

ASSESSMENT OF THE IMPLEMENTATION OF GOVERNMENT POLICY ON LOCAL EXTRACTION OF SOLID MINERALS IN SOUTH-WESTERN NIGERIA

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ABSTRACT: *This study examined the process of formulation and various components of solid minerals policy in the Southwestern geo-political zone of Nigeria. It also assessed the extent of its implementation in terms of government's intended objectives.. The survey method was adopted for the study to elicit information from respondents, who were the major stakeholders in the solid minerals industry. The instruments used included questionnaire, interviews, focus group discussions and observations. A total sample of 300 respondents was selected for the administration of the questionnaire from among the mining communities, miners, ministries, departments and agencies (MDAs) and universities using purposive stratified sampling technique. Information was elicited from respondents on the process of solid minerals policy formulation and its components. Information was also elicited on the extent of implementation through the perception of respondents on performance indices such as, contribution to GDP, employment generation, poverty alleviation, attraction of foreign investments among others since it was difficult to obtain direct quantitative figures on these performance indicators that can be linked to solid minerals. Both descriptive and inferential statistical methods were used to carry out the analysis. The results showed that necessary steps were not followed in formulating the policy (grand mean rating of 2.95 out of 5). The study also found out that the extent of implementation was low (grand mean ratings generally below 3.00 at $p < 0.05$). The study concluded that the development of the solid minerals sector in Southwestern Nigeria was contingent on conducive social, political and economic terrain; high level of implementation planning and resource mobilization; efficient operations and services; adequate infrastructural facilities and non-cumbersome land acquisition procedure.*

KEYWORDS: Policy Formulation, Policy Implementation, Employment Generation, Poverty Alleviation and Foreign Investments.

INTRODUCTION

Background to the Study

Studies have shown that many industrialized and developing economies of the world have benefited immensely from the development of the solid minerals sector of their economies (Eyre & Agba, 2007; Awe & Ajayi, 2009; Chindo, 2011; Mallo, 2012 and Shtiza, 2013). These countries include: Australia, Canada, Russia, India, Saudi Arabia, Albania, South Africa, Ghana, Botswana and Tanzania, which have their economies solely dependent on earnings from solid minerals, while Burkina Faso, Angola, Liberia and Mali are gradually becoming strong mining countries. The

contributions of this sector have been in the form of augmenting the Gross Domestic Product (GDP), creation of wealth, creation of employment, enhancement of manufacturing capabilities, boosting of foreign exchange earnings (Eyre & Agba, 2007). In the past, solid minerals contributed significantly to Nigeria's economy before crude oil was discovered in commercial quantity. However, over the years, the solid mineral sector of the economy has been neglected by successive administrations as a result of lack of visionary leadership that can harness and manage the country's resources thereby leading to dwindling mining activities (Ezekwezili, 2006; Eyre & Agba, 2007,).

Previous studies have revealed that solid minerals are available in all the six geo-political zones of the country and by extension in all the thirty-six states of the federation (Aigbedion & Iyayi, 2007; Mallo, 2012 and MMSD, 2013). Nigeria is believed to have about 76 minerals that are scattered across all the states of the federation with the portfolio of minerals including energy minerals, industrial minerals, metallic minerals, semi-precious minerals and gemstones (Mallo, 2012 and FGN, 2013). In spite of the availability of large quantum of precious solid minerals in the country, not much has been achieved economically by government. Whereas, the industrialized countries have been using solid minerals as source of raw materials for their foundry and manufacturing industries, this has not been possible in Nigeria. This was and still is the situation as a result of lack of seriousness on the part of government (Ezekwezili, 2006 and MMSD, 2013).

Some advanced economies such as United States of America (USA) and China have also gone far ahead of others in recycling the scrap from the products of these solid minerals to bring down the cost of raw materials and hence manufacturing costs to maintain competitive advantage over others. It can, therefore, be said that solid minerals can contribute significantly to the sustainable growth and development of the country's economy.

Forty-four (44) among the seventy-six (76) solid minerals so far discovered in Nigeria have been found to be in commercial quantities (Mallo, 2012; FGN, 2013) and available in 500 locations (MMSD, 2013). However, the current rate at which solid minerals are being exploited is below expectation and not adequate for sustainable economic development. Chindo (2011) views the sector as non-developed and non-productive enough as it contributed less than 0.5% to Nigeria's GDP, as against 35% from oil and gas in 2009. When compared with some other African countries, Nigeria is still lagging behind. For instance, a further perusal of the literature shows that export earnings of over 50% were generated from solid minerals in Democratic Republic of Congo, Namibia, Botswana and Zambia and 12 other countries gained over 20% of export earnings from solid minerals in comparison to Nigeria's 0.4%, during the period 1992 to 2006 (Eyre & Agba, 2007). A lot of operational, regulatory and institutional challenges are still being faced with the exploration and exploitation of solid minerals in the country. These among others include lack of awareness, state-of-the-art tools and equipment for exploitation and extraction, applicable skills, adequate safety measures for miners, controversial ownership structure of land and mineral titles in the country and illegal mining activities. These are all symptoms of lack of visionary leadership that will make appropriate policies and back them up with strong political will that can implement such policies, monitor them as well as make periodical evaluations. This is probably the reason why a lot of companies already given mining titles are yet to go into full scale exploration and exploitation of solid minerals several years after winning such titles. Agriculture, Petroleum and Telecommunications industries appear to be far ahead of the solid mineral sector when their

contributions to the economy are compared. A lot of people trained to work in the solid mineral's sector are still either unemployed or underemployed.

On the regulators side, there is an avalanche of regulatory and institutional reforms that had taken place in the country over the years that can provide better information on operational environment for the benefits of investors and mining operators. These include, but not limited to the Explosive Act 1964 and its Regulations of 1967, Constitution of the Federal Republic of Nigeria, 1999 (as amended), National Minerals and Metals Policy 2008, Nigerian Minerals and Mining Act 2007, Minerals and Mining Regulations 2011, Nigerian Investment Promotion Council Decree 1995, Nigeria Extractive Industries Transparency Initiative (NEITI) Act 2007, Environmental Impact Assessment Act 1992, Seven Year Strategic Action Plan for Solid Minerals Development in Nigeria, (2002-2009), Miners Association of Nigeria (MAN), National Economic Empowerment and Development Strategy (NEEDS), International Development Association (IDA), Ministries of Planning and Finance, National Planning Commission, Federal Ministry of Mines and Steel Development, Ministry of Environment, as well as other sector Ministries and agencies at Federal, State and Local levels (Eyre & Agba, 2007).

Statement of the Problem

The first solid minerals policy in Nigeria was formulated in 1971 and subsequently reviewed in 1998 and 2008. From 1971 to 2008, several reforms necessitating several policies took place in the economic and technological landscape of the country which had the development of the solid mineral sector in prime position. However, there has been no comprehensive assessment of these policies through empirical studies, as to whether the objectives enumerated have been achieved, and to what extent, hence this study.

Research Objectives

The general objective of this study was to evaluate the 2008 solid minerals policy on local extraction of solid minerals with a view to determining its extent of implementation. Specifically, its process of formulation was examined to determine how adequate it is for successful implementation.

Justification for the Study

The development of the solid minerals sub-sector is an important aspect of any nation's industrialization. This is because a lot of investors will be attracted to the sub-sector (both local and foreign) to take advantage of the development thereby increasing economic activities. This will in turn boost the performance of the manufacturing and the foundry industries as a result of availability of reliable and cheap source of raw materials. The country's GDP will also be positively impacted and unemployment will be reduced considerably. Most of the solid minerals the country is blessed with are still untapped and those being tapped are in small quantities and exploitation done mainly through artisanal means. Other countries such as Ghana, South Africa, Tanzania, Chile to mention a few, are benefiting immensely from the proceeds of solid minerals as a result of high volume of operations. There is therefore the need to assess, develop and regulate this sub-sector since it adds value to and boosts the economy of any nation. Previous studies in Nigeria had not really addressed a holistic assessment of this policy to see how the strategies put

in place had assisted in revamping the sub-sector in terms of the realization of set objectives. This was why the current study became very relevant and necessary.

Scope of the Study

The scope of this study was limited to the six states in the south-western geo-political zone of the country (Lagos, Ogun, Oyo, Osun, Ondo and Ekiti) and the Federal Capital Territory (FCT). This is because these states and the FCT possess commercial quantities of nine of the major solid minerals in Nigeria (Eyre & Agba, 2007). Also, the FCT is the administrative base of Ministry of Mines and Steel Development (MMSD) which originated, disseminated and commenced the implementation of the policy, the Nigerian Geological Survey Agency (NGSA) and the Mining Cadastre Office (MCO) which provides necessary information on registration and administration of miners.

Limitations to the Study

Several limitations were encountered during the course of this study. The field trips for the administration of the questionnaire, their collection, mining site observations, focus group discussions and interviews were done from March to July, 2015 and the unexpected shifts in the dates of the 2015 General Elections and the accompanying fuel scarcity impeded the researcher to some extent. Furthermore, some prospective respondents would not just want to complete questionnaire no matter how short and straightforward they were. The researcher had to sit down with many respondents for possible explanations before the questionnaire could be completely responded to, especially respondents from the mining communities. All the above elongated the period during which the field work was carried out.

Contribution to Knowledge

This study comprehensively assessed the 2008 solid minerals policy in the light of its philosophy, the procedure for its formulation, components, objectives and possible factors that could influence its implementation. It will therefore serve as a well-documented current literature from where reliable information can be drawn on solid minerals policy implementation in Nigeria and which can be relied upon by future researchers and students of public policy in Nigeria in particular, and the world in general. It will therefore fill the gap in literature on assessment of public policy formulation and implementation in Nigeria.

Mining Industry in Nigeria

The mining industry in Nigeria has evolved through many phases and ups and downs during which several government interventions have taken place.

Evolution of the Mining Industry in Nigeria

Mining in Nigeria started long before Nigeria was colonized by the British Government. To lend credence to this assertion, Eyre & Agba, (2007) and Oyedokun and Igonor, (2013), opine that mining has been one of the oldest economic activities in Nigeria, dating back to 340BC. Early mining activity involved the extraction of gold and other metallic substances. According to them, mining then was concentrated near the surface due to lack of mining implements that could be

used to assist mining activities. Oke (2005) described mining as a traditional industry in Nigeria thriving amongst the people well before the on-set of Western civilization and the birth of Nigeria as a nation in 1914. These locally extracted minerals in the form of metallic ores were locally smelted and processed further by blacksmiths to make farm implements, hunting equipment while other minerals like clay, sand and stones were used for local building. Ornaments and jewellery were also made from available noble metals such as gold, silver and bronze by the local goldsmiths.

Overview of the Nigeria's Solid Minerals Sector.

Extraction of solid minerals in Nigeria has been on for more than 100 years as earlier stated (Oke, 2005 and Mallo, 2012). However, development in the sector has been very slow. Initially, a few minerals were identified such as tin, gold, coal and columbite which were mined in small quantities near the surface in the early part of the 20th century. The minerals then, were used for local consumption by the miners while some were further processed locally by blacksmiths, smelters, goldsmiths to make agricultural implements, arrows, spears, ornaments and jewellery. Organized mining of solid minerals, according to Mallo (2012), commenced in Nigeria around 1903 during the colonial regime of the British government. The mining continued for about 40 years with the mining industry witnessing the influx of British and German foreign miners such as the Amalgamated Tin Mines (Nig) Ltd., Exlands Ltd., Gold and Base Metals etc. These companies introduced mechanized mining which led to higher productivity of the mines and consequently land devastation as no law was put in place by the colonial government to guide mineral extraction. By the 1940s, Nigeria was a major producer of tin, columbite, and coal. The increased world demand for petroleum products coupled with the collapse of the international market for mineral commodities and the indigenization decree of the early 1970s compounded the inability of Nigeria to sustain the tempo of mineral development.

Position of Solid Minerals in Developed Economies.

Exploration and exploitation of solid minerals in developed countries have been on for centuries and this has contributed greatly to their level of industrial and national development. Countries that readily come to mind are Britain, Germany, United States of America, China, and South Africa among others. While some of these countries do not have large deposits of solid minerals as a result of their locations in the earth's crust, the rate at which they utilize solid minerals is alarming. Solid minerals, in these industrialized countries are mainly deployed for the purpose of manufacturing, construction and further processing to add value before being exported to other countries.

Position of Solid Minerals in Developing Economies.

Solid minerals have also started having some significant impact on the economies of some African countries. This impact is now being felt in countries like The Republic of South Africa, Ghana, Tanzania, Zambia, Zimbabwe, and the Democratic Republic of Congo which dominate the African Mining industry, whilst countries such as Angola, Sierra Leone, Namibia and Botswana rely heavily on the mining industry as a major foreign exchange earner (Eyre & Agba, 2007). For instance, Eyre and Agba (2007) states that a study by the vision 2010 committee in the 1990s found that in Botswana, solid minerals contributed about 40% to the country's GDP while in Gambia, it was in the region of 15% contribution. These are very significant contributions unlike in Nigeria

where the contribution to the national GDP as at 2012 was still below 1% (Mallo, 2012; CBN, 2012).

The Policy Process

This is a series of actions taken in the formulation, implementation and review of a policy (DeGroff & Cargo, 2009). The policy process is also referred to by some authors as ‘the policy cycle’ which is made up of phases or stages. The idea of modelling the policy process in terms of stages was first put forward by Lasswell when in 1956, he introduced a model of the policy process comprising of seven stages: intelligence, promotion, prescription, invocation, application, termination, and appraisal. His proposal has been subjected to series of criticisms and comments over the years by other policy analysis scholars especially in the 1960s and the 1970s and this led to a number of variations of his model. Among the widely adopted versions of the policy process earlier identified are those developed by Brewer and deLeon (1983), May & Wildavsky (1978), Anderson (1975), and Jenkins (1978) which looked at the process as comprising of the following stages: agenda-setting, policy formulation, policy decision making, policy implementation, policy evaluation or assessment and policy review, which in some cases may eventually lead to termination of the policy or reformulation of a new policy. The latter above has become the conventional way to describe the policy process chronologically. According to Jans (2007), policy-making presupposes the recognition of a policy problem which has been defined as such and that the necessity of state intervention has been expressed. The second step is to put the recognized problem on the agenda for serious consideration of public action (agenda-setting). The agenda is therefore the list of subjects or problems to which government officials and people outside the government are closely associated with and are paying some serious attention to at any given time (Kingdon, 1995).

Theories of public policy formulation

Several theories have been propounded on who the real policy makers are in a given society. These theories include: ‘Elite theory’, which was developed as a reaction to ‘Marxist theory’. The Elite theory was developed by two Italian sociologists, Vilfredo Pareto and Gaetano Mosca. While Marxist theory believes in a classless society, Elite theory believes that societies are divided into two main groups; the ruling minority and the ruled majority. This ruling minority are the elites; those individuals in society who are at the top in their particular fields. The political elites, according to this theory, are therefore the top minority that rules, struggles for power, takes decisions, and influences political conditions by their programmes and actions. Another theory is the ‘Conflict theory’. Conflict theory emphasizes the role of coercion and power in producing social order. This perspective is derived from the works of Karl Marx, who saw society as fragmented into groups that compete for social and economic resources. Social order is maintained by domination, with power in the hands of those with the greatest political, economic, and social resources. According to Conflict theory, inequality exists because those in control of a disproportionate share of society’s resources actively defend their advantages. It is the opinion of this theory that groups and individuals advance their own interests, struggling over control of societal resources with those with much of the resources, exercising power over others with inequality and power struggles resulting. Another theory considered was the ‘Interest Group theory’. This theory believes that many different interests groups compete to control government

policies and that their conflicting interests can balance out each other to provide good government. The theory is also called 'Pluralism' because there are many groups involved. An interest group may be defined as an organized body of individuals who share policy goal and try to influence policy making.

Solid Minerals Policy Implementation Assessment Framework

In order to develop a framework for solid minerals policy implementation assessment, I considered the study of Haddad and Demsky (1995) on policy formulation and implementation and found the work of particular relevance to the solid minerals sub-sector. According to them, policy cycle consists of seven policy-planning processes, the first four of which deal with policy making, the fifth with planning and sixth and seventh with policy adjustment. The stages in their recommended policy cycle are as stated below:

- (i) Situational Analysis.
- (ii) The generation of policy options.
- (iii) Evaluation of policy options.
- (iv) Making the policy decision.
- (v) Planning of policy implementation.
- (vi) Policy impact assessment.
- (vii) Policy adjustment/Subsequent policy cycles.

They believe that these seven stages are not necessarily linear as a result of the need to adjust the earlier stages in the face of new information. The assessment approach in this study was holistic in that it considered all the stages in the policy making process but with more concentration on the implementation process and outcomes. Mthethwa (2012) discussed three important reasons why assessing policy implementation was crucial. He was of the opinion that firstly, 'it promotes accountability by holding policy-makers and implementers accountable for achieving stated goals'. Secondly, 'it enhances effectiveness because understanding and addressing barriers to policy implementation can improve policy delivery'. Lastly, 'it fosters equity among stakeholders and guarantees good quality outcomes because of high standard of performance'.

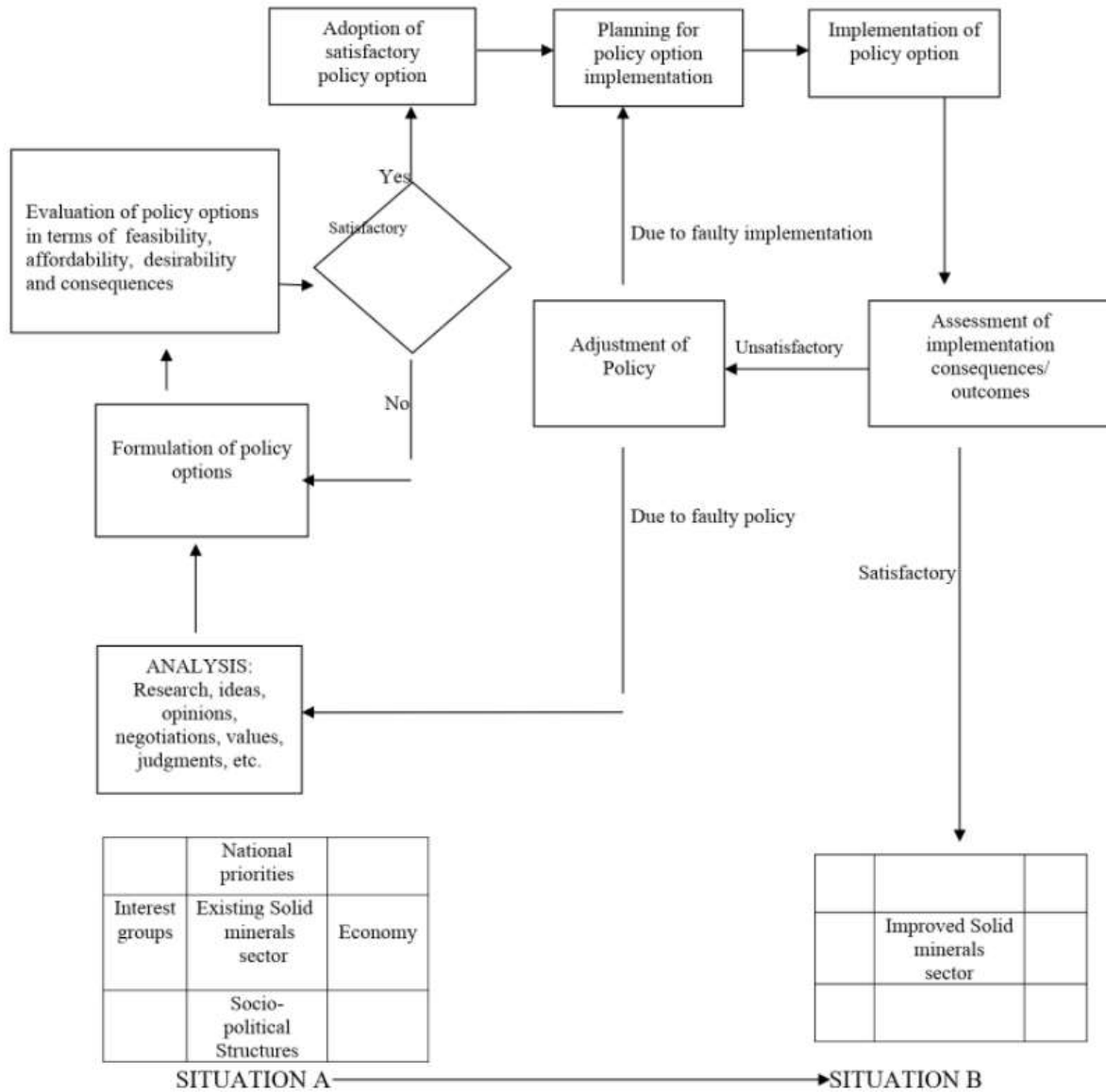


Figure 2.1: Modified Haddad and Demsky's (1995) Iterative Policy Formulation and Implementation Process.

Source: Haddad and Demsky (1995).

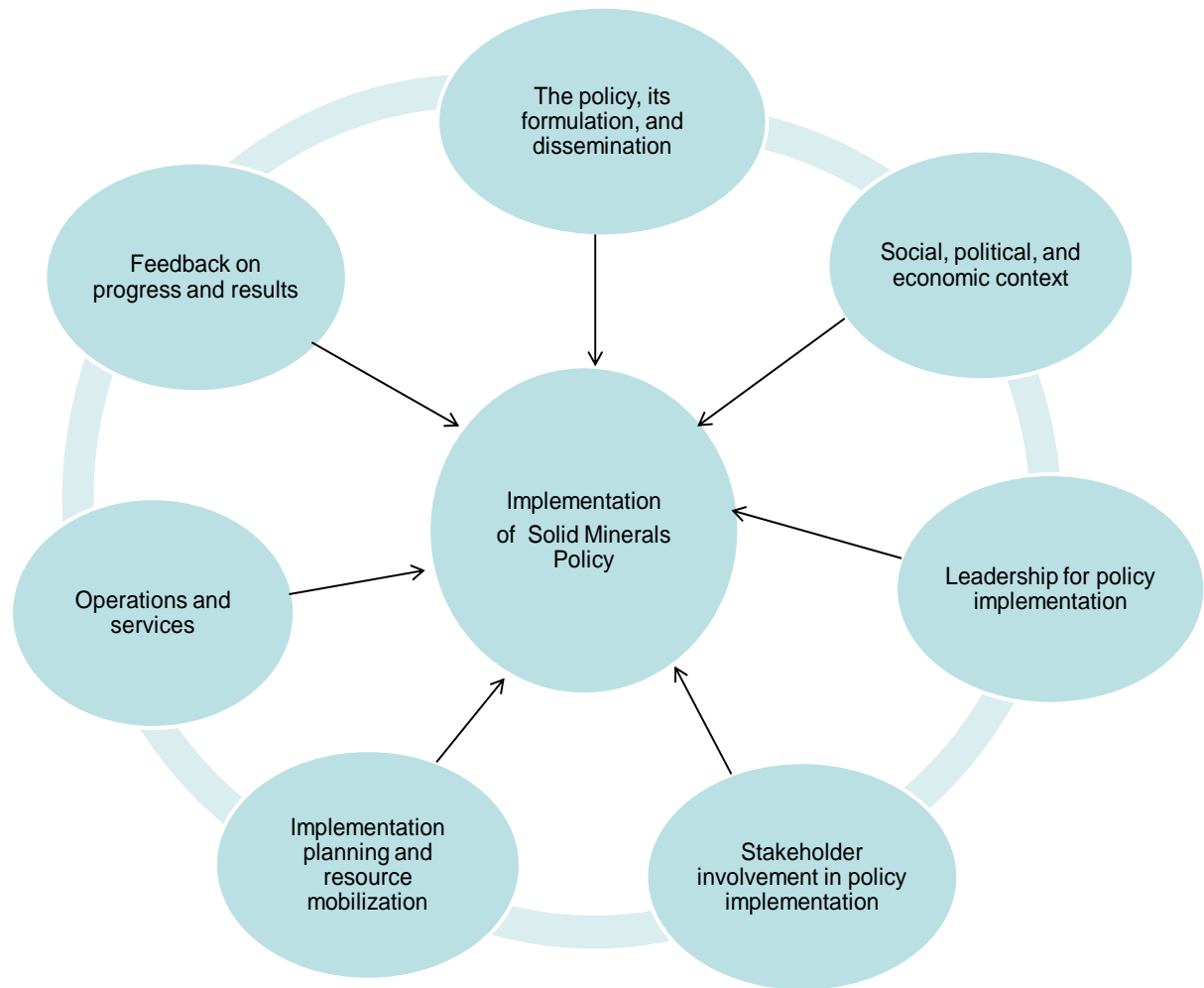


Figure 2.2: Implementation Assessment Tool

Source: Bhuyan, Jorgensen and Sharma (2010)

METHODOLOGY

Conceptual framework

Figure 3.1 shows the conceptual framework for the assessment of implementation of government policy on local extraction of solid minerals in Southwestern Nigeria. The framework was a combination of the Haddad and Demsky's (1995) Iterative Policy Formulation and Implementation Process and Bhuyan *et al.*'s (2010) Implementation Assessment Tool. The assessment was based on some mining site observations, interviews conducted, reports from and the perception of the

major stakeholders on the statements included in the questionnaire administered. The dependent variable in this study was “Implementation of Solid Minerals Policy in Nigeria”.

Research instruments, population and sample size

The research instruments employed in this study to collect primary data were: Questionnaire, Interviews, Focus group discussions and Observations with four sets of questionnaire administered to respondents from the mining communities, miners, MDAs and universities. The population was 900 and made up of mining communities (195), miners (225), MDAs (255) and universities (225). A sample of 300 was computed from this 900 with the aid of Taro Yamane’s formula: $S = N / \{1 + N(e)^2\}$, where S is the sample size, N the population and e the margin of error allowed. This sample of 300 consisted of respondents from mining communities (65), miners (75), MDAs (85) and universities (75) which were purposively selected during the field survey.

Secondary data were also obtained for additional information on activities related to solid minerals from some public institutions which included the Nigeria Bureau of Statistics (NBS), Central Bank of Nigeria (CBN), Council of Mining Engineers and Geoscientists (COMEG), Nigerian Institute of Miners (NIM), Raw Materials Research and Development Council of Nigeria (RMRDC) and Nigeria Institute for Social and Economic Research (NISER). Other sources of secondary data included: published and unpublished academic papers, theses, journals, conference and seminar papers, books, newspapers, government bulletins and other information obtained from the Internet.

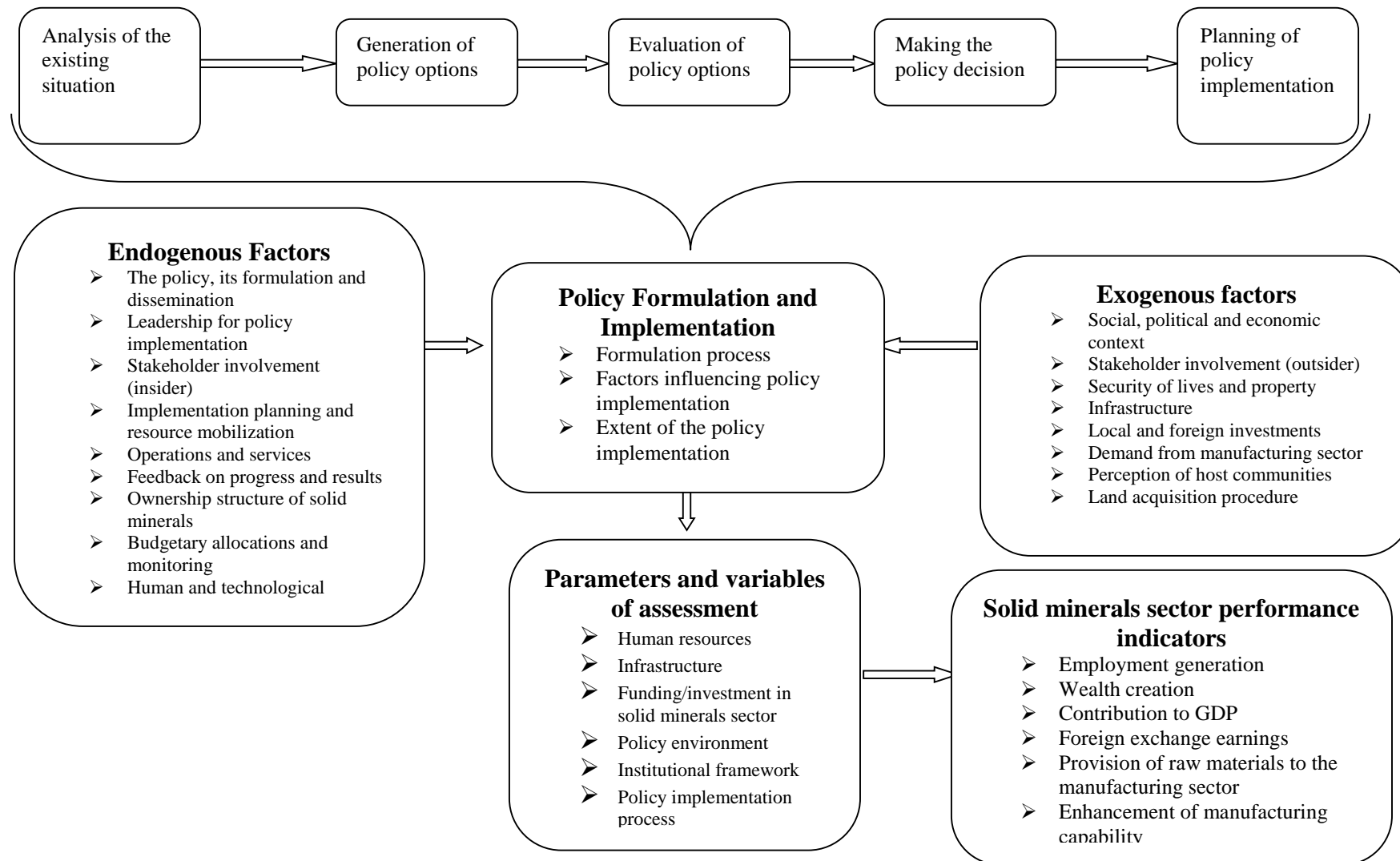


Figure 3.1: Adopted Conceptual Framework for Solid Minerals Policy Formulation and Implementation Assessment

Source: Modified Haddad and Demsky (1995) and Bhuyan et al. (2010) Formulation and Implementation Assessment Frameworks

Data Analysis, Results and Discussions

The data were sorted, coded, captured and analysed with SPSS (Statistical Package for Social Scientists) by using its facilities for descriptive statistics which include: frequency tables, cross tabulations, percentages, means and standard deviation; and inferential statistics which include: normality tests, reliability tests, non-parametric tests, analysis of variance (ANOVA), correlation and post hoc multiple range tests. These tests were hinged on ratings as independently provided by the respondents in the questionnaire administered. A 5-point Likert scale of undecided (UD), disagree (D), strongly disagree (SD), agree (A) and strongly agree (SA), was adopted in the design of the questionnaire to obtain the respondents level of agreement with the various statements used to carry out the assessment. The ratings were: undecided (1), strongly disagree (2) disagree (3), agree (4) and strongly agree (5), respectively.

Hypotheses

The hypotheses tested in this study were:

H₀ : The process of formulation of the policy was inadequate for successful implementation.

H₀ : There has not been any significant implementation of the policy in terms of achievement of stated policy objectives.

Process of Solid Minerals Policy Formulation

Table 9.2 shows the changes in the mean ratings of all respondents on the statements evaluated for the process of policy formulation. Analysis of variance and Hochberg's GT2 Multiple Comparison and Range Tests showed that there were significant differences among the mean ratings ($p < 0.05$). Hochberg's GT2 Multiple Comparison and Range Tests were chosen in preference to Duncan's Multiple Range Tests to separate the means. This is because it is the preferred choice when samples are of unequal sizes as occurred in this study.

The statement that the stages in the formulation process considered above were appropriate for solid minerals policy formulation, was highly rated by all the groups. This implies that all the groups agreed with the stages in the process of the policy's formulation. However, the mining communities, miners and universities disagreed that they were sufficiently carried along while drafting the policy. Furthermore, the above comparative analysis is in agreement with the recommendation of Haddad and Demsky (1995) that if the interests of policy key stakeholders were not carefully assessed and addressed, the policy formulated would have every chance of failing.

Table 9.2 Process of Solid Minerals Policy Formulation

Statement	Level of Agreement (Mean Ratings)				Group
	Mining Communities 59	Miners 65	MDAs 77	Universities 51	
1. The stakeholders were duly informed about drafting a new solid minerals policy	2.90 ^{ab}	3.11 ^b	3.16 ^b	2.49 ^a	2.95
2. The stakeholders provided inputs for the formulation of the new policy	2.81 ^{ab}	3.09 ^b	2.92 ^b	2.43 ^a	2.84
3. The existing solid minerals environment was properly analysed before commencement of current policy formulation	2.42 ^{ab}	2.34 ^{ab}	2.75 ^b	2.02 ^a	2.42
4. All stakeholders were duly informed for their inputs into the policy	2.42 ^{ab}	2.02 ^a	2.75 ^b	2.16 ^a	2.37
5. The inputs obtained from stakeholders were comprehensive enough and thoroughly debated for policy options generation	2.46 ^a	2.17 ^a	2.30 ^a	2.16 ^a	2.27
6. Adequate consideration was given to socio-economic, political and cultural environments in generating the policy options	2.41 ^{ab}	2.15 ^a	2.86 ^b	2.45 ^{ab}	2.49
7. Proper evaluation of the various policy options was done by stakeholders in terms of feasibility, affordability, desirability & consequences	2.47 ^{ab}	2.25 ^a	2.86 ^b	2.43 ^{ab}	2.52
8. The final policy option selected was as a result of evaluation and agreement of all stakeholders	2.56 ^{ab}	2.34 ^a	2.96 ^b	2.37 ^a	2.59

Table 9.2 Cont'd Process of Solid Minerals Policy Formulation

Statement	Level of Agreement (Mean Ratings)				Group
	Mining Communities 59	Miners 65	MDAs 77	Universities 51	
9. Information through various media was made available to all stakeholders	2.63 ^{ab}	2.14 ^a	2.70 ^b	2.33 ^{ab}	2.46
10. Committees of experts were charged with the responsibility of planning for implementation	2.54 ^{ab}	2.25 ^a	3.01 ^b	2.80 ^{ab}	2.66
11. Adequate provision was made for post-implementation impact assessment	2.49 ^a	2.18 ^a	2.35 ^a	2.25 ^a	2.32
12. The above process is considered appropriate for solid minerals policy formulation	4.17^{ab}	4.22^b	3.68^a	3.73^{ab}	3.94

a, b, c: Means within each row with different superscript are significantly different ($p < 0.05$)

Key: Undecided (UD) --- 1, Strongly Disagree (SD) --- 2, Disagree (D) --- 3, Agree (A) --- 4, Strongly Agree (SA) --- 5

Source: Field Survey, 2015

Extent of Implementation of Solid Minerals Policy

Table 9.3 shows the mean ratings by respondents from all the four groups on the extent of implementation of the policy. The grand mean ratings were: mining communities (3.22), miners (2.92), MDAs (3.28) and universities (2.74). All these ratings were within the disagreement limit. This implies that the level of implementation of the policy was low. The above findings agree with the findings in the study of Eyre and Agba (2007) where objectives specified in an earlier policy could not be reasonably achieved due to implementation problems and challenges of doing business in Africa.

Table 9.3 **Extent of Implementation of Solid Minerals Policy**

Statement	Level of Agreement with Extent of Implementation (Mean Ratings)				
	Mining Communities 59	Miners 65	MDAs 77	Universities 51	Groups Total 252
1. The policy has been successfully implemented in favour of all stakeholders	3.71^c	3.15 ^b	3.48 ^{bc}	2.57 ^a	3.27
2. The current reform in the solid minerals sector has led to substantial increase in GDP contribution by the sector	3.07 ^b	2.60 ^{ab}	3.01 ^{ab}	2.33 ^a	2.78
3. High quality Geosciences' data have been generated with the implementation of the 2008 solid minerals policy	2.58 ^{ab}	2.37 ^a	3.21 ^b	2.67 ^{ab}	2.73
4. The current solid minerals policy has led to the establishment of a transparent licensing regime for operators	3.32 ^{bc}	2.95 ^{ab}	3.87^c	2.45 ^a	3.22
5. The procedure for obtaining operating licence has been greatly facilitated as a result of the new policy	3.37 ^{ab}	3.11 ^a	3.88^b	2.98 ^a	3.38
6. There is significant progress in the formalization of artisanal and small scale (ASM) mining operations in Nigeria	3.24 ^a	3.12 ^a	3.39 ^a	3.59^a	3.33
7. There has been a considerable improvement in ASM operations which has in turn reduced greatly the level of poverty in the country	3.20 ^a	2.88 ^a	2.86 ^a	2.98 ^a	2.97
8. The implementation of the 2008 solid minerals policy has led to massive employment generation in the sector	3.14 ^b	2.95 ^b	2.94 ^b	2.41 ^a	2.88
9. Implementation of the policy has brought about substantial wealth creation through value addition to exploited solid minerals in the communities	3.14 ^a	2.97 ^a	2.88 ^a	2.76 ^a	2.94
10. There has been an increased technological capability of mineral-based industries as a result of increased productivity in the sector	2.97 ^a	2.85 ^a	3.08 ^a	2.67 ^a	2.91

Table 9.3 Cont'd Extent of Implementation of Solid Minerals Policy

Statement	Level of Agreement with Extent of Implementation (Mean Ratings)					a, b, c.
	Mining Communities	Miners	MDAs	Universities	Groups Total	
	59	65	77	51	252	
11. The new incentives to investors are attracting substantial private investment (local and foreign) capital to the sector	3.17 ^b	2.80 ^{ab}	3.06 ^b	2.51 ^a	2.91	
12. New economic opportunities have been created in the sector as a result of the current policy	3.49 ^b	2.65 ^a	3.56^b	2.98 ^{ab}	3.19	
13. The new policy can be said to have enhanced considerably technological development of solid minerals	3.36 ^b	2.60 ^a	3.25 ^b	2.57 ^a	2.97	
14. Implementation of the new policy has brought about security challenges to various communities	3.37 ^{ab}	3.82^b	3.40 ^{ab}	2.94 ^a	3.41	

Means within each row with different superscript are significantly different ($p < 0.05$)

Key: Undecided (UD) --- 1, Strongly Disagree (SD) --- 2, Disagree (D) --- 3, Agree (A) --- 4, Strongly Agree (SA) --- 5

Source: Field Survey, 2015

Summary of Findings

The findings of this study are that due process was not followed while formulating the 2008 solid minerals policy and not all the stakeholders were properly consulted for their inputs into the policy. Furthermore, the extent of implementation of the policy in terms of achievement of objectives was low.

CONCLUSION

The study concluded that the development of the solid minerals sector in Southwestern Nigeria was contingent on conducive social, political and economic terrain; high level of implementation planning and resource mobilization; efficient operations and services; adequate infrastructural facilities and non-cumbersome land acquisition procedure.

Policy Recommendations

From the outcomes of this study, the following recommendations are put forward:

- (i) While drafting a new policy or reviewing an existing one, the major stakeholders, especially the more direct beneficiaries which in this case are the mining communities, should be allowed to make their contributions for the purpose of acceptability to all and sundry.
- (ii) The solid minerals policy should now be reviewed for performance with a view to incorporating appropriate strategies for implementation. This review can include increasing the number of solid mineral cooperative societies and facilitating access to the Solid Mineral Development Fund as provided for in the Mining and Minerals Act 2007.
- (iii) Public-private ownership option of solid minerals in the country should be properly studied and given a trial. This can be in the form of making the necessary technology available to the local miners and exposing them to training that is considered adequate for their level of operations. The quantity of minerals exploited will then determine the level of assistance from government.
- (iv) Appropriate derivation formula for sharing proceeds of minerals should urgently be derived to ensure more active participation by states and local governments in the exploitation and processing of solid minerals. Government should licence more buying centres through which reliable information could be obtained on productivity upon which the derivation formula will be based. The derivation formula I am suggesting is Federal (50%), State (30%) and Local Government (20%), while individuals will be given a rebate of 20% on royalties payable to the buying centres.
- (v) Any derivation formula subsequently agreed upon by stakeholders should continue to be applied transparently in the sector to encourage artisanal miners and other individuals.
- (vi) The general level of infrastructure in the country should be improved upon to encourage both local and international investors to participate actively in the sector.

- (vii) Infrastructural facilities such as roads, communication and electricity should be well maintained to ease exploitation and processing of solid minerals.
- (viii) There should be proper monitoring of funds meant for maintenance of infrastructure to ensure that they are judiciously utilized for the progress of the sector. This can be done by the government through further confirmation with people directly benefiting from such infrastructural facilities
- (ix) Land acquisition procedure should be made less cumbersome to encourage venturing into the solid minerals sector especially by young graduates and other interested parties. Government can acquire such lands and apportion them among interested young graduates and others with the payment of reasonable rents.
- (x) The land use Act of 1978 should be reviewed in its entirety to ensure that a more realistic Act that will provide enough cushioning effect on land acquisition in Nigeria for the purpose of minerals exploration and exploitation is put in place.
- (xi) Governments at various levels in the country should concentrate more attention on the local exploitation and processing of solid minerals to be able to derive more economic benefits from them just like other countries. This can be done by encouraging our young engineers to design local equipment that can be used by artisanal miners to exploit and process further such minerals.

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