farming is their main economic activity. Participants reported that they mostly farm on pieces of land, basically for household consumption. They described the type of farming to be subsistent and rain-dependent. Participants who were farmers revealed that they mostly grow cash crops, food crops and cereals such as cocoa, palm oil, cassava, plantain, maize and rice. However, it emerged from the interviews that some participants also engaged in other livelihood activities such as charcoal production, petty trading and artisanship. Moreover, discussion on how

participants undertake their livelihood activities was brought to bear. We found that the majority of the participant's livelihoods are directly linked with the immediate environment. The majority of participants in all five sample communities attested that their livelihood activities involved tree cutting (deforestation) and bush burning. Participants who were farmers explained that they prepare the land before cultivation by clearing and burning cleared forest. A similar description was also given by participants who were charcoal producers. Some participants explained further as demonstrated by the following quotations:

*I am a peasant farmer and have farmed for over twenty years'.*

*'I have farmed for the last thirty years. However, I farm on small scale basis'.*

*'My main livelihood activity is charcoal production'.*

*'My livelihood activity is farming. Meanwhile, you cannot farm on a piece of land without clearing the forest to make the land ready for cultivation'.*

*'Deforestation and burning are the main processes involved in land preparation for farming. We cannot farm without first clearing the forest'.*

*'As a charcoal producer, what I do is to get my trees that I will burn first. I get the trees from felling trees purposely for producing my charcoal'.*

#### 4.2. Sources of energy (for cooking and heating) of the poor

Upon discussion with the participants, the study revealed that charcoal and firewood form the main sources of energy for cooking and heating for the majority of the participants. Various reasons were given by the participants to account for the use of charcoal and firewood for cooking and heating. Participants throughout their interview mentioned that an alternative source of energy to firewood and charcoal is costly and not easy to come by considering their socio-economic backgrounds. Also, the majority of the participants clearly indicated that firewood and charcoal are very easy to get as they mostly reside in rural and forest zones. Nevertheless, participants unanimously expressed that getting firewood and charcoal for cooking and heating involve the cutting and burning of trees. Participants elucidated that firewood and charcoal are from cutting and burning of trees. Further elaborations were given through the following quotations:

*'We only use firewood and sometimes charcoal for cooking in this household. This is because we cannot afford other forms of energy like LPG for cooking whereas firewood is free'.*

*'I always use firewood and charcoal because they are free. I can easily go to the forest and cut trees to produce charcoal.'*

*'I will not buy LPG for cooking whereas firewood is free. Even, money for keeping my household is extremely difficult to acquire.'*

*'We get both firewood and charcoal from trees. Normally, we cut down trees purposely for firewood and charcoal while in a few instances too we use already felled and dried trees.'*

#### 4.3. Livelihood activities, energy source and forest sustainability

The majority of participants in all five sample study prefectures had a fair idea of the relationship between their livelihood activities, energy source and forest. Unanimously, participants conceded that their economic activities and energy source have a negative effect on the forest. Participants provided that the cutting of trees in a bid to farm and acquire energy for household cooking and heating contribute to deforestation. However, the majority of participants chiefly expressed that they mostly replant the trees they frequently cut. Interestingly, they revealed that they voluntarily plant trees to protect the environment. Participants provided the reason that their livelihood activities are tied to the environment they reside in, so failure to protect it is a risk to their own survival. As a result, the majority of respondents expressed that they are more conscious of quality and sustainability of the environment. In further demonstration of their views on this matter, these statements are what some participants had to say:

*'Yes, I am aware that when you cut trees for farming and charcoal production it has a negative effect on the forest since forest cover is going to be reduced. Hence, I often replant the trees I cut because if I do not replant, it will affect my farming activities since forests contribute to rainfall.'*

*'I know the implication of my charcoal production on the forest. The more I cut trees, the more I degrade the forest. So I plant trees voluntarily to replace the lost ones.'*

#### 4.4. Rejection of the tag of key agents of forest degradation

Interestingly, the study witnessed a complete rejection of the tag of main forest degraders by the poor. Though the majority of the participants conceded that they contribute to deforestation, they strongly maintained that major degradations are done by other group of people who undertake different economic activities. Participants mentioned

some economic activities in the communities that they believe contribute hugely to forest degradation. Predominantly, activities such as mining and commercial logging were reported by the participants as activities which degrade the environment rapidly and massively than their activities. Furthermore, participants clearly described the people involved in the activities they believe to have contributed significantly to degradation as non-poor but wealthy people. They explained that, comparing the size of degradation they cause with that of the size mining causes in the communities, major degradation was caused by other groups who undertake different economic activities and are not poor. Also, participants revealed that most forest reserves in their communities have been degraded mainly due to economic activities conducted by non-poor. The majority of participants mentioned that it was not only forests that have been massively degraded by the non-poor, almost all water bodies that serve as source of drinking water for the communities have been also degraded and polluted by the activities of the rich. Participants revealed that they contribute least but suffer greatly from forest degradation due to their environmentally-dependent livelihood activities. Moreover, participants provided that no rich person, or any other person in the communities, could support the assertion that serious degradation was from the poor since all the community members are very much aware of the source of major degradation. Hence, participants strongly rejected the notion that they cause major forest degradation in their communities. Participants provided further details as demonstrated in the following quotations:

*'Though we cause environmental degradation such as deforestation, we cannot accept the blame for causing major degradation in this community. This is because I know of people who are not poor at all but their activities cause major forest degradation and deforestation in this community. Illegal mining activity is seriously causing deforestation but those involved are never poor. Hence, we cannot say the poor in this community are the ones causing significant deforestation.'*

*'All the forests in this community have been degraded mainly by illegal mining and commercial logging activities. The people who undertake these activities are never poor but very rich. So how come we the poor are causing major degradation? Even though, we cut trees for farm and energy, the size and quantity cannot be compared to the one caused by mining in this community.'*

*'I hear of this assertion and it marvels me. I have been searching for a platform to voice my views. As you see me here, extremely poor, how many acres of forest can I degrade? How many trees can I cut when farming? And what is even the size of my farm? I can take you to the mining sites in this community to see and verify for yourself the amount of acres of forest mining activities have degraded. Mind you, the people who are into mining in this community are very rich. So I do not want to hear this statement again that we the poor cause the major degradation and deforestation. It is never true'.*

*'All water bodies that serve as our source of drinking water have been degraded and polluted due to deforestation. Lands have been degraded as well which has affected soil fertility. The majority of this degradation is from the rich in this community. They undertake both legal, and illegal mining, causing serious environmental problems including deforestation in this community. Everyone in this community knows this for a fact'.*

Significantly, it was not only the poor who rejected the claim of being major forest degraders in the communities, the traditional authorities, who rule and supervise the activities in the communities also strongly rejected the claim that poor people are the ones who cause most of the environmental degradation problems in the community. The traditional authorities similarly shared the views of the poor that activities that cause major forest degradation such as deforestation and water pollution in the communities are not undertaken by the poor. They maintained that activities such as both legal and illegal mining, commercial and small scale logging are mostly done by people who are wealthy in the communities and not the poor. However, they added that though the poor contribute to forest degradation through their livelihood activities they heavily depend on for survival, but the scale of degradation caused by them cannot be compared to that by the rich. The following quotations give credence to the above disposition:

*'I am the chief in this community and I have noticed over the years that those who cut trees, pollute water bodies and degrade lands in this community are mostly not poor. People who have money are the ones who frequently degrade the forest. Almost all forest degradation cases that come before the traditional authority involve the rich and not the poor. This makes me think that forest degradation is mostly caused by the rich'.*

*'Have you ever seen a poor person who has applied for a concession to mine? Can the poor afford to pay for a concession? It has always been the rich. Do not*

*forget that mining does cruel things to the environment. Almost all the water bodies in this community have been polluted whilst all forest reserves have been degraded, all due particularly to legal and illegal mining activities. I am the chief, I must tell you this with no doubt that major forest degradation problems are from the rich and never the poor, though they also contribute their share, however, I see it not to be meaningful'.*

## 5. Discussion

The present study utilised a qualitative strand of research approach to explore the views of the poor on major forest degradation in Ghana. The findings of this study generally contradict a number of related previous studies (WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, 1987; DURNING, 1989; UNDP, 1990; RAMPHAL, 1992; WORLD BANK, 1992; DEININGER & MINTZEN, 1996) whereas in some instances, certain similarities could be observed.

Our findings revealed that though the poor contribute to forest degradation, they reject the blame of causing major degradation in the societies where they reside as has been generally reported. The study affirms that the poor within societies generally rely on natural resources for their livelihood. The majority were peasant farmers growing rain-fed maize, rice and other cash and food crops, basically on a land tenure basis. Their livelihood activities involved continued cutting and burning of trees and shrubs to make land available for cultivation. The study observed that the push factor for the poor economic activity (peasant farming) is the lack of an alternative livelihood source coupled with limited/lack of livelihood assets to expand their livelihood options. Furthermore, the energy source of the poor also featured prominently. Equally, the poor depend heavily on firewood and charcoal as a domestic energy source for cooking and heating. This finding is in line with a study by MABOGUNJE (2002) that indicates that firewood and brushwood provide about 52% of the domestic energy supply in sub-Saharan Africa, charcoal, another forest product, is also a major source of domestic energy. However, ANIJAH-Obi (2001) maintained that the poor's extensive dependence on firewood for fuel is not a new phenomenon.

Significantly, at the centre of this study is the argument as to who contributed most to forest degradation; the poor or the rich? From the perspectives of the poor themselves and traditional authorities who are the overlords and caretakers of the environment, the study found a unanimous



decision that major environmental degradation manifested in deforestation, desertification and water pollution is caused by the rich in the communities, though the poor contribute their share through their livelihood activities and energy sources. Admittedly, the poor contribute to degradation mainly through the clearance of forests and shrubs for small scale agriculture and energy production for household survival. However, the study found that, the poor have limited access to productive resources by the poor such as land, forest and forest resources, agro-chemicals to cause major forest degradation that has plagued the study communities (SOMONATHAN, 1991; RAVNBORG, 2003).

The scale of degradation caused by the poor as described by the traditional authorities cannot be compared to that of the wealthy in the communities. The activities such as legal and illegal mining and commercial logging undertaken in the communities are by the rich who have the resources to undertake such activities. One important observation was that, when it comes to the environment, the poor, were however, conscious and future-oriented with regard to the environment as compared to the non-poor in the communities. The poor view land, forest and other natural resources as indispensable property, requiring maximum protection particularly from them. This is reflected in the voluntary tree planting and conservation initiatives of the poor in the communities. Also, the poor have the idea that their livelihoods are tied to the environment and, therefore, the deterioration of the environment will come at a cost to the sustainability of their livelihoods. This finding is consistent with the one by BROAD (1994) who found that many of the poor are extremely future oriented and very concerned that the forest degradation would deprive their children (if not themselves) of their means of a livelihood. It also concurs with the evidence by RAVNBORG (2003) in the Nicaraguan hillsides that, the immediate agents of environmental degradation are the non-poor farmers, and not the poorest people.

On the other hand, the findings of the study by MURAD & MUSTAPHA (2010) concur with this evidence. Their study revealed that poor people often manage their environment in sophisticated and sustainable ways, and poverty can serve to limit their impact on the environment. Nevertheless, the findings in this study are in contradiction with HOLDEN ET AL. (1996) and OSTROM ET AL. (1999) who independently observed that people in poverty are forced to deplete resources to survive, and this degradation of the environment further

impoverishes people. Poverty constrained options may induce the poor to deplete resources at rates that are incompatible with long-term sustainability.

This study argued that increasing wealth evidently lead to forest degradation as observed in the study communities. As we interviewed the participants, it became clear that the rich in the communities are the visible agents of forest degradation. Henceforth, the rich in varying capacities, contribute to the unsustainability of forests. High resource exploitation, production and distribution were responsible for most major forest degradation in the communities. The ongoing legal and illegal mining and logging activities in the communities that are causing serious environmental problems such as water pollution and deforestation are mostly in the hands of the rich. This wanton deforestation and water pollution by the rich induces large scale degradation on a daily basis. This evidence is in line with the findings by METZ (1991), PRAKASH (1997), and JODHA (1998) that quite often the rich play a much greater part in the process of forest degradation.

Some strengths of this study needs to be highlighted. To the best of our knowledge, this is one of the few studies verifying the environment-poverty nexus, using a qualitative approach with the poor as the main target group in Ghana. Also, a qualitative study involving 50 respondents from five different communities guaranteed the representation of people with different social, cultural, economic and environmental backgrounds. However, the study is not devoid of its limitations. The limitations of this study are predominantly premised on the setting and research design employed. The cross-sectional study design did not permit an investigation of the cause-effect relationship between poverty and environment. Most of the study participants were also not ready to cooperate with the researchers to ensure a smooth interview process partly due to the apathy factor. The interviews of the study sample were, therefore, executed by external research assistants who were indigenous to the study prefectures. This may have resulted in poor explanations of the questions to the respondents which may have led to poor responses. This has the potential to influence the study findings one way or the other. This makes the generalisability of results somehow limited.

## 6. Conclusion

This qualitative study presents the analysis of the views of the poor in the environmental-poverty linkage with special emphasis on forest degradation

in the Ashanti Region, Ghana. Based on the data collected during in-depth interviews with 50 respondents and a thematic analysis of their responses, the poverty-environment, specifically forest degradation nexus was verified. The findings of the study allowed the authors to align themselves to the school of thought that suggests that major forest degradation in societies are caused by the rich not the poor. The study found that, the poor contribute very little to forest degradation; they are more future-oriented and concerned about the environment due to the fear that any deterioration of the environment will have serious repercussions on their livelihoods. However, the wealthy who have adequate productive resources and access to natural resources such as land and forest are the main visible agents of forest degradation through mass destruction from their economic activities. It was observed that the poor are environmental activists rather than forest degraders.

These results suggest that the poverty-environment nexus could be country or context-specific: geographical, historical, and institutional factors may all play important roles in determining the relative strength and importance of poverty and environment links in different contexts (EKBOM & Boj , 1999). By implication, the seeming universal assertion that the poor are those who cause major forest degradation in communities could be problematic. Thus, the study strongly argues that it would be a fallacy to make a generalization that poverty is the main cause of major forest degradation, since the link between poverty and environment is very context-specific. One needs a verifiable and reliable quantitative data across the globe to make such a generalisation.

In view of this, the study, therefore, recommends that strategies and measures devised to curb forest degradation should not only target the poor as has always been the case in Ghana. The premise that the reduction of poverty in Ghana will invariably lead to the reduction of forest degradation should change. Joint implementation of holistic poverty-environment strategies that incorporate both the poor and the rich should be adopted to curb the wanton forest degradation in Ghana.

#### Acknowledgement

The authors would like to thank the Assemblies who provided the data on the poor which made selection of the study respondents possible.

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