Health impact assessment in Nigeria: An initiative whose time has come

Marcus A. Chilaka,1 Ibiangake Ndioho2
1Faculty of Health and Social Sciences, University of Bedfordshire; 2School of Environment and Life Sciences, University of Salford, Manchester, UK

Abstract
Health Impact Assessment (HIA) is increasingly applied in many developed countries as a tool for advancing healthy public policy. This research was carried out to obtain a HIA situation report for Nigeria and to assess ways of enhancing the use of HIA to promote healthy public policy. Semi-structured questionnaires were administered both online and by hand to health and non-health professionals in Nigeria. Inferential statistics was used in the analysis of the 510 responses that were received. Only 29% of the respondents had ever heard about HIA; similarly, only 19.3% of those who were aware of HIA had received any form of HIA training. However, 93.2% of respondents were convinced that HIA would be beneficial to the Nigerian health system. Using the approach of SWOT Analysis to discuss the findings, this research concludes that the time has now come, and the right conditions are in place, for the integration of Health Impact Assessment into public policy in Nigeria. Raising awareness and political commitment are the two major strategies to help drive this agenda forward.

Introduction
The Gothenburg Consensus paper defines HIA as ‘a combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of the population, and the distribution of those effects within the population’.1 A major aim for using HIA is to help decision makers consider the health consequences of their decisions and to minimize or eradicate, wherever possible, the risk of population health being damaged through some unintended and indirect consequences of a decision. HIA therefore aims to improve the overall quality of public policy decision making through recommendations that will help facilitate the adjustment of the proposed program, project or policy, in order to mitigate the negative health impacts while maximizing the positive impacts.2 This is in line with the World Health Organization’s Healthy Public Policy (HPP) initiative, which is intended to make policies to be “characterized by an explicit concern for health and equity in all areas of policy and an accountability for health impacts”.3

It is now widely recognized that several factors, collectively referred to as the determinants of health,4,5 influence the health status of individuals and populations. Included among these determinants are the lifestyles of individuals as well as other social and environmental conditions, over which individuals have no direct control. Similarly, over the last three decades, it has been increasingly recognized nationally and internationally that public policy is a major determinant of public health.6 This has led to a shift in paradigm from curative to preventative health care which is continually strengthened both by national and regional governments through a growing focus on multisectoral approaches to public health.

In recognition of the crucial link between human health and the environment,7 HIA becomes a very relevant public health tool for enhancing the Sustainable Development Goals (SDGs) and the 2030 Agenda. The Agenda is a commitment by nations to eradicate poverty all over the world and achieve sustainable development by 2030 through a shared global vision. The Agenda includes the 17 Sustainable Development Goals (SDGs) each having a list of targets (totaling 169) that are measured with indicators. The Goals and targets are intended to propel action over the next decade in areas of crucial importance for humanity and the planet, namely people, planet, prosperity, peace and partnership.8

HIA by its underlying principles and methodology fits into this new paradigm shift towards multisectoral approaches to public health; for example, Chilaka showed a strong multidisciplinary and government (public sector) involvement in the practice of HIA in the United Kingdom.9 This was also seen to be replicated in other countries of Europe where it has been adopted as a practical way to consider health and inequalities at different levels of the decision making hierarchy. HIA has increasingly become a significant component of public health policy and practice in many developed countries.9,10,11

In Nigeria, as in most developing countries, the need for health impact assessment as an integral feature of policy development and evaluation is all the more pressing in view of the poor state of its health system and general population health status.12,13 Ironically, the application of HIA in developing countries has been very limited. It is for the foregoing that this piece of research was conceived to assess the level of awareness and application of HIA in Nigeria; to identify the constraining factors and suggest appropriate measures to overcome them, based on the findings of the research.

Materials and Methods
Online and hand delivered semi-structured questionnaires were administered to a total of 1197 health and non-health professionals, public service workers, policy makers and business entrepreneurs within the six geopolitical zones of Nigeria (980 online and 217 face-to-face contacts). 510 responses were received (430 online and 80 hand delivered) and inferential statistics was used in the analysis of the data collected, using MS excel software. The data collection instrument asked questions relating to level of awareness of HIA, training and resources for HIA, as well as motivational factors that can enhance the application of HIA in Nigeria.

Results and Discussion

General profile of respondents
Out of the 510 respondents, 255 (50%)
were of the intermediate managerial class; 180 (35.3%) were supervisors, and 39 (7.6%) were skilled manual workers. Additionally, 31 (6.1%) were of the higher managerial cadre, and 5 (1.0%) were casual laborers. These trends in the characteristics of the respondents tally with the trend in educational levels which shows that 76.8% (392) of the respondents were degree or higher degree level holders. 17% of the respondents had General Certificate of Education (GCE) ‘A Level’ or Ordinary National Diploma (OND), while 6.3% had GCE ‘O Level.’ There was no respondent without any form of qualification. These demographic details of the respondents are shown in Table 1.

The participants were predominantly educated in keeping with the mode of administration of the questionnaire which required some level of expertise in computer and internet usage. Similarly the age range and distribution were typical for those employed in the formal sector.

In terms of organizational category, 60.4% of the respondents were from health sector organizations while 39.6% were of the non health sector. 35.7% were working in government (public sector) establishments; 37.9% worked in nongovernmental establishments; 21.9% worked in the private sector and 4.5% were self employed.

**HIA situation report**

i) Level of awareness of HIA: Only 29.4% (150) of the respondents said they have ever heard of HIA while 70.6% (360) were unaware of HIA as a concept. Furthermore, 63.3% of those in the health sector (195 out of 308) were not aware of HIA while 81.7% of those that are not in the health (165 out of 202) had also never heard of HIA. This shows, unsurprisingly, a higher level of unawareness about HIA among those in the non health sector.

Considering type of organization (i.e. National, multinational or private sector), comparatively more people in the private sector said they haven’t heard of HIA before. While 32.5% of the total respondents were from multinational organizations, 32.7% of those who were aware of HIA were also from that sector. However, while 15.1% of respondents were from the private sector, only 8.6% of those who had heard about HIA worked in the private sector of the Nigerian economy. It should be noted that all the respondents (including those in the multinational organization) were Nigerians. Table 2 shows further details about link between type of organization and level of awareness of HIA.

ii) Trained skilled manpower for HIA: Only 19.3% of the respondents who were aware of HIA (29 out of 150) (5.7% of total respondents) said they have undergone any HIA training; the remaining 80.7% had never undertaken any HIA training. Additionally, 93.3% of respondents that were aware of HIA (140 out of 150) said that lack of trained personnel in HIA is a major hindrance to HIA application in the country. Interestingly, when a crosstab was done between grading of the respondents’ self reported level of knowledge of HIA and training, it showed that 40.0% of those that said they’ve had no training before also had moderate knowledge of HIA while 15.0% of them also indicated to have high knowledge of HIA (Table 3). This goes to suggest that the source of knowledge of HIA could be through sources other than actual involvement and practice of HIA given the fact that the sample population is well educated. On actual involvement in the HIA process, 89.3% of respondents that were aware of HIA said they have never been involved in any HIA as an assessor while

---

**Table 1. General profile and characteristics of respondents.**

| Characteristics                  | Grading criteria | No of respondents | Percentage |
|----------------------------------|------------------|-------------------|------------|
| Socio-economic status            |                  |                   |            |
| High managerial                  | 31               | 6.1               |            |
| Intermediate managerial          | 255              | 50.0              |            |
| Supervisors                      | 180              | 35.3              |            |
| Skilled or semi skilled manual workers | 39        | 7.6               |            |
| Casual labourers                 | 5                | 1.0               |            |
| Education/ Qualifications        |                  |                   |            |
| Degree/ postgraduate             | 392              | 76.8              |            |
| A Level/ OND                     | 86               | 16.9              |            |
| GCE (O/L)                        | 32               | 6.3               |            |
| No qualification                 | -                | -                 |            |
| Age                              |                  |                   |            |
| 18-25                            | 28               | 5.5               |            |
| 26-35                            | 160              | 31.6              |            |
| 36-45                            | 248              | 48.9              |            |
| 46-55                            | 61               | 12.0              |            |
| 56-65                            | 9                | 1.8               |            |
| Above 65                         | 1                | 0.2               |            |
| Type of organisation             |                  |                   |            |
| Government                       | 181              | 35.7              |            |
| Non governmental                 | 192              | 37.9              |            |
| Private sector                   | 111              | 21.9              |            |
| Self employed                    | 23               | 4.5               |            |
| Work orientation                 |                  |                   |            |
| Health related                   | 308              | 60.4              |            |
| Non health related               | 202              | 39.6              |            |
| Organisational spread            |                  |                   |            |
| National                         | 267              | 52.4              |            |
| Multi national                   | 166              | 32.5              |            |
| Private                          | 77               | 15.1              |            |

**Table 2. Cross-tabulation between type of organization and awareness of HIA.**

| Type of organisation | Have you ever heard of Health Impact Assessment before? | Total |
|----------------------|---------------------------------------------------------|-------|
|                      | Yes                                                     | No    |
| National             | 88 (58.7%)                                              | 179 (49.7%) | 267 (52.4%) |
| Multinational        | 49 (32.7%)                                              | 117 (32.5%) | 166 (32.5%) |
| Private              | 13 (8.6%)                                               | 64 (17.8%) | 77 (15.1%) |
| Total                | 150                                                     | 360   | 510 |

**Table 3. Cross-tabulation between knowledge of HIA and training.**

| How would you grade your knowledge of HIA? | Have you participated in HIA before? | Total |
|-------------------------------------------|--------------------------------------|-------|
|                                           | Yes                                  | No    |
| No knowledge                              | 0                                    | 7     | 7 (4.7%) |
| Slight knowledge                          | 0                                    | 47    | 47 (31.5%) |
| Moderate knowledge                        | 16                                   | 48    | 64 (43.0%) |
| High knowledge                            | 13                                   | 18    | 31 (20.8%) |
| Total                                     | 149                                  |       |
10.7% said they have. 18.7% of respondents said they have been involved in HIA as a non assessor, while 81.3% said they have not. These two trends further showed low levels of participation in HIA even amongst those in the health sector.

iii) Policy framework for HIA: 26% of the respondents that are aware of HIA (39 out of 150) alluded to knowing any form of their government’s legislation in support of HIA application; 74% were not aware of any such enabling legislation. The high level of those that said they were not aware of supportive legislation shows the unpopularity or non existence of legislation to promote the application of HIA.

iv) Barriers to implementing HIA: In response to an open ended question, 80 possible barriers to the implementation of HIA in Nigeria were identified, indicating that lack of political will (26.3%), lack of awareness (17.5%) and lack of trained personnel were the three leading factors. Other factors are shown in Table 4.

v) Awareness of Environmental Impact Assessment (EIA): 75.3% of all the respondents (384 out of 510) were aware of EIA. A crosstab between the knowledge of EIA and that of HIA showed that whereas 90% of those that said they’ve heard of HIA also said that they have heard of EIA, only 10% of those that said they are aware of HIA are not aware of EIA. 69.0% of the respondents that said they have not heard of HIA were aware of EIA. This showed a much higher awareness level for EIA which could be attributed to the long existing practice of EIA and the legislative backing towards its implementation.

vi) Very positive disposition towards HIA: 93.2% of the respondents who were aware of HIA believed that HIA would be beneficial to the Nigerian health system; 73.3% said cost and time were not a hindrance. Similarly, 80% of these respondents said that HIA should be prioritized as ‘highly important’ while 86.6% said that they strongly agree that HIA is a necessary tool for effective public health delivery.

Discussion and Analysis

The results and findings from this research are discussed using the approach of analyzing Strengths, Weaknesses, Opportunities and Threats (SWOT Analysis) in order to identify internal and external factors that are influential to the use and integration of health impact assessment in the development of public policy in Nigeria. A summary of the Analysis is shown in Table 5.

### Table 4. Suggested barriers to the implementation of HIA.

| S/No | Barriers                              | Frequency (n = 80), N (%) |
|------|---------------------------------------|--------------------------|
| 1    | Lack of political will                | 21 (26.3%)               |
| 2    | Lack of awareness                     | 14 (17.5%)               |
| 3    | Lack of trained personnel             | 14 (17.5%)               |
| 4    | Socio-cultural problems               | 7 (8.8%)                 |
| 5    | Inadequate facilities (poor or non-functional health system) | 6 (7.5%) |
| 6    | Attitudinal problems                  | 6 (7.5%)                 |
| 7    | Lack of resources                     | 6 (7.5%)                 |
| 8    | Lack of funds                         | 5 (6.3%)                 |
| 9    | Lack of motivation                    | 1 (1.3%)                 |

### Table 5. SWOT Analysis for HIA in Nigeria.

| Strengths                                                                 | Weaknesses                   |
|---------------------------------------------------------------------------|------------------------------|
| Positive disposition of respondents                                       | Low level of awareness       |
| Willingness to know about and apply HIA                                   | Low level of involvement in practical HIAs |
|                                                                           | Lack of political will       |
| Opportunities                                                             | Threats                      |
| Growing awareness of wider determinants of health                         | Cost considerations          |
| Growing Int’l application of HIA                                          | Time constraints             |
| Recognition of HIA by African Union                                       | Unavailability of other resources |
| Established use of EIA                                                    | Resistance by EIA enthusiasts|
| Search for solution to huge burden of diseases                            | Poor democratic culture     |
|                                                                           | General socio-economic conditions |
Increasing International acceptance of HIA

Another factor which provides opportunity for enhancing the usage of HIA in Nigeria is the increasing application of HIA in other developed countries with evidence of its added value to public health and the healthy public policy initiative. Impetus for this increasing usage of HIA is also provided by improvement in the understanding of the role of socio-economic and environmental factors which constitute the wider determinants of the health status of individuals and communities. HIA is a tool for systematically considering impacts of policies, programs and policies which could act directly on individuals or indirectly through the wider determinants of health. Several international development and finance organizations are increasingly recognizing and accepting HIA as a tool to enhance healthy policies. This may be one reason for the observed higher level of awareness of HIA among respondents who worked within multinational organizations. It should also be acknowledged that the African Heads of Governments (AHOGs) have long accepted in principle the need for enhanced usage and integration of HIA into public policies. This is reflected in the New Partnership for Africa’s Development (NEPAD) Health Strategy technical report on Health Impact Assessment (IMCHE/1/CP8). Given Nigeria’s position as the most populous country in Africa, with significant political influence in the continent, it can be argued that if the practice of HIA is developed in Nigeria, it would logically spread to other countries of the continent.

Linkage to Environmental Impact Assessment (EIA)

As a consequence of the United States National Environmental Policy Act of 1969, many countries have incorporated EIA into their urban planning and approval process. In 1992 the Federal Government of Nigeria made EIA a mandatory requirement for industrial plans & development activities. This accounts for the high level of awareness about EIA among the research participants. This high level of awareness and implementation of EIA can present an opportunity for carrying out HIA in parallel with EIA or incorporating both into a suitable Environmental and Health Impact Assessment (EHIA) Model. This proposal to latch HIA on to the EIA process should be approached with caution in order to properly deal with any resistance that may arise from practitioners who may not readily appreciate the need for an additional impact assessment.

Weaknesses and Threats

Low level of awareness and lack of trained manpower

The main weaknesses relate to the low level of awareness about HIA and the low level of trained personnel. Given that the participants in this research were a cohort of well educated and computer literate segment of the population, it is likely the case that the level of awareness and training for HIA within the general population would be much lower than the observed 29% and 5.7% respectively. Additionally, given that Health Impact Assessment is relatively recent and an upcoming public health tool, a good number of the respondents misconstrued it for many different things such as a general health and safety approach; this could be deduced from their responses to some open ended questions. Lack of awareness and lack of professionals have been identified by WHO and others as possible barriers to the use of HIA in government or private sector decision making.

Lack of political support

Another important threat is the lack of political will and legislative support for HIA in Nigeria; this was considered to be the most significant barrier by the participants in this research. Interestingly, the WHO and many other commentators have pointed to the importance of a strong commitment by governments and leaders at various levels in order to enhance the application and use of HIA. The low level of awareness about HIA and its possible public health benefits is undoubtedly one of the contributors to the poor leadership commitment to HIA at its present stage of development in Nigeria; after all people cannot be committed to what they do not know. This makes concerted enlightenment endeavors very essential to move HIA forward in Nigeria.

Poor democratic culture and general socio-economic conditions

The values underlining the practice of HIA include democracy, equity, sustainable development and robust use of evidence. Community participation is increasingly being used as a source of evidence for HIA predictions and wherever such democratization of health is not widely accepted or practiced, as in Nigeria, the practice of HIA is bound to suffer. Similarly, under conditions of financial constraints as is common in developing economies, there is likely to be the suggestion that HIA would put additional financial demands on the health system. It should be pointed out, however, that the expected benefits of HIA (including prevention of illness and deaths) would in the long term far outweigh the cost of undertaking the impact assessments.

Conclusions

While there are many weaknesses and threats, the strength of willingness and positive disposition towards HIA and the many opportunities, especially that of contributing to solve the huge burden of disease, make the integration of health impact assessment into policy development in Nigeria an initiative whose time has now come. Concerted enlightenment campaign and driving up political commitment would be two major strategies to help actualize and drive this agenda forward.

References

1. WHO European Centre for Health Policy. Health Impact Assessment; Main Concepts and Suggested Approach. Gothenburg Consensus Paper 1999. Available from: www.apho.org.uk/resource/view.aspx?RID=44163 (accessed 12/01/2012)
2. Scott-Samuel A, Birley M, Arderm K. The Merseyside Guidelines for Health Impact Assessment. Second Edition. International Health Impact Assessment Consortium (IMPACT) 2001: Liverpool. Available from: www.humanimpact.org/doc-lib/finish/ 11/24 (accessed 12/01/2012)
3. World Health Organisation. “Health21: The Health for All Policy Frameworks for The WHO European Region. European Health for All Series Number Six (6)”. World Health Organisation Regional Office for Europe 1998. Copenhagen.
4. Marmot M, Allen JJ. Social Determinants of Health Equity. Am J Publ Health 2014;104:S517-S519.
5. Dahlgren G, Whitehead M. Policies and Strategies to Promote Social Equity in Health. Institute for Futures Studies 1991: Stockholm.
6. Benach J, Vives A, Amable M, et al. Precarious Employment: Understanding an Emerging Social Determinant of Health. Ann Rev Publ Health 2014;35:229-53.
7. Corvalán C, Kjellström T, Smith K. Health, Environment and Sustainable Development: Identifying Links and Indicators to Promote Action. Epidemiology 1999;10:656-60.
8. United Nations (UN). Transforming our world: the 2030 Agenda for Sustainable Development (IMCHE/1/CP8). Given Nigeria’s position as the most populous country in Africa, with significant political influence in the continent, it can be argued that if the practice of HIA is developed in Nigeria, it would logically spread to other countries of the continent.
16. Bun E. Road Traffic Accidents in Nigeria: A Public Health problem. AFRIMEDIC J 2012;3:34-6.

17. ECN. 60 million Nigerians now own power generators. Energy Commission of Nigeria 2012. Available from: http://www.energy.gov.ng/index.php?option=com_content&view=article&id=47 (accessed 10/12/2013)

18. The Economist. Electricity in Nigeria – Let there be light. The Economist (online), 21 October 2010; http://www.economist.com/node/17312103 (accessed 02/12/2013)

19. Chilaka MA, Nwaneke PK. Integrating corporate social responsibility, health improvement, and community support in development programmes: a case for enhancing the application of health impact assessment in programme implementation in the Niger Delta region, Local Environment. Int J Justice Sustainabil 2015. Available at http://dx.doi.org/10.1080/13549839.2014.1000287.

20. Ison E. Rapid Appraisal Tool for Health Impact Assessment (A task-based approach). 11th iteration 2002; http://www.fph.org.uk/uploads/Intro.pdf (accessed 09/12/2014)

21. Birley, M. Health Impact Assessment: Principles and Practice. Earthscan: Oxon 2011.

22. ADB: Health Impact Assessment – A Good Practice Sourcebook; Asian Development Bank 2018. Available at https://www.adb.org/sites/default/files/institutional-document/452951/health-impact-assessment-sourcebook.pdf

23. ICMM. Good practice guidance on health impact assessment [online], London: International Council on Mining and Metals 2010. Available from: http://www.icmm.com/document/792

24. IISD. A Report of the first Inter-ministerial conference on Environment and Health in Africa. Health and Environment in Africa Bulletin, 14 (1), 2008. International Institute for Sustainable Development (ISD). http://www.iisd.ca/africa/pdf/arc1401e.pdf (accessed 10/12/2013)

25. World Population Review: Population of Countries in Africa 2018. Available from: http://worldpopulationreview.com/countries/countries-in-africa/ (Accessed 02/06/18)

26. Echefu N, Akpofure E. Environmental impact assessment in Nigeria: regulatory background and procedural framework, case study 7. In: McCabe, M. and Sadle, B (Eds), Studies of Environmental Impact Assessment Practice in Developing Countries: A supplement to the UNEP Environmental Impact Assessment Training Manual 2003.

27. Turnbull RGH. Environmental and Health Impact assessment of Development Projects: A handbook for practitioners. Elsevier Science Publishers Ltd: London 2001.

28. HIP. Frequently Asked Questions about the Integration of Health Impact Assessment into Environmental Impact Assessment. Human Impact Partners 2013. Available from: http://www.epa.gov/region09/nepa/PortshIA/pdfs/FAQIntegratingHIA-EIA.pdf (accessed 13/12/13)

29. World Health Organization (WHO). Health Impact Assessment-Use of Evidence. WHO 2011. Available from: http://www.who.int/hia/evidence/doh/en/ (accessed 08/08/2011)

30. Birley, M. Health Impact Assessment in Developing Countries. In Kemm, J., Parry, J. and Palmer, S. Health Impact Assessment: Concepts, Theory, Techniques and Applications. (eds.) Oxford University Press: Oxford 2004.