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Case study

Negative externality issues from the operations of home based enterprises (HBEs) in Aba Urban, Abia State, Nigeria

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ABSTRACT

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Home Based Enterprises (HBEs) are seen as having potential for providing employment for the urban poor. They demonstrate evidence of entrepreneurship among urban residents and a wide range of trades come within the umbrella of the HBEs. However the activities of HBEs pollute the immediate environment of where they operate. Surprisingly very little research seems to have gone into this aspect of HBE activities in Nigeria. Using empirical data from Aba urban, Abia State, Nigeria, this paper identifies the nature of solid waste and pollution from the activities of the HBEs. While about 65% of the neighbours to the HBE operations fail to complain about the negative consequences of these activities, they however have some novel ideas on how to better manage these externalities.

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1. Introduction

One of the positives going for home based enterprises (HBEs) is the potential they have for job creation. More significantly such jobs are often if not always to the benefit of the poor who may not find other alternative sources of employment in the urban areas. Home based enterprises are generally seen as those micro and small enterprises where trade takes place in or very close to the residential or the home rather than in a commercial or industrial building or area (Tipple, 2005a). For a more comprehensive discussion on the benefits of HBEs see the

following (Napier and Mothwa, 2001; Mahmud, 2003; Gough et al., 2003; Mason et al., 2008; Lawanson and Olanrewaju, 2012; Abolade et al., 2013; Baba et al., 2015; Egbu et al., 2016).

While a considerable body of literature exists on the economic benefits of home based enterprises, the contrary seems to be the case on issues arising from the negative consequences of the HBE activities in the towns and cities of the developing world. Theoretically in land use planning, there should be segregation into exclusively residential and commercial zones within the urban environment. The problem of pollution and negative externality emanating from businesses and industrial activities in proximity to residential areas and the apparent health and safety concerns led inevitably to the desire to put some distance (physical distance) between residential areas (Home) and commercial (Central Business District) (CBD) as well as Industrial areas (Industrial Zones). Therefore, if land use planning in the form of land use zoning regulations aim to remove from residential zones “incompatible” activities including commercial and business activities, what are land use planning officials to do about the unavoidable fact that many people will, at least from time to time work at home (Garnett, 2001)? While some home based enterprises may go on in residential areas with neighbours unaware that such businesses are conducted where they live, other HBEs may attract vehicular movements (cars, trucks) and could involve signage on otherwise residential neighbourhoods that could be a source of concern to neighbours who are not party to the transaction between HBE operators and their clientele (Egbu et al., 2008). Pigou (1932) saw the market as failing therefore. That is prices and costs generated through the market process fail to capture the costly effects of externalities, and thus he proposed corrective mechanism in the form of marginal taxes and land use regulations equal to marginal values of externalities. This it is argued would induce those responsible for generating externalities to cut back production or consumption to socially optimal quantity.

Nappier et al. (2000) noted in their study in South Africa that generally the harmful effects of the wastes emanating from HBEs and the impact they have on environmental health within the home were fairly limited. Tipple et al. (2001) observed that waste generation and disposal are potential problems for HBEs with few potentially noxious or hazardous waste materials such as cadmium, diluted acid, needles, soiled dressing and razor blade disposed by operators of the HBEs. Kellet and Tipple (2002) noted that few HBEs generate dangerous or unpleasant substances such as hairdressing chemicals, paint thinners glues and paraffin though in small quantities. These HBEs combined, generate waste ranging from used packages of different sorts and sizes, plastics, foils and cardboards, aluminum bottle tops, cans, glass and bottles (Tipple, 2005b). Pillay et al. (2008) in their study of HBEs in the Chatsworth-Durban area of South Africa observed that a link existed between atmospheric chromium (Cr) pollution and home based industries in the area, concerns being on the carcinogenic nature of oxidized chromium. In his study of HBEs in Kenya, Agwu (2014) observed that visual aesthetics in the Buru-Buru residential estate was impaired while noise pollution and waste generation were negligible.

While within the literature there exist a number of studies on the pollution and negative externality issues arising from HBEs activities in a number of countries as outlined above, similar studies seem to be almost completely absent in Nigeria. Studies on the home based enterprises focus exclusively on the job creation potential of these enterprises. For a more detailed insight into these studies see: Lawanson and Olanrewaju, 2012; Abolade et al. 2013; Baba et al. 2015. This gap in the extant literature provides the justification for this work. Other reasons for this study include the need to determine what actions if any neighbours to these HBEs explore to assuage the negative consequences of the actions of the home based enterprises. One other question that needs to be answered is the role of the land use planning system if any in the attempts by neighbours of HBEs seeking to overcome the negative effects of HBE operations.

To achieve the tasks set out above, this paper is divided into four parts. The first is the introduction which provides a brief definition of HBEs, theoretical basis for land use planning to manage externalities and a review of available literature on the negative consequences of HBEs, noting the obvious absence of similar studies in Nigeria. The second part of the paper is a brief description of the area of study. The third part of the paper is the methodology. The fourth part of the paper is the discussion of results from analysis of data drawn from the area. The fifth and final part of the paper is the conclusion.

2. Case study area

The case study location is Aba, a city located in the southeastern part of Nigeria. Figure 1 is a map of Aba urban and its environs. The coordinates of Aba urban using the Universal Transverse Mercator (UTM) system are 318944 Easting and 564869 Northing. Aba is the main trading and commercial center in Abia State, Nigeria. The

(2003) and Punch (2005) inform the choice of this approach. All the structured questionnaires consisted of pre-prepared questions, with a set of answers from which the respondents had to choose. The main advantage of this approach is its ability to achieve reliability and comparability of measurements. Another advantage of this approach is the standardisation it brings to bear on the survey, since field assistants were used in the survey exercise. The qualitative research design was adopted to elicit from the neighbours more detailed reasons for the domain responses they indicated in the structured questionnaires.

Table 1

Residential neighbourhoods from where sampled data was obtained on HBE operations and their neighbours in Aba Urban Nigeria.

Residential neighbourhoods	HBE operators	Neighbours of HBE operations
Ogborhill Neighbourhood	27	25
Amamuong (Ngwa Road) Neighbourhood	33	32
Eziama Residential Neighbourhood	20	23
Total	80	80

The simple random sampling method adopted was to obtain data from the operators of the home based enterprises and the neighbours who reside close to them in the residential neighbourhoods in Aba urban, Nigeria. With no available frame of operators of home based enterprises in the residential areas of Aba urban, field assistants were employed to move around the residential neighbourhoods of the area sampling operators of HBEs working in residential buildings they visited as well as the neighbours who reside in these building and residential compounds. The field assistants read out (face-to-face interview) the structured questionnaires to the operators of the home based enterprises that were present at the time of the visit and ticked off the domain responses. A total of 160 respondents were sampled at random to obtain the quantitative data for this research (80 for HBE operators and 80 for neighbours to the HBE operators). The exercises were conducted over a period of eleven weeks by separate groups of field assistants (for HBE operators and neighbours to the HBEs) at different times (6 weeks for HBE operators and 5 weeks for neighbours to the HBE operators) in the residential neighbourhoods of Aba urban, Abia State, Nigeria

Collected quantitative data was analysed using the Statistical Packages for the Social Sciences (SPSS) version 17 to generate tables and application of the Friedman Test, Non Parametric statistic, to rank variables. For the qualitative responses from the neighbours to the HBEs the field assistants provided the respondents enough spaces to express themselves in prose form to extensively bear out their minds on some of the options they had indicated in the domain responses in the structured questionnaire.

4. Results and discussion

From the operators of the home based enterprises in the residential neighbourhoods of Aba urban, Nigeria, we sought to find out the types of waste they generate. Analysis of the data obtained is presented in Table 2 in rank order. The table shows that the type of waste that is ranked first (1) is used rubber/plastics/sachet water bags and soda plastic bottle wastes. The second most generated waste is smoke from machinery used for production by HBE activities such as generators and other machinery.

Table 3 provides a breakdown of the types of negative externality complained about by the neighbours to the HBEs in the residential neighbourhoods of Aba urban, Nigeria. The first ranked negative externality is noise from generators that provide power to the HBEs often when the electric power from the public provider is off or the electric current is weak. In addition, noise may come from other machinery, clients of HBEs that sell cooked food and drinks. Other major sources of negative externality include disposal of generated solid waste (into open gutters, into nearby bush and burning), obstruction of the entrance to buildings and compounds by the HBE operations and vehicular traffic generated by these activities.

Having identified the major sources of negative externalities and pollution complained by neighbours arising from HBE operations in the residential neighbourhoods of Aba, urban Nigeria, we sought to know what next the neighbours did. Particularly, we sought to find out if they made any form of complaints to the operators of the HBEs and what responses they got from such complaints. Figure 2 provides a breakdown and answers from the neighbours to the HBE operations. Surprisingly about 65% of the neighbours to the HBE operators did not make

any complaints whatsoever. Of the remaining 35% of respondents who complained to the HBE operators only about 4% got promises to address their complaints and actually had their complaints addressed. The remaining either got promises to get their complaints addressed but nothing was done or had their complaints ignored or the HBE operators picked up quarrels with the complainants.

Table 2

Types of waste generated by HBE operations in Aba Urban Nigeria.

Variables	Ranks	Means
No Waste Generated By HBE Operators	12	1.09
Smoke from Machinery	2	8.59
Waste Water from Activities	6	6.77
Dust and Ashes/Paper	3	8.33
Textile Pieces and Thread	8	6.03
Electronic Components	10	5.46
Oils and Grease	7	6.68
Wire and Nails/Other Metals	9	5.65
Food Remnants	5	6.98
Rubber/Plastics/Sachets	1	9.63
Wood/Sawdust	11	4.58
Glass/Bottle	4	8.14

N-80, Chi-Square-342.237, df-11, Asym.Sig.000

Table 3

Nature of negative externality generated by HBE operations in Aba Urban Nigeria.

Variables	Ranks	Means
No Externality Problem	10	1.00
Noise from Generators etc.	1	8.73
Vehicular Traffic from HBE Activities	4	6.83
Block Entrance for Occupants of Building	3	7.28
Offensive Smell from HBE Operations	9	3.44
HBE Operations Stay Late into the Night	5	6.70
Urinating Around Building/ Compound	6	5.24
Fighting Around Building/Compound	8	4.03
Issues With Disposal of HBEs Solid Waste	2	7.65
Issues With Disposal of HBEs Waste Water	7	4.13

N-80, Chi-Square-436.437, df-9, Asymp.Sig.000

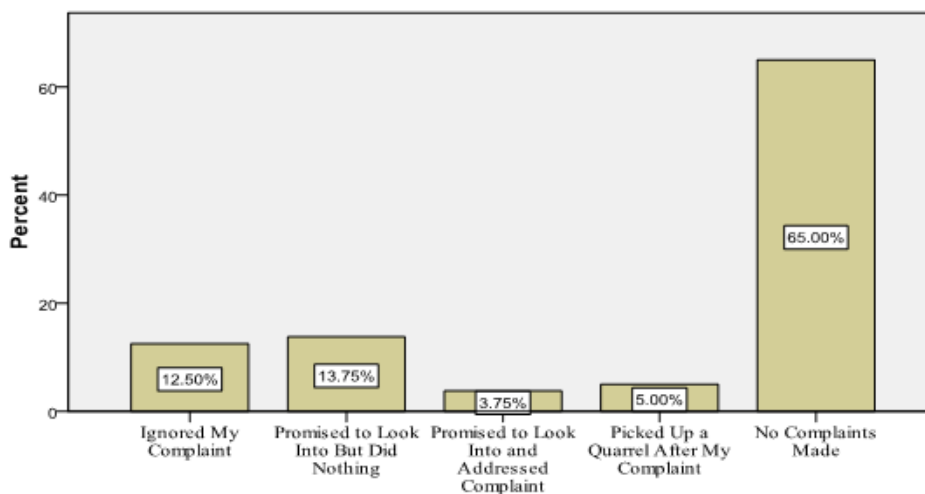


Fig. 2. Reaction of HBE operators to complaints by neighbours in Aba Urban, Nigeria.

To obtain more detailed explanations on why a large number of the neighbours to the HBE operations choose not to complain to the operators we applied a qualitative method where the neighbours were given space to give a fuller explanation in prose form of their reasons for not complaining. The reasons they gave were:

- “I don’t want any quarrel so only complained to the State Sanitation Agency”
- “I am not in the position to dictate measures on how to solve the problems because the planning authorities should know that such structures are nuisance to the environment and should be relocated”
- “I chose not to complain”
- “I don’t complain because I don’t want them to say I am envious of them”
- “It is not that bad that is why and more so, it is their source of livelihood”
- “I don’t have the right to complain to them”
- “Because he is a man of God”
- “Because before renting out the space I knew the kind of work he does”

These expressions from the neighbours to the HBE operators show vividly the range of reasons why they seem not to want to complain to the operators about the negative consequences of their operations.

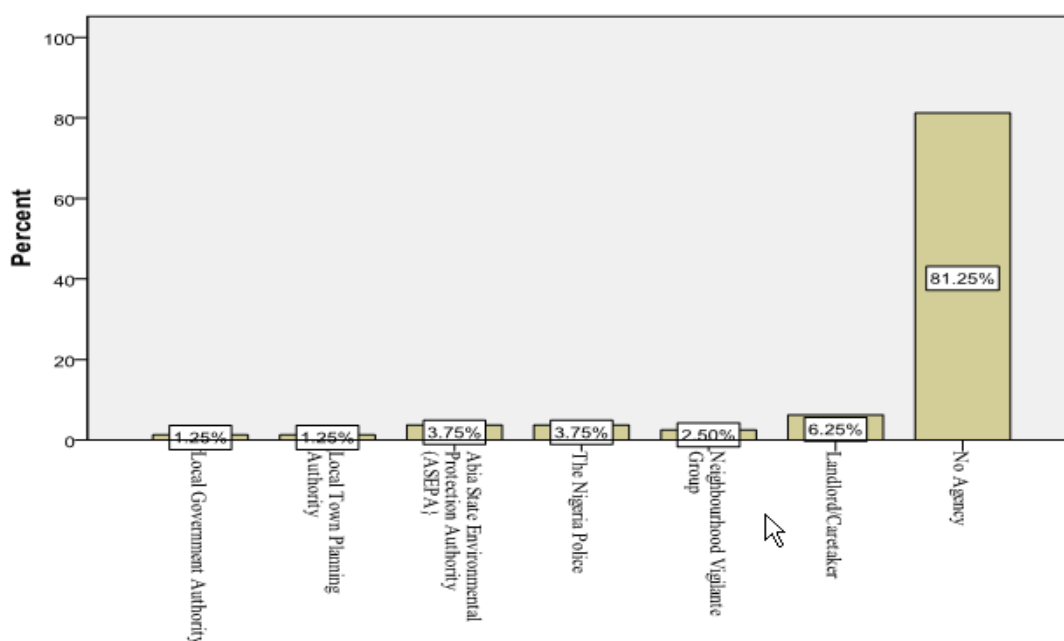


Fig. 3. Agency/Body complained to by neighbours on Negative activities of HBEs in Aba Urban, Nigeria.

The expressions also explain the fact that the neighbours feel that an external agency, preferably government should be responsible for controlling and regulating the activities of the HBEs particularly on matters about pollution. Figure 3 shows the Agencies and Bodies where neighbours to the HBEs operations sent their complaints. Again it shows that the overwhelming numbers of respondents about 81% never complained to any agency of government. Out of the remaining 19% a meager 6%, about 4% and another 4% complained to the Landlords/Caretakers, the Abia State Environmental Protection Agency (ASEPA) and the Nigeria Police. Very few respondents made complaints on the negative activities of the operations of HBEs to the Local Town Planning Authorities. While theoretically the local town planning authorities are expected to regulate and control the activities of developers (including change of uses) in Aba urban, Nigeria, in practice most of those aggrieved by the operations of HBEs do not seem to have confidence in the ability of the land use planning system in Aba urban to provide them with any remedy.

When apparently the market has failed to assuage the negative externalities faced by neighbours to the HBE operations as well as the inability of the government agencies charged with the responsibility to regulate and control the activities of the home based enterprises in the residential neighbourhoods of Aba urban, Nigeria, what options are left to achieve improved environmental condition for the neighbours who live close to HBE operations?

Table 4 might provide a pointer to new ideas on how to better control and manage the negative issues arising from the activities of HBEs in the residential areas of Aba urban, Nigeria.

Table 4

Suggestions from neighbours to HBE operations on control of negative externalities in residential areas of Aba Urban, Nigeria.

Variables	Ranks	Means
Do Nothing	6	1.60
Government Should Close Down Offending HBEs	5	3.49
Force HBEs to Clean Up Negative Externality	1	4.24
Fine Imposed on Offending HBEs for Cleaning Up	4	3.75
Imposition by Government of Tighter Regulations on HBEs	3	3.91
Offending HBEs Be Dragged to Court	2	4.01

N-80, Chi Square-106.161, df-5, Asymp.Sig.000

Table 4 provides ranking of the options indicated by the neighbours of the HBE operations who directly suffer from the negative externality issues arising from these operations. The remedial option with the highest mean and therefore ranked first (1) is to force HBE operators to clean up the negative consequences of their activities. The neighbours seem to accept the fact that HBEs have a positive role to play in the form of providing employment for jobless residents where they operate; nonetheless, neighbours feel that HBE operators need to be more responsible for cleaning the environment where they operate. The neighbours also feel that some force would be necessary to make HBEs be more accountable to the environment. This force may come from the law courts. The option for the use of the law court indicates that neighbours to the operators of home based enterprises feel that the institution of the law courts may be more effective than the current regulatory and enforcement mechanism for managing the negative issues from HBE activities. The above suggestions should spur policy makers and governments at the urban and local levels to explore other alternatives to overcome the negative consequences of HBE activities. The use of the institution of the Landlord/Caretaker as indicated in figure 3 above as a body which neighbours to the HBEs complain to over pollution from the enterprises provides an innovative alternative to be considered for environmental management. This also reminds us of the potential of property rights approach to pollution control which could be of immense value in the peculiar problem of pollution of home based enterprises in the residential neighbourhoods of Aba urban, Nigeria.

5. Conclusion

The generally accepted perception of home based enterprises is an economic activity often carried out in the home or close to the home which provides needed job opportunities for the urban poor. While this perception may be correct it is not the complete truth and most of the available literature on the subject of HBEs has concentrated on the employment generation potential of these enterprises. There is another side to the HBE activities. This other side is seldom heard about and very little is written about it. The operations of home based enterprises produce externality issues which neighbours to the HBE operators and the larger urban environment suffer from. This paper has tried to draw our attention to some of these negative consequences in the residential neighbourhoods of Aba urban, Nigeria. A lot of wastes often solid wastes are generated in the course of the operations of the HBEs. These wastes are mostly similar to the wastes generated by households living in the neighbourhoods. However neighbours suffer from a number of peculiar negative externalities from HBE operations ranging from noise, waste disposal problems obstruction of entrances to residential buildings and vehicular traffic. These are consequences arising from the transactions between the operators of the home based enterprises and their clientele of which their neighbours are not party to, but have to suffer from. Surprisingly most neighbours fail to complain to the operators of the HBEs but they however have suggested measures on how these negative externalities could be better managed particularly getting landlords involved and forcing polluters to clean up.

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