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Contaminated land management policy transfer: Drivers and barriers within the Nigerian context

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Barriers to successful transfer of contaminated land management policy from one country to another include socio-cultural, economic and environmental differences. While weak contaminated land management regimes desire effective legislation and make efforts to transfer policies from established regimes, contextual differences or characteristics between the two countries involved is a key challenge. These differing characteristics include social values, economic strength, governance structure, and technical know-how. An investigation was conducted through workshop and interviews to determine core social values that are impacted due to contaminated land by oil spills in the Niger Delta region of Nigeria. Workshop was undertaken for participants involving community groups (N=35), while interviews involved contaminated land management regulator (N=8), experts in contaminated land management in the Niger Delta (N=6), and operators in the oil exploration industry (N=7). Water quality, soil quality for agriculture, farming and fishing, and health/wellbeing indicated core social values that influence contaminated land management decisions while stakeholders expressed long-term concern about economic losses, clean-up, environmental degradation and public engagement. It is proposed that policymakers should consider unique conditions and country-specific characteristics in the event of policy adaptation for contaminated land management. An alternative approach to improving contaminated land management is recommended that will account for core social values and accommodate varying perceptions of stakeholders.

Key words: Socio-economic values, stakeholder participation, livelihood, drinking water, oil spills, stakeholders' perception.

INTRODUCTION

Large scale oil spills has led to an epidemic of contaminated sites in the Niger Delta region of Nigeria (UNEP, 2011; Kadafa, 2012; Umukoro, 2012). These sites have had an impact on the health and livelihoods of the local population, as well as an impact on the broader socio-economic and environmental values of the region

(Orubu et al., 2004; Chinweze et al., 2012). The Nigerian Government's response to the management of these sites has been delayed. As a result, over 2000 contaminated sites resulting from oil spills were reported in 2008 (Oyefusi, 2007) with many more oil spills occurring after, yearly (UNEP, 2011), for example, the Bodo oil spills in 2008 and 2009. In addition, legislation in place to manage contaminated site has been fragmented (Ajayi and Ikporukpo, 2005; Sam et al., 2015). In 2011, the United Nations Environment Programme (UNEP) conducted an environmental assessment of a section of the region and reported that Nigeria is in urgent need of improved contaminated land policy in order to address large scale contamination in the Niger Delta region (UNEP, 2011). However, the true state of contaminated sites in Nigeria is unknown as the UNEP report and other relevant literatures could not ascertain the current state and quantity of sites contaminated by oil spills in the region.

The current legislation to manage contaminated sites in Nigeria has been reported to be undeveloped, poorly enforced, and ineffective at meeting stakeholder expectations (Ajayi and Ikporukpo, 2005; UNEP 2011; Sam et al., 2015; Sam et al., 2022).

Countries such as the United Kingdom (UK) and United States of America (USA) have long-established contaminated land management policies (Forton et al., 2012; Sam et al., 2017a). These policies had evolved to address both legacy and new contaminations, incorporate stakeholder expectation and included the principles of sustainability in contaminated land management (Nathanail et al., 2013; Hou et al., 2014; Prpich et al., 2019). The UK contaminated land management regime has continually improved its regulation to reflect current science and stakeholders' values through several stakeholder engagements prior to reviewing the contaminated land Statutory Guidance (DEFRA, 2012; Sam et al., 2017c). This process ensures stakeholders' values are considered in improving contaminated land management policy.

For countries that lack a robust contaminated land management policy, many might seek to adopt policies from established countries, e.g. UK and USA. Many different factors might motivate a country to adopt or emulate the policies of another. This includes a lack of policy on a programme, ineffectiveness of the existing policy (Page, 2000), lack of technical know-how in implementing a policy (Dolowitz and Marsh, 1996), lack of resources or simply a desire to improve available policy (Page, 2000), and a desire for innovation. Cameroon and China have emulated institutional frameworks from the UK in efforts to improve their contaminated land management regimes (Luo et al., 2009; Forton et al., 2012). This process of emulating or copying established contaminated land management from an established regime is described as policy transfer (Dolowitz and Marsh, 1996; Rose, 2002).

Policy transfer is thus described as the process whereby policies perceived to be effective in a particular country or setting are emulated or adapted for adoption in another country or setting (Dolowitz and Marsh, 1996; Stone, 2001). Policy transfer has been used in different settings, in politics to improve political administration (Martinez, 2005), finance to improve monetary policy (Bulmer and Padgett, 2005), and in contaminated land management to improve effectiveness of contaminated land management decision-making (Luo et al., 2009).

Policy transfer is not always successful; this is largely due to differing characteristics between the two countries involved (Dolowitz and Marsh, 1996). This condition include difference in environmental factors (e.g. soil types and chemical properties) (Luo et al., 2009), administrative and governance framework (e.g. procedures, expertise and experience) (Dolowitz and Marsh, 1996), institutional policy (e.g. policy goals) and socio-cultural factors (e.g. understanding values and expectations) (Page, 2000), and economics (e.g. funding) (Benson, 2009; Evans, 2009). Luo et al. (2009) identified two key challenges with policy transfer in contaminated land management, namely, environmental variability and impracticable integration into existing policy. Difference in environmental media and specific conditions that characterize a country in policy transfer is likely to affect effective policy transfer. In addition, governance structures, historical development and socio-cultural factors could affect policy transfer in contaminated land management.

Countries seeking to improve extant policies through policy transfer need to consider the context in which the policy is to be implemented. To achieve this, pertinent questions to provide answers to include; (1) Does the policy meet stakeholder values and concerns? (2) Is there economic and personnel resources for implementation? (3) How does the policy fit into the governance structure and existing regulations? Answers to these questions will seek to resolve challenges that affect the effectiveness of transferred policy.

In this paper, a key factor that impacts on the effectiveness of policy transfer is explored, namely; social values and perception (Sam et al., 2017b). The study investigated how social values differ between contaminated land management stakeholders and how this could lead to ineffectiveness of transferred policy. It also discussed an alternative approach to improving policy that will account for the unique socio-economic and environmental conditions within Nigeria.

METHODS

General overview

In this study relevant stakeholders were engaged through workshops and interviews to gather data on values and perceptions on the impacts of ineffective contaminated land management in the Niger Delta region.

Figure 1. Sample postcard used during interview. The postcards were used to communicate with semi-literate stakeholders that could not understand English.
Source: Author

Planning and preparation

Literature search to identify stakeholder values in the Niger Delta region were conducted. The literature search on Google, Google scholar and Science direct used key phrases including "values impacted by oil spills in Nigeria" and "concerns from contaminated land in the Niger Delta". This resulted in numerous values, however, in order to effectively manage stakeholder response and directly focus on the key issues in the Niger Delta only 13 of these values was selected. The 13 values considered include drinking water, soil quality, communal crisis, and health/wellbeing (Figure 1). These factors were validated through emails and voice calls with contaminated land management stakeholders in the Niger Delta.

The postcards (Figure 1) were used to communicate with semi-literate stakeholders that could not fully understand English language, for example the postcard on soil quality was used to communicate availability of fertile soil for agriculture. Other postcards that were used communicated health/wellbeing, drinking water, farming, and fishing, resource conservation, cultural places, loss of biodiversity, communal crisis, family, and household, legacy for future generation, financial issues, collaboration/co-existence and reputation.

Workshop

A workshop was conducted to identify stakeholder values that are impacted by oil spills in the Niger Delta region of Nigeria, in December 2016. Stakeholder values refer to the necessities (e.g. quality drinking water) that stakeholders hold in high esteem which are impacted by oil spill in their environment. These values and perceptions define the setting of the Niger Delta region and reflect stakeholder's expectations in contaminated land management. Thus, these values and perceptions play a considerable role in the adoption of policy or decision making for policy improvement.

Different stakeholder groups and selected participants who were able and willing to participate in the workshop and interviews were identified. The study targeted stakeholders with knowledge of contaminated land management in Nigeria. From the pool of stakeholders, participants were selected across oil impacted communities that have experienced oil spills (that is, Nsisioken, Ogale, and Kwawa), experts that participated in the UNEP environmental assessment of Ogoniland, operators in the oil industry in Nigeria, and the contaminated land regulator in Nigeria (Department of Petroleum Resources) (Table 1). However, only community groups were able to attend the workshop while other stakeholders were engaged through interviews.

The workshop was held at the community town hall Ogale comprising of thirty-five (35) participants from the four local government councils of Ogoniland, in the Niger Delta region, using the procedure described in Figure 2. At the beginning of the workshop, the aim and significance of the workshop was explained in an introductory remark, followed by consent and assurances of confidentiality of participants' data. After this, participants were put in seven groups of five persons each, to aid knowledge sharing and networking. Data collection was facilitated by the use of postcards that had images that represented by different valuables impacted by oil spills in the environment.

Participants were asked to prioritize identified postcards in order of importance, with the first indicating the most important and the last the least important valuable impacted by oil spills. Group members discussed their priorities and rationale with other members of the group. During this 30-minute deliberation by the groups, participants within each group had to agree on a single prioritized list of valuables most affected by oil spills. A representative spoke on behalf of each group to share their prioritized list with all workshop participants. Lastly, participants were asked what they would do to help the people if they were in authority. Responses from the groups were captured electronically using a voice recorder and then transcribed for analysis.

Table 1. Stakeholder values described using postcards.

Value	Element	Description
Socio-cultural	Communal crisis	Communal crisis refers to crisis that exists between communities, oil companies and government
	Cultural places	Cultural places include places of worship and cemeteries
	Family and household	Children, parents and relatives
Environmental	Drinking water quality	The water used to provide drinking water to communities
	Loss of biodiversity	Loss of variety of flora and fauna in the local environment
	Resource conservation	How you use, allocate and protect your natural resources such as fishes and mangrove habitats
	Soil quality for agriculture	Maintenance of soil quality to enable agriculture for nutritional and economic value
Economic	Food and local supply chain: farming and fishing	Sources of local food supply such as farming and fishing, and nutrition
	Legacy for future generation	Natural resources you wish to transfer to your grandchildren are in decline
	Human health/wellbeing	Health and wellbeing (sickness and diseases)
	Financial issues/income security	Financial health, the ability to sustain an income
	Reputation	The reputation of your community or institution
	Collaboration/ co-existence	Collaboration and cooperation among operators, regulators, community members and government

Source: Author

Interviews

Twenty-one interviews were conducted between July and December 2016. Each interview lasted between 80 and 90 min. The interviews were to identify stakeholder values and perceptions that are impacted by oil spills in the Niger Delta region of Nigeria. Interview participants comprised of experts on contaminated land management in the Niger Delta, regulator and oil industry operators that were not able to attend the workshop. The tool developed to drive the engagement process is presented in Table 2.

Data analysis

Qualitative data from the workshop and interviews were obtained in the form of audio recordings. The data were transcribed into MS Word and stored on a personal computer. The transcribed data from the workshops and interviews were analyzed using the content analysis methodology (Sandelowski, 1995; Krippendorff, 2012). This methodology allows the reiterative reading of the qualitative data in order to understand the meaning and possible topical issues addressed in the data. These topical issues form units which were later used to form clusters and then typical themes discussed (Table 3). Consistency was validated by a second researcher using the coding rules and reiterative coding (Carey et al., 1996). The data was manipulated using descriptive statistics in MS Excel and presented in graphs.

RESULTS AND DISCUSSION

Stakeholder overview

The demographic distribution of stakeholders chosen for this study was broadly consistent with the demographics of the Niger Delta region (e.g. more males 54% than females 46%) (NDDC, 2014), with the majority of the participants (64%) between the ages of 40-59 years. This age group is the most literate age group in the region (78%) (NDDC, 2014; Table 4) .

Participants from all stakeholder groups stated that they had been affected directly, or indirectly, by oil spills. In many instances, interview attendees had upwards of 10 years' experience dealing with oil spill contamination, while many workshop participants had been living with/on contaminated land since their birth. One workshop participant explained thus *"Since I was born I have been living here, I am almost 60 years in age. What experience about oil spill sites do you still want me to have? I have experienced it all my life".*

Stakeholders' priorities

To identify stakeholder priorities that influence contaminated land management decisions within the Niger Delta region of Nigeria, participants were asked to identify factors that they valued most which are impacted as a result of land contamination by oil spills. Identifying these priorities would ensure an understanding of the contextual socio-economic and environmental factors that require immediate attention in the region. It would also identify factors for consideration in policy improvement. Of the 13 Stakeholder values outlined, seven of them were prominent during prioritization (Figure 3). In Figure 3, the tip of the heptagon represents the seven core priorities, valued by stakeholders. The percentage of each stakeholder group that valued each priority is represented in the heptagon. Drinking water quality, soil quality, food and local supply chain (farming and fishing) –as well as health and wellbeing were identified as the most valued factors affected by oil spills and thus could
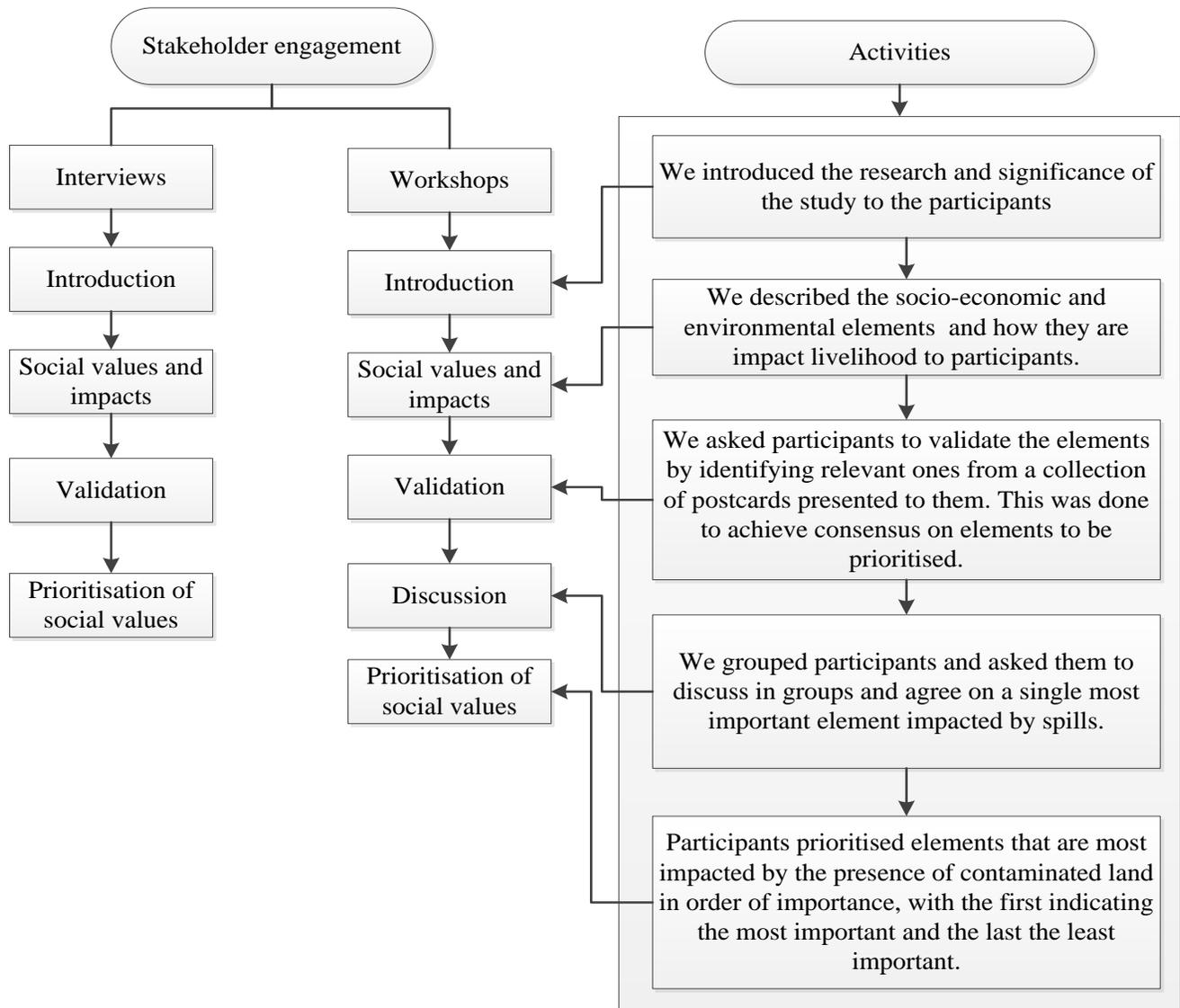
Figure 2. Procedure adopted during engagement with stakeholders for data collection.
Source: Author

influence contaminated land management decisions in the Niger Delta, while factors including cultural places, family and household, legacy for future generation, financial issues, collaboration/co-existence and reputation were not prioritized.

Regulators value drinking water the most (25%) followed by soil quality (21%), human health/wellbeing (21%) with food and local supply chain (17%). The least valued factors include loss of biodiversity (8%), resources conservation (4%), and collaboration/co-existence (4%).

Operators value drinking water the most (29%), soil quality for agriculture (24%), food and local supply chain (24%), and human health/wellbeing (15%). The least valued priority for the operators were communal crisis (2%).

The public value drinking water quality the most (30%), followed by soil quality for agriculture (24%), food and local supply chain (21%), and human health/wellbeing. The least factors prioritized by the public include communal crisis (2%) and resource conservation (3%). Experts value drinking water quality the most (28%). This is followed by soil quality (22%), food and local supply chain (22%) and human health/wellbeing (11%). The lease priorities include loss of biodiversity (6%) and communal crisis (6%).

To confirm or refute the hypothesis, an analysis of variance (ANOVA) (Tables 5 and 6) was conducted using a significance *level* = 0.05, for the four shared values among stakeholders.

The *P-value (0.8)* (Table 6) is > the significance level of

Table 2. Questionnaire used to drive the engagement process.

	Question	Assessment scale	Rationale
1	Have you personal experience dealing or living contaminated land?	1=not at all; 5=considerable	To determine whether participants has contaminated land experience in order to be able to answer the questions.
2	Any other comments you wish to add on your experience?	Open ended	To explore stakeholder experiences
3	Confirm that images contained on postcards reflected stakeholder values.	Open ended	To validate stakeholder values and reach a consensus
4	Prioritise a set of postcards, choosing the first as most important and the last as least important	Line postcards up from worst to first	To determine stakeholders' priorities of values that are impacted by the presence of contaminated land
5	How might you assist other stakeholders to help with the clean-up of contaminated land if you had the chance" and "How can the Government help the people in the affected region?	Open ended	To reveal subjective beliefs held by the participants and to explore other social values that were not represented by the postcards that could be affected by contaminated land
6	How would you rate your knowledge about contaminated land management?	1=not at all; 5=considerable	To determine participants' knowledge of the contaminated land management regime in Nigeria
7	Are you satisfied with the Nigerian approach to land contamination management?	1=not at all; 5=considerable	To measure participants satisfaction with Nigeria's current approach to contaminated land
8	Please explain why you are satisfied or no	Open ended	To explore the reasons for participant's response,
9	How familiar are you with foreign contaminated land regulation?"	1=not at all; 5=considerable	To assess if stakeholders had heard of other regimes so they could learn from them
10	Do you believe policy transfer from a foreign country or institution will work in Nigeria?	1=not at all; 5=considerable	To assess participants' willingness to accept policy transfer
11	Do you foresee any barriers preventing policy transfer?	Opened ended	To understand fears to policy transfer assuming a better policy was identified abroad

Source: Author

0.05, and hence we do not reject the hypothesis. This implies that there are shared contextual values that influence contaminated land decision making within the Niger Delta region. Thus, it can be explicitly stated that the shared values be considered in improving contaminated land management policy.

The priorities identified by the stakeholders confirm that drinking water continues to be an issue in the Niger Delta region (UNEP, 2011), and that the livelihood of the local population (that is, farming and fishing) which is depended on soil quality and rivers continue to be impacted (Watts, 2004; Aaron, 2005; Omotola, 2006; UNEP, 2011). In addition, several reports highlighted concerns about loss of biodiversity as a result of oil spill in rural areas (Leopold et al., 2008; Park and Park, 2010; Linden and Palsson, 2013) which has resulted in the decline of species of seabirds and benthic organisms, extinction of medicinal plants and degraded mangroves forest and wetlands in the region (Onyena and Sam, 2020; Eriegha and Sam, 2020). Loss of biodiversity was among the least valued factors among stakeholders. This implies limited knowledge on the role of biodiversity loses in delivering of ecosystem goods and services in local communities (Onyena and Sam, 2020; Zabbey, 2004).

Many studies in the Niger Delta region have linked communal crisis to pollution caused by oil spills (Oviasuyi and Uwadiae, 2010; Umukoro, 2012; Aaron and Patrick, 2013). These studies suggest that the struggle for limited available clean land for agricultural purposes has often resulted in communal crisis in the region (Salau, 1993;

Orubu et al., 2004; Steiner, 2010), however, communal crisis was the least on communities priorities. This could be attributed to competing values on the list provided in this study.

Overall, stakeholders share similar values. Despite slight differences in the identified priorities, drinking water quality, soil quality, food and local supply chain (farming and fishing) and health/wellbeing were prioritized by all stakeholder groups, and thus form the core priorities that should influence contaminated land management decisions in the region. These values reflect the socio-economic and environmental challenges related to changes in land use occasioned by oil exploration, and a long term neglect of contaminated land within the region (UNEP, 2011; Ite et al., 2013; Linden and Palsson, 2013).

From a regulatory perspective, the shared values should motivate the development of stringent regulations for effective management of new oil spills and legacy sites. Extant regulations outlining intervention and target values should be site specific and precautionary to disincentivize activities that pollute the environment. An understanding that drinking water is a core priority should reflect in the design and implementation of precautionary measures to prevent pollution of drinking water sources and farmlands. Despite shared values, a community member commented thus:

"Our water is polluted all the time by oil spills and this has made us suffer different sicknesses. Water is a serious issue in our community because of oil spills. We are

Table 3. Coding system for responses during interview.

Main category	Codes	Sub codes	Code definition	Example of quotes for this code	Frequency of code
Environmental issues	Clean-up	Timely response restoration	Statements that connote the need for clean-up, land restoration and urgency of clean-up	*"If I were the President I would ensure proper sanitation, we need some clean-up to wash the soil and ensure the soil is clean; if that is not immediately possible, Government can provide alternative source of water"*	81
	Environmental degradation	Pollution environmental damage	Statements on pollution, impacts of oil spill, bunkering, sabotage activities and insecurity	*More than 95% of spillages in Ogoniland since 2012 is as a result of illegal bunkering and sabotage. The trend has caused untold devastation on the aquatic and agricultural sectors in Ogoniland*	25
	Economic loses and welfare	Livelihood Economic loses welfare	Statements that suggest economic loses (livelihood) as a result of oil spill and express concerns about water, soil, health and safety	*"..their main source of occupation is farming and fishing and some cultural crafts like canoe making and so, they derive their livelihood from the environment, so if the environment is impacted, the quality of their socio-economic and cultural life will also be directly impacted"*	106
	Participation and collaboration	Stakeholder engagement participation	Statements that suggest the impact of stakeholder participation/collaboration in the decision making process.	*"Very importantly the three stakeholders in the spill of crude oil; which are the oil companies themselves the multinationals, the regulators and the communities where this oil is situated or where the pipelines transverse"*	45
Social/economic issues	Unethical practices	Trust and transparency	Statements that concern corruption, trust and transparency between contaminated land management stakeholders	*"According to several authors in literature, the spills that have been reported so far, is just about probably half of what actually goes out into the environment in terms of spill. So it is never, it is never a proper mechanism"*	32
	Regulation performance	Monitoring and implementation	Statements that concern regulatory performance, monitoring and implementation, as regards contaminated land decisions	*"Nigeria's policies are ok, it is implementation that is a concern"*	59
Policy transfer	Political and cultural issues	Constraints	Statements that suggest resistance to transfer policy due to socio-cultural, political and economic issues	*"..yes I foresee a barrier because there is no political will, that is the major barrier. If there is a political will in favour of the people …a desire by the politicians to do the right thing for the people"*	40

Source: Author

farmers and fishermen, oil spills destroy our soil and make it unfertile"

Within advanced contaminated land management regimes such as the UK, risk management

policies are informed by stakeholder values (DEFRA, 2012; Nathanail et al., 2013). It is

Table 4. Demographic breakdown of the stakeholders.

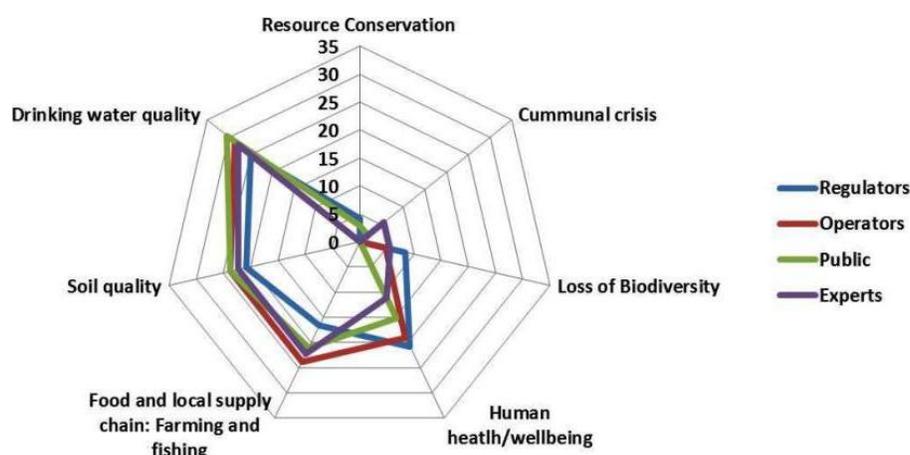| Variable	Number of stakeholders	Percentage of total
Sex		
Male	30	54
Female	26	46
Age		
18-25	3	5
26-39	10	18
40-59	36	64
60 and above	6	11
Missing	1	2

Source: Author

Figure 3. Prioritised values by stakeholders.
Source: Author

Table 5. Summary of mean and variance.

Group	Count	Sum	Average	Variance
Regulators	4	83.33333	20.83333	11.57407
Operators	4	95.2381	23.80952	15.11716
Public	4	90.47619	22.61905	40.13605
Experts	4	83.33333	20.83333	48.86831

The mean of the core priorities.
Source: Author

common practice in the UK to undertake several consultations with stakeholders prior to the development of policies (EA, 2009; DEFRA, 2012).

During such consultations all stakeholder perspectives are considered and integrated in decision-making and consequently in the policy development, thus allowing for exchange of ideas and creating awareness of a new policy. For example, prior to publishing the 2012 Statutory Guidance on contaminated land, public consultation with stakeholders were held (DEFRA, 2012). Similar approach is adopted in Cameroon to ensure stakeholder participation in efforts to address land contamination issues (Forton et al., 2012).

To improve contaminated land management policy within the Niger Delta region, approaches identified in the UK and Cameroon could benefit the country. For

Table 6. Analysis of variance.

Source of variation	SS	Df	MS	F	P-value	F crit
Between Groups	25.5102	3	8.503401	0.293992	0.829012	3.490295
Within Groups	347.0868	12	28.9239			
Total	372.597	15				

Source: Author
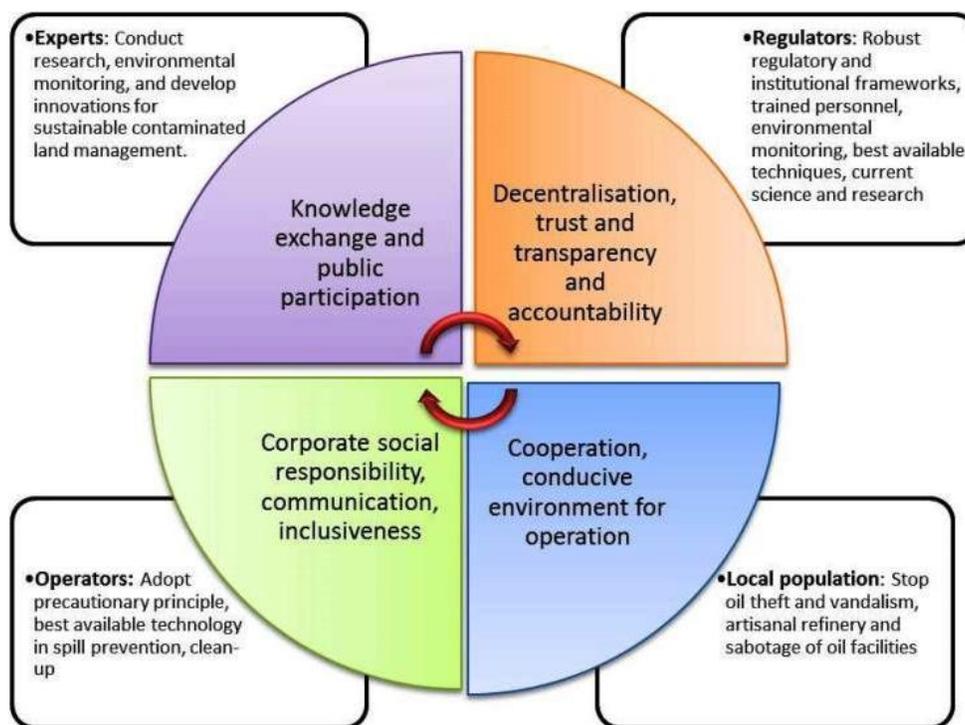
Figure 4. Stakeholder responsibilities in dealing with contaminated land.
Source: Author

example, knowledge gaps and lack of awareness on values that promote sustainability could be remedied through consistent consultations within stakeholders. This will provide opportunity for stakeholder inclusiveness and ensure that similar values shared among stakeholders reflect decisions made and consequently policies for contaminated land management in the region.

The operators, local population, regulators and experts represent the stakeholders that are impacted by oil-related land contamination and thus have collective responsibility in ensuring existing contaminations are dealt with while new ones are prevented. The research, therefore, proposed a regime where all stakeholders will contribute meaningfully to addressing land contamination issues in the Niger Delta (Figure 4).

Within the purview of the regulators, robust legal and institutional frameworks should be provided to address existing contaminations and prevent new ones. Such frameworks should adopt an integrated approach to dealing with contaminants in air, water, and soil compartments (Zabbey et al., 2017). The regulatory agency should comprise of trained personnel while adequate resources are provided for research and the functioning of the agency to eliminate regulatory unethical practices.

The local population contributes a significant 28% to oil-related land contaminated through oil theft and sabotage (Nwilo and Badejo, 2006). This is the highest sole contributing factor to contaminated land in the Niger Delta. Thus, local communities can prevent new contamination by ending oil theft, sabotage and cooperating with other stakeholders in addressing the threats of contaminated land.

Operators should adopt more rigorous procedures to improve prevention efforts by ensuring reduced engineering failures and human errors, while being more
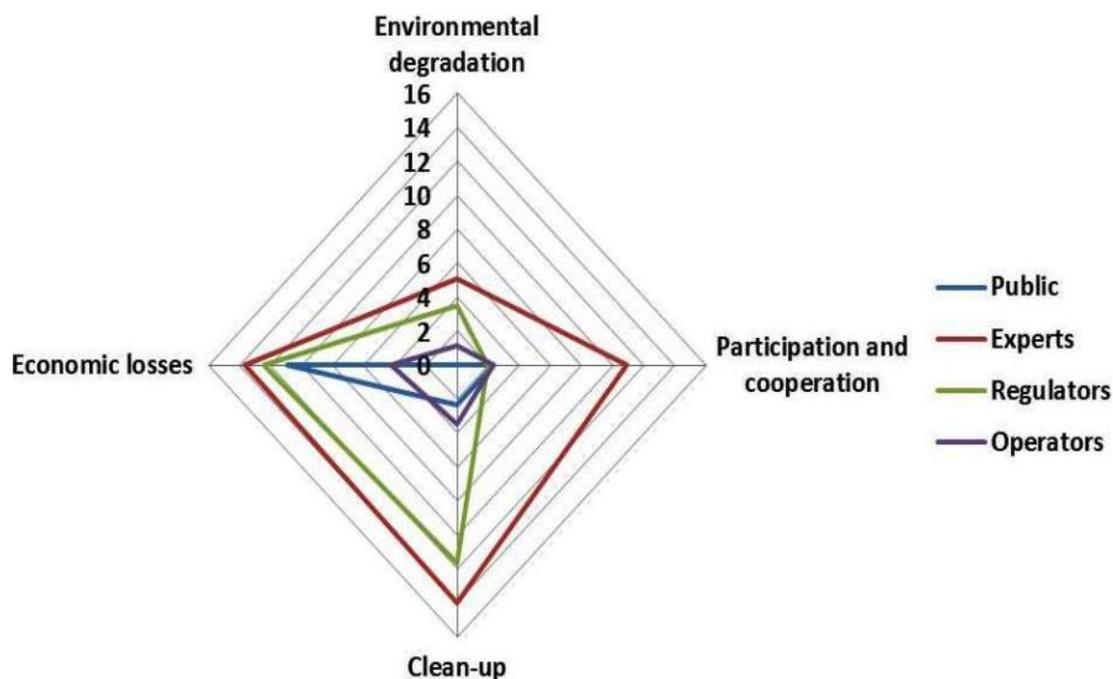
Figure 5. Stakeholders' long-term concerns.
Source: Author

transparent and accountable to other stakeholders. In addition, adopting best practice in the exploration process will reduce the impacts on the environment and the society. Experts should be funded to conduct more research into sustainable methodologies for dealing with contaminated sites. They should undergo specific professional trainings in order to develop skills for dealing with contaminated land.

Nigeria requires an improved policy for achieving stakeholder expectations, prevent new contamination and address legacy contaminated sites. This will reduce the long-term impacts suffered by all stakeholders. To achieve this, while all stakeholders will take responsibility for preventing land contamination, a more inclusive approach aimed at involving all stakeholders in decisions that lead to policymaking is required, as demonstrated in the UK contaminated land regime. This will lead to a policy framework with an acceptable balance between sustainable development, regulatory needs, and scientific robustness to restore livelihood, and soil functionalities.

Long-term socio-economic and environmental concerns of stakeholders

Stakeholders expressed long term concern regarding contaminated land impacts in the region. Four main concerns including economic losses, participation and cooperation, environmental degradation, and clean-up were identified by stakeholders (Figure 5).

The results indicated that stakeholders' (40%) long term concerns bother on economic losses, clean-up (32%), while participation and cooperation and environmental degradation are 18 and 10%, respectively.

Economic losses associated with contaminated land include monetary losses incurred as a result of oil spilled into the environment. This affected the national government in the form of shortage of crude, and also impacts on communities as their livelihood structures are impacted by spilled oil (Eweje, 2006; UNEP, 2011). When clean-up efforts fail, communities are further impacted as they are out of jobs (that is, fishing and farming). Polluted rivers occasioned by oil spills have led to a decline in fish breeding areas, thus affecting catches during fishing ventures. In early 2015, the Shell Corporation paid £55m pay-out to fisher folks and farmers for environmental damages caused by the 2008 and 2009 spills in the region (The Guardian, 2015). The local populations were compensated six years after the oil spill incident; within this period and beyond, the impacted areas will be economically unproductive for the people, until the area is effectively remediated. Similarly, entrepreneurs and farmers who own fish farms in or close to the creeks or spill sites are consequently out of business due to oil spills (Salau, 1993; Watts, 2004). A respondent commented thus:

"…our main source of occupation is farming and fishing and some cultural crafts like canoe making and so, they derive their livelihood from the environment, so if the
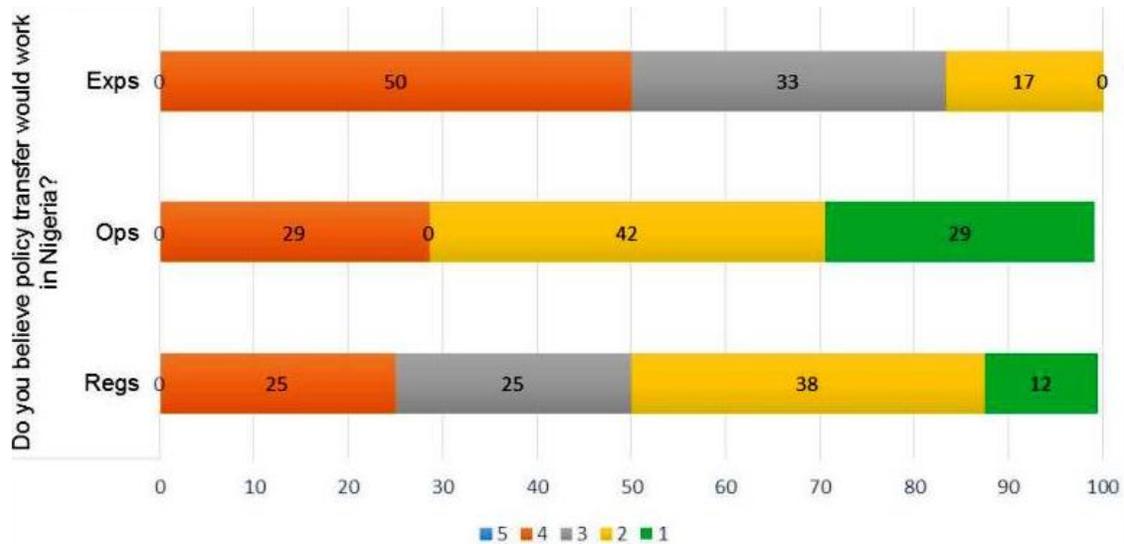
Figure 6. Perceptions on policy transfer (learned lessons) (Reg - regulators, Ops – operators, Exps - experts). Source: Author

environment is impacted, the quality of their socio-economic and cultural life will also be directly impacted"

The results also indicated that stakeholders are concerned about exclusion from the environmental remediation decision-making process. Concerns were expressed about their views not being sought and reflected in policies for effective environmental remediation. Omeje (2006) and Dada (2009) reported that community exclusion in the decision-making process is a potential cause of conflict, and a lack of buy-in and project ownership by local communities, the ongoing clean-up of Ogoniland is a classic example (de Zeeuw et al., 2018). As a result, stakeholder participation and inclusion in remediation projects are limited (de Zeeuw, 2018), and thus different stakeholders' perspectives are often not integrated in the final decisions and policies adopted for contaminated land management.
A respondent commented thus:

"Without collaboration from these three primary stakeholders –regulators, operators and the communities, there are no way we can forge ahead on discussions of the clean-up. There are lots of issues, lots of personal interest in the clean-up"

These long-term concerns are critical to a contaminated land management regime that ensures inclusiveness towards achieving environmental sustainability.

Perception of policy transfer

To attempt policy transfer from effective contaminated

land regimes to Nigeria, it is necessary to understand stakeholders' knowledge of international contaminated land regimes for the purpose of effective implementation. To achieve this, respondents were asked to identify foreign contaminated land management regimes they were familiar with and elements of such regimes that would benefit Nigeria if eventually transferred. Questions on policy transfer were limited to experts, regulators and operators. On the effectiveness of foreign contaminated land management lessons in Nigeria, experts (50%), regulators (25%), and operators (29%) believed policy transfer will improve the current regime in Nigeria (Figure 6). Generally, these perceptions could be attributed mainly to the limited knowledge of foreign contaminated land management regimes.

Experts were most optimistic that learned lessons from foreign regimes could improve the Nigerian situation. A stakeholder admitted thus:

"Well, a stark jacket transfer of policy should be discouraged. But workable policy around the world that have been tested and found working can be adapted within the context of the socio-cultural setting of Nigeria"

This suggests that a form of adaptation considering contextual socio-cultural factors would be required in making learned lessons effective in Nigeria. This view is consistent with those of Meyer et al., (1995) and Burayidi (2000). They reported that transferring learned lessons across nations require an understanding of cultural differences as this could affect implementation. However, for any transferred policy to be effective stakeholders need to demonstrate sufficient knowledge in the workability of the regime (Dolowitz and Marsh, 1996;
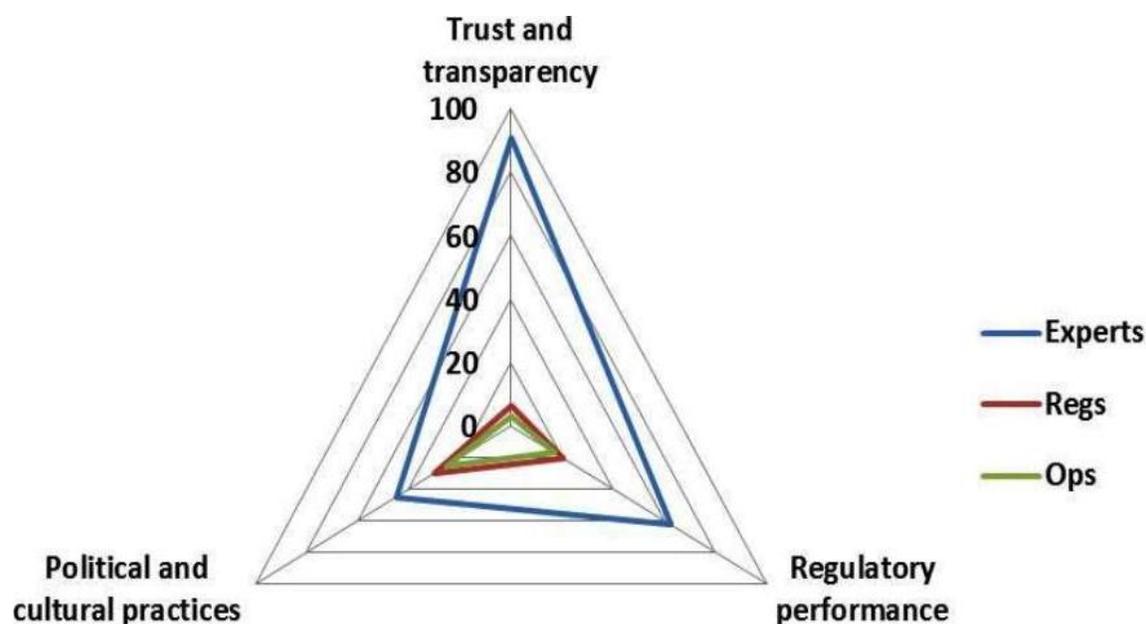
Figure 7. Identified barriers to policy transfer.
Source: Author

Rose, 2002), which is lacking in this context.

Regulators slightly believed policy transfer would improve the current regime in Nigeria and hinged their perception on contextual issues:

"Policy transfer may not work in Nigeria because foreign countries have a system that works which Nigeria does not have. Again, selfish interest, corruption, and politics in Nigeria may not allow it work"

This perception could be attributed to the limited knowledge of contaminated land regulation in foreign regimes and the contaminated land regulatory environment in Nigeria. Operators were also doubtful on the effectiveness of learned lessons within Nigeria. An operator said:

"Nigeria's policies are ok; it is implementation that is a concern"

This implies operators are keen on improved implementation rather than a holistic improvement of the current regulation. Respondents identified political will, corruption, and poor implementation approach as constrains of the current regime which would also affect an improved policy, if not addressed. This is consistent with a study conducted by Peace (2013). The study stated that barriers including corruption and unethical issues characterize the contaminated land regime in Nigeria. Thus, addressing these, in addition to providing adequate training in current contaminated land management practice is recommended for stakeholders

in Nigeria, lessons learned from foreign regimes could serve as guidance for developing a regime that meets both core priorities and long-term concerns within Nigeria.

Barriers to policy transfer

Stakeholders identified political and cultural practices, regulatory performance, and trust and transparency as barriers that can impede the transfer of learned lessons in Nigeria. Experts identified trust and transparency as a top barrier, followed by regulatory performance, and political and cultural practices (Figure 7). Regulators and operators shared the same view. Both stakeholder groups identified political and cultural practices as the top barrier to the effectiveness of any policy transferred from a foreign regime.

The results suggest that lack of trust and transparency which has introduced corruption and unprofessional practices in the current contaminated land regime is a major barrier. A respondent commented thus:

"Not just copying, but how do you allow these things to work? Nigeria has good policies, but how often do we allow them to work; it is corruption…Of course, I foresee a barrier, it is corruption. In corruption you have injustice; in fact, anything that is bad is corruption"

This view is consistent with those of Idemudia and Ite (2006), Omeje (2005) and Edoho (2008). The regulators have an unethical relationship with the operators, thus where environmental regulations are violated, operators

face no serious penalty, as in most cases operators will prefer to bride their way out (Idemudia and Ite, 2006; Edoho, 2008). A classic example is the Halliburton case where Halliburton admitted paying 2.4 billion USD to Nigerian government officials in return for tax breaks during operators (Idemudia and Ite, 2006). While this undermines the credibility of the regulator, reduce trust and confidence of the public, it mostly results in environmental deterioration as operators engage the faster means to resolving violations. Omeje (2005) stated that the desire and pervasiveness of corrupt enrichment inform this unethical practice. However, to the regulators and operators, political and cultural practices are perceived as the core barriers. The difference in culture and political practice between the originator and the benefiting regimes could hinder implementation. This is due to the role social context and perception play in policy making and implementation (Lupton, 1999, 2006).

Three strategies are recommended for addressing identified barriers. A disclosure policy, adequate funding/effective regulatory structure and education-based policies. Disclosure policies address the lack of trust and transparency between stakeholders with competing interest (Mitchell, 2011). Disclosure policies will grant stakeholders considerable access into activities of regulators and operators in the sector. A classic example is the ongoing Ogoni clean-up supervised by the Hydrocarbon Pollution Remediation Project (HYPREP). Stakeholders are reportedly concerned about the secrecy of key performance indicators (KPI) used by HYPREP to monitor the remediation process in Ogoniland. This has affected independent monitoring by interested civil society organizations. Targeted stakeholders (e.g. operators and regulators) need to disclose appropriate information about their activities, make it available and accessible to other stakeholders (Florini, 2010; Mitchell, 2011). Such policies will increase the openness of the process and ensure all stakeholders participate in the decision-making process. More importantly, disclosure policy could be used as a tool to eliminate doubts, environmental harmful behaviours and allow for inclusive participation in decision making.

Expertise and funding

To address barriers associated with weak regulatory performance, training of regulators, adequate funding and a coordinated regulatory structure is imperative. The existing structure seems weak and has resulted to ineffective enforcement and thus stakeholders are concerned that implemented learned lessons would suffer similar challenges. For example, the National Oil Spills Detection and Response Agency (NOSDRA) have a mandate to detect and respond to spills, but lack the necessary funding for undertaking its functions. As a result, the number of oil spills requiring remediation

activities continues to increase. An effective regulatory structure where regulators are well trained and funded and regulatory agencies understand their roles and responsibilities will be instrumental to the effectiveness of an improved regime. Therefore, efforts towards improving the system should be comprehensive including, training, and development of policies for private enterprise involvement in managing contaminated land.

Education-based policies

Education based policies should be the antidote to harmful environmental perceptions and behaviours (Mitchell, 2011). This can be achieved through self-conscious communication, seminars, and advocacy campaigns in which information made available should be targeted towards changing community behaviours and value systems. This could be implemented through different approaches depending on the targeted audience. Inclusion of environmental education in school curriculum can be used to target school age children in local communities where change in behaviour would be incremental. Religious organizations, social gatherings, and door to door awareness campaigns can be used to reach the generality of stakeholders. Continuous education would result in a change in behaviour and reduce cultural issues that could impede the effectiveness of an improved regime.

Conclusions

Importing contaminated land management policies without consideration of socio-economic and environmental issues in context could be counterproductive. Thus, contaminated land management stakeholders within the Nigerian Niger Delta identified impacts on drinking water quality, soil quality, food and local supply chain (farming and fishing) and human health/wellbeing as core priorities that should motivate and be considered during contaminated land management policy improvement. In addition, economic losses, participation and cooperation, clean-up and environmental degradation are long-term concerns affecting contaminated land management decision-making. The current contaminated land management regime has been unable to meet these expectations and thus drive the need for an improved policy. In efforts to improve the current contaminated land management policy, stakeholders outlined contextual issues to be addressed, while recommending disclosure policy, provision of adequate resources and education-based strategies for addressing barriers to policy transfer. Contaminated land policy improvement processes should be informed by science, expert knowledge, and public values, and stakeholder participation for a sustainable contaminated land management regime in Nigeria.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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