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Accounting for natural resources: The Cameroonian experience

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Abstract
Cameroon is a country immensely blessed with various natural resources some of which have been and are still been explored; some others have not yet been explored. However, the potential benefits of those resources to the nation and its citizen are far from realised for the majority of the population especially those from areas were the resources are actually located. Based on these facts the study was designed to examine how natural resources accounting can contribute to the benefit and welfare of the masses in Cameroon. The survey design was the main methodological tool used to navigate the study. Both primary and secondary sources of data were considered relevant for material sourcing. The multiple linear regression and Pearson correlation coefficient analyses were used for measuring, testing and analysing the key hypothetical variables in the study. The findings revealed that natural resources accounting could significantly impact upon nation's growth and development. Based on the findings of the study, recommendation was made to the national government that natural resources accounting which significantly affect the country's growth and development should be given prominent attention when developmental decision.

Keywords: Natural resources accounting, Renewable resources accounting. Non-renewable resources accounting, Ecosystem services accounting

1. Introduction
Natural resources are resources that exist without any actions of human kind. According to the 2001 Organisation for Economic Cooperation and Development (OECD) Glossary of Statistical Terms, natural resources are natural assets (raw materials) occurring in nature that can be used for economic production and consumption. Within this context, the resources are sub-divided into four categories: Mineral and Energy Resources, Soil Resources, Water Resources and Biological Resources. These natural resources both renewable and non-renewable and ecosystem services are a part of the real wealth of nations. They are the natural capital out of which other forms of capital are derived. They contribute towards fiscal revenue geneation that is control by fiscal policy, income, and poverty reduction (Asuquo & Effiong 2011) [6]. Cameroon often described, as Africa in miniature is a land blessed with abundant natural resources both renewable, non-renewable and ecosystem services. The importance of natural resources to the Cameroonian nation and the need to make the best and sustainable use of these resources constitute the reason for this study. Natural resource accounting is an accounting system that deals with stocks and stock changes of natural assets, comprising biota (produced or wild), subsoil assets (proved reserves), water and land with their aquatic and terrestrial ecosystems (OECD, 2001) [29]. Natural resources are initially entered in the accounting records at their direct cost plus logically related items like legal fees, surveying costs, and exploration and development costs. Think of it this way: depletion is to a natural resource as depreciation is to property, plant, and equipment. On the statement of financial position, we classify natural resources as a separate group among non-current assets under headings such as "timber stands" and "oil reserves". Typically, we record natural resources at their cost of acquisition plus exploration and development costs; on the statement of financial position, we report them at total cost less depletion.

Natural resource accounting is an accounting system that deals with stocks and stock changes of natural assets, comprising biota (produced or wild), subsoil assets (proved reserves), water and land with their aquatic and terrestrial ecosystems (United Nations, 1997) [35]. It is frequently used in the sense of physical accounting as distinguished from monetary (environmental) accounting. Some nations of the developed economies have made some remarkable progress in Natural resources accounting. One of such nations is Norway. From observation of some of those nations, there is the need to improve the management of natural resources within a national context. In addition, there is the use as planning tools, highlighting the linkages between economic development, natural resource use and environmental concerns. The integration secures consistency between economic analysis and analysis of important environmental and resource issues such as air pollution and energy use.

It is important to organize the natural resource accounts in a manner that facilitates its usefulness for analytical purposes. This will enhance the probability that the linkages between economic, natural resource, and environmental issues are brought to the attention of the decision makers suggested proposal of "correcting" GDP or other aggregates of the national accounts (Alfsen, 1994, Asuquo, Dan, Odey, Linus, Uklala, & Tapang, 2021, Asuquo, Dan, & Effiong, 2020, Asuquo, 2012) [1, 3, 9]. Alfsen (1994) [1] explained the Norwegian model, Natural resource accounting in Norway is not considered as a goal in itself, but rather as a way of providing systematised data for analytical purposes. Thus, information based on the energy accounts and the associated emission inventories have been integrated into more comprehensive analytical tools by expanding the macroeconomic planning models. By integrating the resource and environmental data with economic models, several aims are achieved. First, consistency between economic planning, expected growth in energy use and the resulting emission to air is secured in the model-based forecasts. Second, by providing output tables covering economic, energy and environmental variables, the linkage between these policy areas is brought to the attention of the policy makers. Finally, by making a single modelling tool available to all the ministries involved. These specifically affects the following ministries: Ministry of Economic Planning and Territorial Development, Ministry of Environment and Nature Protection, Ministry of Forestry and Wildlife, Ministry of Tourism and Leisure and the Ministry of Finance (among others), communication and collaboration toward an integrated development model among the different branches of the government is enhanced and ensured. Given the several similarities between Cameroon and Norway in terms of mineral and environmental resources, and by virtue of the developmental progress Norway as a nation has made by taking advantages of these resources, it may be right for Cameroon to adopt some of the strategies Norway has used successfully.

1.1 Statement of the problem

The main problem with the accounting for natural resources in Cameroon stems from the poor or insufficient accountability and treatment of the issues related to the management of the exploitation of natural resources. The valuation or measurement of the stockpile of these resources including valuing the cost of depletion, degradation and protection of the environment and indicating the methods used. The cost of developing strategy, planning tools and efficient and effective systems of monitoring and controls is not easily ascertained. The sufficient and appropriate disclosures for relevant information for public consumption is lacking in the accounting system and structure. The inappropriate handling of the above problems has largely contributed to widening the poverty gap and increasing the health vulnerability of a large majority of the population. In addition, the country's earning potentials from these natural resources cannot fully be exploited in the absence of proper accountability. The absence of proper accountability for the country's natural resources poses a serious threat to human habitat and the sustainability of the said resources. Due to the problem highlighted above, there may be a poor representation of the country's real goods and services (Asuquo, Tapang, Uwah, Dan, & Uklala, 2020) [10]. The above issues is what has triggered this study to investigate how accounting for natural resources could help provide improved livelihood and living standards to the average Cameroon citizens through proper and adequate accountability of the government's mechanisms.

1.2 Objectives of the study

The main objective of this study is to investigate the effect natural resources accounting can have on the living standards of the average Cameroonian and other citizens' resident in Cameroon. The specific objectives are:

1. To examine how renewable resources accounting is helpful to improve the livelihood and living standards of Cameroonians.
2. To examine how non-renewable resources accounting is helpful to improve the livelihood and living standards of Cameroonians.
3. To assess how ecosystem services accounting is helpful to improve the livelihood and living standards of Cameroonians.

1.3 Research question

The following research questions provides guide to the study:

1. To what extent is the accounting for renewable resources helpful to improve the livelihood and living standards of Cameroonians?
2. To what extent is the accounting for non-renewable resources helpful to improve the livelihood and living standards of Cameroonians?
3. To what extent is the accounting for ecosystem services helpful to improve the livelihood and living standards of Cameroons?

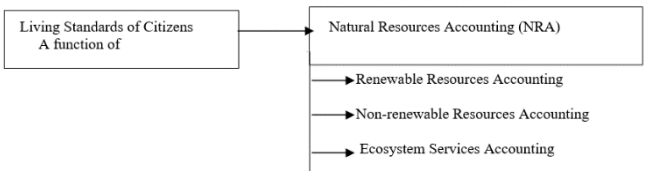
1.4 Research hypotheses

The hypotheses for this study are as follows:

1. Natural resources accounting of renewable resources would not significantly improve the livelihood and living standards of Cameroonians.
2. Natural resources accounting of non-renewable resources would not significantly improve the livelihood and living standards of Cameroonians.
3. Natural resources accounting of ecosystem services would not significantly improve the livelihood and living standards of Cameroonians.

2. Literature Review

2.1 The Concept of Natural Resources Accounting



Source: Designed by Researchers, 2021

Fig 2.1: Conceptual Framework

2.2 Living standards of citizens and Renewable Resources Accounting

The living standard of citizens may be considered as the overall material well-being of the average person within a given population. Things that can be quantified such as income, cost of goods and services, poverty and the Gross Domestic Product (GDP) of a country usually measure it. The GDP mostly used for this purpose is called the real or

Adjusted GDP after adjustments have been made for inflation. Renewable Resources Accounting refers to an accounting system that deals with the stocks and changes in the stocks of renewable resources. The accounting system should be able to perform basic tasks of documenting the different types of classes of renewable resources available in the country. It should be able to estimate the volume and estimated lifespan of each type or class of resource. It should determine the method(s) of valuing the different type of resources and making the information available to the public to help educate on the sustainable management of the resources. These natural resources can return to their previous stock levels by natural processes of growth or replenishment. Conditionally renewable resources are those whose exploitation eventually reaches a level beyond which regeneration will become impossible. Renewable resources include biomass energy (such as ethanol), hydropower, geothermal power, wind energy, and solar energy. Biomass refers to organic material from plants or animals. This includes wood, sewage, and ethanol (which comes from corn or other plants)

2.3 Non-Renewable Resources Accounting and Ecosystem Services Accounting

Non- Renewable Resources Accounting refers to an accounting system that deals with the stocks and changes in the stocks of non-renewable resources. The accounting system should be able to perform basic tasks of documenting the different types of classes of non-renewable resources available in the country using appropriate financial accounting standards to clearly show their effects on financial reporting and practices on renewable resources. It should be able to estimate the volume and estimated lifespan of each type or class of resource. It should determine the method(s) of valuing the different type of resources and making the information available to the public to help educate on the sustainable management of the resources (Asuquo, 2013a, Asuquo & Akpan, 2012) [8, 4]. A non-renewable resource refers to natural resources that are beneath the earth, which when consumed, does not replenish at the same speed at which it is used. The resources typically take millions of years to develop. The main examples of non-renewable resources are fuels such as oil, coal, and natural gas, which humans regularly draw to produce energy. Ecosystem services accounting refers to an accounting system that deals with the stocks and changes in the stocks of ecosystem services. The accounting system should be able to perform basic tasks of documenting the different types of classes of non-renewable resources available in the country. It should be able to estimate the volume and estimated lifespan of each type or class of resource thus enhancement of revenue base and social assets creation as admited by Asuquo (2013b) [9]. It should determine the method(s) of valuing the different type of resources and making the information available to the public to help educate on the sustainable management of the resources. Ecosystem services are outputs, conditions, or processes of natural systems that directly or indirectly benefit humans or enhance social welfare. For example, the pollination of crops provided by bees and other organisms contributes to food production and is thus, considered an ecosystem service. Ecosystem services are derived from biodiversity. These services includes: the provisioning services that provide potable water, food, fibre and medicine; the regulating services which control our climate, disease vectors, crop pests and pollinators; and the cultural services that influence our beliefs and traditions (Asuquo, Dan, & Effiong, 2020, Asuquo, 2012, Effiong & Asuquo, 2010) [16, 11, 19].

2.2 Theoretical Framework

2.2.1 Legality Theory and perception of stakeholders needs

Dowling and Pfeffer derived this theory from the 'concept of organizational legitimacy' in 1975, which focuses on aligning a subject in the context of a social system. Suchman (1995, p. 574) [32] considers that "Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions. Legitimacy theory is the tool that manages the stakeholders' perceptions of the needs for attaining the organizational legality through good budgeting process. Thus, legality offers to an organization the right to perform its activities in consensus with stakeholders' interests (Suchman 1995, Uwah & Asuquo 2016) [32, 35]. Entities must take into the consideration of legitimacy to be able to exist and prosper in a society: legitimacy is a precondition of business license to operate in society, and of the supply of necessary resources—ranging from investments, committed employees, business partners, and sales/consumption, to political. Legitimacy theory posits that organisations continually seek to ensure that they operate within the bounds and norms of their respective societies. The social contract is used to represent the myriad expectations society has about how an organisation should conduct its operations (Deegan 2000; Mathew 1993) [18, 26]. Sethi (1975) defined a "legitimacy gap" as an expectancy gap indicating a discrepancy between an entity's actions and society's expectations of this entity (Langer, 2008) [25]. This gap is what in this context of accounting for natural resources could be closed or at least narrowed by the adoption of proper accountability, adopting information technology to enhance line of works and accounting practices as highlighted in the statement of the problem and supported by Asuquo, Dan & Effiong (2020) [16] and Asuquo & Udoayang (2020) [16] in respective submissions.

2.2.2 Comparative Advantage Theory

This theory was develop by a classical economist – David Ricardo in 1817 in his book on "The Principle of Political Economy and Taxation" in an example involving England and Portugal. However, England was relatively better at producing cloth, therefore, it made sense for England to export cloth and import wine from Portugal. The applicability of this theory to Cameroon is germane; by their very nature, these natural resources give a country that posses them some advantage in their extraction and use over others (countries) that do not have them; the country has to make concrete, bold and sprinted efforts in addressing their needs, and discovering areas of comparative advantage. Viability of any states involved the following: ability to reduce poverty, create employment, develop good pension scheme, pension reform and management aimed at rewarding past sevice providers, and contribute meaningfully to the centre depends largely on comparative advantage factor (Asuquo, Akpan, & Tapang, 2012, Asuquo, 2008) [15, 12]. In the Cameroon context, the country is endowed with different types of Renewable, Non-Renewable and Ecosystem Resources. These diverse

resources could serve as raw materials for different sectors of the economy especially the energy sector which helps private sectors to experience lower production or operation costs through creative accounting and earning management (Asuquo, 2011) [6]. Cameroon could thus be said to have a comparative cost advantage in the energy sector by virtue of these resources compared to countries that may have to import the resources. This situation is applicable to all the resources to which the country has been endowed with by nature. According to Pragya & Catherine, (2021) [29], stated in the paper titled, 'Public perceptions about Nepalese National Parks: A Global Twitter Discourse Analysis', states that, 'Public participation in managing natural resources is important but obtaining diverse perspectives remains challenging. To assess how Twitter, a globally popular and influential public forum, could provide insights into diverse views about natural resource management in developing countries, we examined tweets about Nepalese National Parks. The content and sentiments of >9,000 tweets posted by >4,500 Twitter users from >90 countries were evaluated. Most tweets were sent by accounts in Nepal, India, USA, UK, Australia and Canada, with tourism, charismatic fauna, landscapes, culture, ethnic people, and issues relating to managing parks common topics. Twitter users' origin/home location influenced which park and topics they discuss and with what emotions. The number of Twitter users was not correlated with park visitation but rather tweets were often sent in response to specific events and news. Twitter can provide insights into perceptions about parks including in low income countries, but there are important limitations'. According to Kelly, Richard, Morgan, Lars, Thomas & Urs, (2021) [23], on the paper titled 'The Impact of Affective Heuristics in Decision-Making Regarding the Implementation of Prescribed Fire on Private Rangelands in the Southern Great Plains', state that, Ecosystems around the world are experiencing unprecedented anthropogenic impacts, emphasizing the need for a nuanced understanding of how individual decision-making shapes social-ecological systems. In range land systems, prescribed fire can reduce woody plant encroachment, restore the resilience of native grasslands, and mitigate fuel load accumulation limiting catastrophic wildfires. Yet, many individuals decide against this land management practice. In order to better understand the cognitive decision-making processes that shape the use of prescribed fire in rangeland ecosystems, we conducted 66 semi-structured interviews with key informants in the Texas and Oklahoma portions of the Southern Great Plains. Results indicate that heuristic processes were frequently used when considering the use of prescribed fire, but that analytical processes were more likely to lead to prescribed fire implementation. These findings suggest the need to reframe prescribed fire communications to the public, rethink prescribed fire regulations, and reshape liability insurance for fire practitioners'.

According to Zachary & Urs (2021) [36], on the paper titled, 'Place-Based Identities of Landowners: Implications for Wildlife Conservation', stated that, 'In private land dominated landscapes, the landowners' role identities may affect land management behaviors that, in turn, can dramatically influence native biodiversity. We conducted a mail survey of landowners of >40 ha properties in the Gulf Coast Prairie of Texas, categorized them, identified characteristics that varied among them, described their wildlife-beneficial management practices and role commitment. Hierarchical clustering produced 5 landowner role identity types (Working Place, Entire Place, Amenity, Lifestyle, and Conservation) based upon their self-representations. Working Place and Entire Place landowners had the highest place-based motivations and were the most numerous and active land managers, while Conservation landowners engaged in fewer management practices despite holding pro-conservation motivations. Lifestyle landowners had the highest proportion of retirees, and employed the fewest management practices. Our work describes landowner role identities and how these can help more broadly inform the strategies that are used to target and engage landowners in wildlife-beneficial management'. According to Suzi, Kathryn, Gene, Jeffrey, Adrianne & Julia, (2021) [33], on the paper titled, 'Addressing Research Fatigue in Energy Communities: New Tools to Prepare Researchers for Better Community Engagement', stated that, 'Two innovative educational products aimed at improving the quality of human-subjects research in and around energy-impacted communities are introduced here. The educational materials include: (1) a self-paced online education course titled "Understanding and Addressing Research Fatigue in Rural Communities" and (2) an accompanying workbook for research planning titled "Engaging in Energy Communities: The Role of the Researcher." We explain how two recent studies were instrumental in identifying the need for the online education course and the associated workbook. We conclude the paper with guidance on how to access these new resources, which we believe will be particularly useful for graduate students and early-career researchers. We invite feedback from users as well as from colleagues who may wish to use these educational materials'.

3. Research Methodology

3.1 Research design

The research design adopted for this study is the survey method which is a form of a descriptive design entailing the structuring of investigation with a view to identifying variables and their relationship to one another. In other words, it represents the blueprint for the collection, measurement and analysis of research sample and data (Asika, 2002; Ndiyo, 2010; Kathori & Garg, 2014) [2, 27, 24]. The reason for this choice is that, as a systematic testing method, it offers the researcher the opportunity of synthesizing, integrating and interpreting, data and point to implications and interrelationship. Justifiably also, as posited by Asika (2002: 10) [2] is the fact that "the researcher is but interested in observing what is happening to sample subjects or variables without attempt to manipulate or control them".

3.2 Sample/sampling procedure

To achieve the objective of this study, the multi-stage sampling technique involving both the stratified and simple random sampling techniques were deployed. First, two (2) strata are identified—Practitioners in finance/accounting, and practitioners in environmental management. In each stratum, fifty (50) persons (practitioners) are randomly selected for interview. The essence of further using the random sampling here is to give every member of the drawn population equal opportunity of being selected without biases whatsoever (Isangedighi, Joshua, Asim and Ekuri, 2004) [22]. This helped in attaining a sample size of 100 for the purpose of the study.

3.3 Sources of data
The study depends largely on the two major sources of data collection—Primary and Secondary. The primary sources here include personal interview of experts in the fields of accounting and environmental management with the administration of structured questionnaire. These persons (interviewees) served as respondents for data collection for the study. Secondary sources was drawn from library works (books, journals, academic articles, conference papers, thesis, …), periodicals—Magazines, Newspapers, Bulletins...

3.4 Instrumentation and data collection technique
The questionnaire was divided into two (2) major sections – 'A' and 'B'. The Section A contained the bio-data or status of respondents (sex, age, academic qualification and professional background) while the Section B dealt with the situational variables being measured. Using the Likert scale of measurement, the Section B measured variables thus:

Strongly Agree (SA) - 4 points
Agree (A) - 3 points
Disagree (D) - 2 points
Strongly Disagree (SD) - 1 points

3.5 Method of data analysis
A multiple regression model was used since we had one dependent and three (03) independent variables acting as proxies for Natural Resources Accounting (NRA). The dependent variable was Living Standards represents the Real Gross domestic Products benefited by the average member of the population and the independent variables were; Renewable Resources Accounting (RRA), Non-Renewable Resources Accounting (NRRA) and Ecosystem Services Accounting (ESA) used as proxies for Natural Resources Accounting (NRA).
The data shall be coded in a frequency percentage table but analyzed using the Linear Regression and Pearson Product Moment Correlation. The method shall be used to test the variables and relationships contained in the formulated hypotheses.

3.6 Research Model
The Regression Model
LS = f (NRA)
$LS = \beta_0 + \beta_1 RRA + \beta_2 NRRA + \beta_3 ESA + \mu$
Where,
LS = Living Standard (the dependent variable)
NRA = Natural Resources Accounting (the independent variable)
RRA = Renewable Resources Accounting
NRRA = Non-Renewable Resources Accounting
ESA = Ecosystem Services Accounting
$\beta_0, \beta_1, \beta_2, \beta_3$ = Régression coefficients
μ = Stochastic element
Correlation coefficient $r = (\sum xy - (\sum x \sum y)/n)/\sqrt{[(\sum x^2 - (\sum x)^2/n)(\sum y^2 - (\sum y^2/n)]}$, where
X = Observation on Variable X,
Y = Observation on Variable Y,
n = number of observations.

4. Results and Discussions
4.1 Regression Results

Table 4.1: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.483[a]	.233	.210	1.30521	.233	9.748	3	96	.000	1.572
a. Predictors: (Constant), Ecosystem Resources, Renewable Resources, Non-Renewable Resources										
b. Dependent Variable: Living Standards										

Source: Field Work 2021

In Table 4.1, the R-value of 0.483 indicates the correlation between the observed and the predicted values of the dependent variable. This shows a positive correlation between the observed and the predicted values of the dependent variable since the value 0.483 is not very close to 1.00. R- square also known as known as coefficient of multiple determination, measures the extent to which changes in the dependent variables are explained by the explanatory variables (predictors) for Natural Resources Accounting represented here by three proxies, viz., Ecosystem Resources Accounting, Renewable Resources Accounting and Non-Renewable Resources Accounting. The table shows the R-Square value of 0.233, indicates that the model does not fits the data used very well since it is very far from 1.00. This implies Natural Resources Accounting represented here by three proxies, viz., Ecosystem Resources Accounting, Renewable Resources Accounting and Non-Renewable Resources Accounting are accounting for 23.3 per cent of the Standard of Living. The Adjusted R Square attempts to correct the R Square to more closely reflect the goodness of fit of the model in the population. From Table 4.1, 0.210 still indicates that the model does not fits the data very well since it is very far from 1.00 although with a 0.023 reduction from the R Square. This tells us that, 21.0 per cent of the variance of the dependent variable is explained by the independent variable. The Durbin-Watson test for autocorrelation showed a value 1.572, which lies between 1.59 and 2.50, indicating that there is no autocorrelation between the variables.

Table 4.2: ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	49.817	3	16.606	9.748	.000[b]
	Residual	163.543	96	1.704		
	Total	213.360	99			
a. Dependent Variable: Living Standards						
b. Predictors: (Constant), Ecosystem Resources, Renewable Resources, Non-Resources						

Source: Field Work 2021

In Table 4.2, the F-Statistics test also called the overall significant, which is the test for adjusted R- squared, shows that our results are insignificant at 5 per cent one tail level of significance. As shown by the probability value of 0.000, which is below the alpha value of 0.05. Hence, we reject the null hypothesis and accept the alternative hypothesis which states that the estimated coefficient of the independent variable and the adjusted R-Squared are significantly different from Zero. Given this, we can say that our results are more than 95 per cent reliable. Thus, we can conclude that Natural Resources Accounting has significant effect on the Standard of Living.

Table 4.3: Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	5.793	1.828		3.168	.002			
	Renewable Resources	.401	.111	.333	3.614	.000	.400	.346	.323
	Non-Renewable Resources	-.005	.054	-.010	-.098	.922	.187	-.010	-.009
	Ecosystem Resources	.159	.061	.285	2.615	.010	.359	.258	.234
a. Dependent Variable: Living Standards									

Source: Field Work 2021

In Table 4.3, the regression equation can be written as follows:

Living Standards = 5.793 + 0.401*RRA – 0.005*NRRA + 0.159*ESA

Coefficient the three proxies used for Natural Resources Accounting were as follows: Renewable Resources Accounting (RRA) of 0.401 was found to be positive; Non-Renewable Resources Accounting (NRRA) was found to be negative of -0.005 and Ecosystem Resources Accounting (ESA) was positive with 0.159. Since these variables were measured in different units, the Standardized Coefficients or Betas attempt to make them comparable. The unstandardized coefficient for Renewable Resources Accounting (RRA) of 0.401 indicates that, for every unit change in Natural Resources Accounting, there will be a 0.401 increase in Living Standard. In addition, the unstandardized coefficient for Non-Renewable Resources Accounting (NRRA) of -0.005 indicates that, for every unit change in Natural Resources Accounting, there will be a -0.005 decrease in Living Standards. Furthermore, the unstandardized coefficients for Ecosystem Resources Accounting (ESA) of 0.159, indicates that for every unit change in Natural Resources Accounting, there will be an increase in Living Standards by 0.159. Since the beta coefficient for Renewable Resources Accounting (RRA) is positive 0.333 and its t value 3.614, which is largely greater than 2.00, it indicates that as Natural Resources Accounting level increases in the Renewable Resources Accounting area, the Living Standards will increase, hence a positive effect. However, increases in the level of Natural Resources Accounting in the Non-Renewable Resources Accounting area a with beta value of -0.010 and t value of -0.098 which is greater than -2.00 though, decreases the Living Standards, hence a negative effect even though it is insignificant. In addition, increases in the level of Natural Resources Accounting in the Ecosystem Services Accounting area with a beta value of 0.285 and t value of 2.615 which is greater than 2.00, it indicates that as natural resources accounting level increases in the ecosystem services accounting area, the living standards will increase, impact of monetary policy on economic growth would be guaranteed and shown within economic system, hence a positive effect, this is similar to the submission made by Asuquo, 2012b. These effects are in line with our a priori expectations. Statistically, the probability values at 5 per cent significant level were 0.000 for Renewable Resources Accounting, which is below 5 per cent thus, significant; 0.922 for Non-Renewable Resources Accounting which is above 5 per cent thus insignificant and 0.010 for Ecosystem Resources Accounting which is less than 5 per cent thus significant. Hence, it can be concluded that Natural Resources Accounting in the areas or domains of Renewable Resources Accounting and Ecosystem Services Accounting has significant positive effect on Living Standards, while any such Non-Renewable Resources Accounting has an insignificant negative effect on Living Standards. Moreover, the results also showed that other factors besides the three used as proxies for Natural Resources Accounting, have positive effects on Living Standards, as the unstandardized regression coefficient 5.793 and the t value 3.168 are positive.

4.2 Correlation Results

Table 4.4: Correlation Results

		Standard of Living	Renewable Resources	Non-Renewable Resources	Ecosystem Services
Standard of Living	Pearson Correlation	1.00			
	Sig.(1-tailed)				
	N	100			
Renewable Resources	Pearson Correlation	0.400	1.00		
	Sig.(1-tailed)				
	N	100	100		
Non-Renewable Resources	Pearson Correlation	0.187	0.127	1.00	
	N	100	100	100	
	Sig.(1-tailed)				
Ecosystem Services	Pearson Correlation	0.359	0.241	0.544	1.00
	Sig.(1-tailed)	0.000	0.008	0.000	
	N	100	100	100	100

Source: Field Work 2021

Decision rule: Reject null hypothesis if p-value of correlation coefficient < 0.05. Use statistical tables to check whether the correlation coefficient (r) is significant at P = 0.05. If r<r-value at P=0.05, fail to reject the null hypothesis and stop. Otherwise, reject null.

4.3 Tests of hypotheses

Hypothesis One

Ho: Natural resources accounting of renewable resources would not significantly improve the livelihood and living standards of Cameroonians.

H: Natural resources accounting of renewable resources would significantly improve the livelihood and living standards of Cameroonians.

Table 4.4 shows that the correlation coefficient *R* between Renewable Resources Accounting and Living Standards is 0.400 (40 per cent), and the P-value is 0.000. Since P-value (0.000) is less than a (0.05), we do have enough to reject Ho, which states that Natural Resources Accounting of Renewable Resources would not significantly improve the livelihood and living standards of Cameroonians. We therefore accept H_1, and conclude that Natural Resources Accounting of Renewable Resources would significantly improve the livelihood and living standards of Cameroonians. Further test shows that r (0.400) is greater than tabulated (critical) R0.05 (0.16), we therefore reject H_o and accept H_1. Summary of response on the variables is attached as Appendix II to this document

Hypothesis Two

Ho: Natural resources accounting of non-renewable resources would not significantly improve the livelihood and living standards of Cameroonians.

H1: Natural resources accounting of non-renewable resources would significantly improve the livelihood and standard of liviving of Cameroonians.

Table 4.4 shows that the correlation coefficient *R* between Non-Renewable Resources Accounting and Living Standards is 0.187 (18.7 percent), and the P-value is 0.031. Since P-value (0.031) is less than a (0.05), we do have enough to reject Ho, which states that Natural resources accounting of Non-Renewable Resources would not significantly improve the livelihood and living standards of Cameroonians. We therefore accept H1, and conclude that Natural Resources Accounting of Non-Renewable Resources would significantly improve the livelihood and living standards of Cameroonians. Further test shows that r (0.187) is greater than tabulated (critical) R0.05 (0.16), we therefore reject H_o and accept H_1. Summary of response on the variables is attached as Appendix II to this document

Hypothesis Three

Ho: Natural resources accounting of ecosystem services would not significantly improve the livelihood and living standards of Cameroonians.

H1: Natural resources accounting of ecosystem services would significantly improve the livelihood and living standards of Cameroonians.

Table 4.4 shows that the correlation coefficient *R* between Ecosystem Services Accounting and Living Standards is 0.359 (35.9 percent), and the P-value is 0.000. Since P-value (0.000) is less than a (0.05), we do have enough to reject Ho, which states that Natural Resources Accounting of Ecosystem Services Accounting would not significantly improve the livelihood and living standards of Cameroonians. We therefore accept H1, and conclude that Natural Resources Accounting of Ecosystem Services Accounting would significantly improve the livelihood and living standards of Cameroonians. Further test shows that r (0.359) is greater than tabulated (critical) R0.05 (0.16), we therefore reject H_o and accept H_1. Summary of response on the variables is attached as Appendix II to this document

5.1 Conclusion

Based on the findings of the study, the following conclusions are made:

1. Natural Resources Accounting in the area of Renewable Resources Accounting has a significant positive effect on the Living Standards of Cameroonians.
2. Naturaral Resources Accounting in the area of Non-Renewable Resources Accounting has an insignificant negative effect on Living standards of Cameroonians.
3. Naturaral Resources Accounting in the area of Ecosystem Services Accounting has a significant positive effect on the Living Standards of Cameroonians.

5.2 Recommendations

Based on the findings of this study, the following recommendations were made:

1. Natural Resources Accounting should be effectively carried out by the government using qualified personnel for the purpose of appropriately documenting the the different stockpile of natural resources available in the country.
2. Natural Resources Accounting should be effectively implemented by the government to ease the quantification or measurement and valuation of each class or type of natural resources, as well as estimate the effects on the natural environment, habitat and on humans.
3. Natural Resources Accounting should effectively be implemented by government in a strategic manner with proper planning, monitoring and control mechanisms to guanrantee the sustainable exploration of these resources for the economic (revenue generation for both government and private entities; employment opportunities), cultural (display of manifestations in healthy and eco-friendly spaces) and social (variety of products and services) benefits of Cameroonians.
4. Natural Resources Accounting should effectively be implemented so as to provide adequate quality informanation which are sufficient and appropriately disclosed for the benefit of all in the country.
5. Natural Resources Accounting should effectively be implemented by the government, since it provides a useful source of data for government economic and development planning, enhancement of revenue base and social assets creation as admited by Asuquo (2013b). Economic and development plans should be drawn based on the findings of natural resources accounting in ways that make the best use of those resources for both the short-term and especially for the long term periods.

Further research should focus on studying the effects of the accounting for specific natural resources on economic

development and livelihood of the population. In addition, a study should be conducted on the revenue earnings capacity of specific natural resources and its contribution to the national budget.

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