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Green Finance for Kenya's Universities? Unpacking the Effect of Donor Funding Resource Mobilisation Structure on the Financial Sustainability of Universities in Kenya

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Abstract:
Background:*Kenya listed its first Green Bond worth KSh4.3 billion (USD42.5 million) at the London Stock Exchange in January 2020, with a goal of building environmentally friendly accommodation for 50,000 university students. This inaugural and innovative fiscal instrument targeting university infrastructure in Kenya illuminates the potential of the Green Finance options available to institutions of higher education, as the country marches towards the sustainable development goals. It is against this backdrop that this study explores the potential of Green Finance as it unpacks the effect of donor funding resource mobilisation structure on financial sustainability of universities in Kenya.*
Methods: *Using the descriptive and cross-sectional co-relational survey design, the study had a population of 71 senior officials in charge of finance in the universities.*
Results: *The findings from the descriptive analysis indicate that donor funding structures can be adopted effectively to improve upon financial sustainability of the universities. Access to project and research grants scored highly with an arithmetic mean, M =3.24 indicating strong agreement among respondents about donor funding as an instrument of sustainability. The regression analysis revealed a positive relationship between the donor funding structure and financial sustainability.*
Conclusion:These results shed light on the hitherto unexplored potential of Green Finance as one of the fiscally sustainable avenues through which universities can approach donors to fund projects, research and scholarships to advance Kenya's efforts to meet the sustainable development goals*.

Key Word:*Green Finance, Donorfunding, Resourcemobilisation, financialsustainability, Kenya, Higher Education,*

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I. Introduction

The challenge of funding of higher education institutions has pushed universities across the world to seek more innovative solutions to guarantee their fiscal sustainability. This situation of declining funding for public universities is not unique to Kenya but has also manifested itself in many countries in Africa (Mutula, 2001). In Kenya, the reduced government allocation to public universities, and competition from private universities for students have put pressure on the financial resources available for infrastructure development in the institutions of higher education at a time when there is increasing demand for university education (Gichuhi, 2015). A 2018 study titled *The State of Research Funding in Kenyan Universities* curated at the Technical University of Kenya also echoes the fiscal pressure on universities and the poor funding available for academic and research programmes (CPS Research International, 2018). The study also revealed that while the bulk of the research funds comes from the government, there was money coming in from the corporate sector, non-governmental organisations and from "non-state donors".

Many universities in Kenya have largely focused on creating investments strategies including setting up consultancies in order to raise income for the university as previously explained by Chumba, Muturi & Oluoch (2019). This push for revenue-generating strategies borrowed heavily from the business world have given rise to what others called as "academic capitalism" or "entrepreneurial universities" (Odhiambo, 2011, p300). Some universities, especially in the Global South are keen to gain from the wide pool of donor funds to boost their research, projects and scholarships (Chumba, Muturi & Oluoch, forthcoming). However, as the 2018 report on the state of research funding in Kenyan universities showed, very few universities are well-equipped to seek, administer and deploy donor funding due to their capacity and infrastructural constraints and the limits of their academic palate (CPS Research International, 2018).

Enterprising universities have managed to come up with revenue-generating projects, such as investment in real estate, in funeral homes, hospitals, and even huge projects in agribusiness, most of the profits goes towards incentivising the staff, but investment in infrastructure such as classrooms, libraries, and even teaching facilities in the laboratories and workshops remains low (Mutula, 2001; Chumba, Muturi & Oluoch, 2019). As the Auditor General's report show, many public universities in Kenya are facing financial difficulty with crippling debt in billions of Kenya shillings and also billions in pending bills to suppliers (Kwamboka & Otieno, 2018). This pressure on the revenues is further exacerbated by the repayment of debts the universities take to implement capital projects, the rising recurrent expenses due to the demand for higher pay as contained in the Collective Bargaining Agreements for both the unionised teaching and non-teaching staff, and the exigencies to mitigate the congestion in classrooms and other teaching facilities.

For a financially sustainable university, the revenues will be put in the core academic areas especially the academic and research pursuits, and also in capital projects to improve the facilities to improve the quality of university education (Mutula, 2001; Odhiambo, 2011; Gichuhi, 2015). The current norm where universities limit the number of academic conferences; give very limited research grants and inadequate funding for projects; curtails the university libraries, laboratories and workshops on the procurement of information and knowledge materials, equipment and supplies, and where university students practically have to stay in slums – because universities lack sufficient accommodation and the decent accommodation next to the universities is usually very expensive— has an effect on the quality of higher education, and ultimately the quality of graduates that these institutions of higher education release into the economy.

It is against this backdrop of proven financial challenges and the never-ending difficulties of funding university education that this paper explores Green Finance for Kenya's universities, while critically analysing the effect of donor funding structures on the financial sustainability of universities in Kenya. This is a good point for this paper to define "Green Finance". While it is a relatively new concept in the policy conversations around climate resilience, this paper will borrow the definition of "green finance" postulated by Höhne, Khosla, Fekete & Gilbert (2011):

"Green finance is a broad term that can refer to financial investments flowing into sustainable development projects and initiatives, environmental products, and policies that encourage the development of a more sustainable economy." (Höhne, *et al.,* 2011, p7)

Also, this paper takes cognisance of the great work that Lindenberg (2014) does in attempting to define green finance, especially the helpful continuum from the financing of green investments, the funding for green public policies and a green financial system as shown below.

Figure 1*: Components of Green Finance as illustrated by Lindenberg (2014, p3)*

The potential of Green Finance to fund academic, research and other capital projects in public universities has not been studied in Kenya. The January 2020 move by a Kenyan company to list its first Green Bond worth KSh4.3 billion (USD42.5 million) at the London Stock Exchange, with a goal of building environmentally friendly accommodation for 50,000 university students is an indicator of the potential of Green Finance, as a source of the much-needed funding for universities in Kenya (Acorn, 2019; Miriri, 2020).
The obvious research gap is that so far, there has been no study on green finance and the effect of donor-funding structure on financial sustainability in Kenyan universities.

Research objectives:

1. To explore the potential of Green Finance as an avenue of donor-funding structure in Kenyan universities
2. To examine the effect of donor funding structure on financial sustainability of universities in Kenya.

II. Literature Review

Theoretical Framework

Dependency Theory

When discussing donor funding as a resource mobilisation structure for public universities in the global South, it follows that one has to revisit the seminal work of the 1940s by Argentinian scholar and policy wonk Raul Prebisch and his doctrine of unequal exchange (Love, 1980). Essentially, Prebisch looked at the international economic system as one with an industrial centre and an agrarian periphery, what Galtung (1971) has subsequently baptised as the "theory of structural imperialism". Added to this, is the work of Frank (1967) who observed the unequal power relations between industrialised nations and the developing world, thus concluding that the way the economic system was structured will ensure that the developing countries shall remain dependent on the developed world. These were not idle observations, because, even the very definition of "dependency" as postulated by Skunkel (1969) notes that it is about the periphery's economic fate being tied to the influence of the centre (Kabonga, 2016).

This paper discusses dependency bearing in mind that traditional donor-funding for public services in Africa and in Kenya has mainly been from imperial powers such as the USA, Japan and Britain, Kenya's former colonial master. As such, many of the protocols and policies around the utilisation of donor-funding in public universities are informed by the legacy of colonialism manifested by the powerful bureaucratic procedures in the management of public funds (Hout, 1993). Simply put, the dependency theory takes the view that donations from the developed countries to the poor countries will persist due to the economic imbalance, and that the global economic system is rigged to ensure that poor countries forever depend on the developed world for meaningful donations. Further, there are two aspects to "Green Finance": There's the investor view, with its capitalist proclivity, especially where Green Bonds are concerned and then there's the donor view, where financing for "green" projects is a strategic investment, often with philanthropic inclinations and charitable ends.

But this paper seeks to turn the curve, taking judicious cognisance that while Green Finance is a policy conversation in the developed world, it rarely metastasizes into the funding policies for the developing countries. This paper therefore seeks to explore the donor-funding aspect pf Green Finance and its charitable ends. At this point, we should also note that it is also possible for poor countries to raise money from the citizens and the rich within their countries through fund-raising campaigns (harambees), but such campaigns are unsustainable, plus, they come with additional accountability challenges and transparency questions about the source of money for the donors, and the utilisation of the money by universities. Nonetheless, there are donors in the "green economy", keen on furthering the "green agenda" who can invest in "green projects" and scholarships tied to the sustainable development agenda to achieve the overall goal of transitioning university infrastructure and the whole education financing ecosystem into an environmentally sustainable economy.

Resource Mobilisation Theory

The conceptual origins of this theory can be traced back to the study of social movements and how they deploy resources –time, money and expertise—to further their cause (Jenkins, 1983). What this theory emphasizes is that the failure or success of social movements can be attributed to the support of various organisations aside from the organic support resident in the members of these movements (Crossman, 2019). McCarthy & Zald (1977) explain that the key pillar upon which this theory rests is that for success of social movements, the resources must be effectively mobilized, and political opportunities cultivated. As Jenkins (1983) helpfully explains, this theory clarifies how social movements mobilise resources from within and without in the pursuit of the movement's goals.

For purposes of this study, the resources that universities need to mobilise range from material resources such as money, manpower, and information and communication technology, to non-material resources such as institutional legitimacy, authority, loyalty, public attention, moral commitment and professional/industry networks (McCarthy & Zald, 1977). More recent studies on resource mobilisation are of the view that when beneficiaries are poor, as is the case with Kenyan universities, they have to get external funding and support (CPS Research International, 2018, Turner, 2012). Borrowing from social movements, with the beneficiary constituent (*i.e.* those who are in it because they benefit (in)directly) and the conscience constituent *(i.e.* those who are in it because they believe it is the right thing), we can apply the resource mobilisation theory to the donor-funding structure of financial sustainability in universities.

In essence, what the theory teaches us in the context of this paper is that when it comes to donor funding structures, it is not about how much money the university generates, but how the university is able to cultivate and leverage on the relationships with donors to influence policies that support higher education, to boost research funding, to get scholarships, and to obtain the material and non-material resources necessary to improve the value of universities in the overall societal transformation (Davis, 1969; Waters, 2008; Chumba, Muturi & Oluoch, forthcoming). It is also fair to note the criticism of the resource mobilisation theory especially its failure to address the non-responsiveness of donors or cases where the much-needed external support is not granted. In this case, what do universities do, if they are ill-equipped with the resources –if they don't have the capacity— to even pitch for donor-funding?

Green Finance and Donor-Funding Resource Mobilisation Structure

For "Green Finance" and donor-funding, the cause is already set. It is not only about environmental sustainability of the overall economy as Lindenberg (2014) explains, but it is also about policies and systems that stay "evergreen" as Kenya and the world pursue the sustainable development goals. There are donors and donor countries who believe in climate resilience, those whose investments are in the green economy, and those who are champions of projects and innovations in the green economy (Halimanjaya, 2016). These are cadres of donors that Kenyan universities keen to boost their research funding, grants and scholarships, can exploit by pitching projects that are aligned to the donors' goals (Halimanjaya, 2016).

There have been empirical studies that have deployed this theory to draw a link, for example, between marketing resources of a firm and its financial viability (See Davcik & Sharma, 2016), or the interplay between the competitiveness of a firm and resource mobilisation as discussed by Casanueva, Gallego & Revilla (2015). This paper just builds on this literature bank to explore the viability of green finance as a revenue source in Kenya's universities, with a bias to the donor-funding aspects.

Green Finance for Kenya's universities? The opportunity

In 2016, Kenya's government launched the *Green Economy Strategy and Implementation Plan 2016 – 2030*, with the promise of "a low carbon, resource efficient, equitable and inclusive socio-economic transformation" (Government of Kenya, 2016). While there's a declared objective to "mainstream green economy into all forms of education and training" including "institutionalising policy on education for sustainable development", there is emphasis on the "promotion of research in all aspects to inform opportunities in green economy", and the "support of business incubation centres", all which appear to have strong potential to attract donor funding in form of research grants, funding for academic projects and scholarships. It is crucial for universities and their finance managers to take cognisance of this plan, because, part of a crucial goal to be executed at an estimated cost of KSh23 billion focuses on building institutional capacities at national and county level for effective financial management, resource mobilisation for building resilience and the development and implementation of green fiscal policies (Government of Kenya, 2016). It is reasonable to expect that Kenyan universities will exploit this opportunity to play a leading role in pursuing financial sustainability through Green Finance.

The annual report for the Green Bonds Programme in Kenya, which is backed by donors and other key partners such as the Nairobi Securities Exchange and the Kenya Bankers' Association reveals an investor demand for green bonds. The report for the financial year 2017/18 argues that this demand is "getting stronger due to increasing evidence that 'green' factors have a positive impact on long-term financial returns". In the context of this paper, Green Bonds, which are a component of Green Finance, are a way to guarantee the predictability of revenues and the financial sustainability of universities. This is because of their dual dividend of not only offering good financial returns to the investors, but also in helping in the overall goal of transitioning university infrastructure and the whole education financing ecosystem into an environmentally sustainable economy.

As Lindenberg (2014) warns, it is easy to conflate "green finance" with "climate finance", but as noted earlier in this paper, Green Finance is about the whole spectrum of an environmentally sustainable economy (Höhne, *et al.,* 2011). Further, there are two aspects to "Green Finance": There's the investor view, with its capitalist proclivity, especially where Green Bonds are concerned and then there's the donor view, where financing for "green" projects is a strategic investment, often with philanthropic inclinations and charitable ends.

That a private real-estate company in Kenya was able to successfully pitch a Green Bond valued at KSh4.3 billion, and get the president of Kenya, Uhuru Kenyatta, to launch the opening of the bond at the London Stock Exchange was not big news (Miriri, 2020). The big news is that the company creatively leveraged on policy positions of affordable housing under the Big Four Agenda to come up with a proposal to build housing units to decently accommodate 50,000 university students. That Kenyan universities with all the resident intellectual capacity could not successfully come up with such a proposal could be due to the bureaucracy within the public universities, the debilitating public finance management laws, and in the case of private universities, the lack of platforms to execute viable investment instruments in Green Finance. Besides, it could also be down to lack of capacity, or knowledge of opportunities and funding options available in the realm of Green Finance.

The learning point from Kenya's inaugural Green Bond is that while it is at its core seeking funds for infrastructure development, it managed to address key issues in environmental sustainability by promising buildings that are water efficient, given Kenya's classification as a water-scarce country according to the UN Environment (Acorn, 2019); energy efficient contributing at least 20% in energy reduction, and finally material's efficiency, essentially focused on low-carbon construction (Acorn, 2019). With most universities struggling with congested classrooms, lack of accommodation facilities, and inadequate training facilities, coming up with a viable green proposals whether for the investment-hungry donors, or the charitable ones, either as a Green Bond or simply as aid towards environmental sustainability or climate resilience, should be explored. The focus should not just be on the three areas that Acorn proposed, but can include the whole menu of priorities stipulated in the government's *Green Economy Strategy and Implementation Plan 2016 – 2030*, and its declared vision of "a low carbon, resource efficient, equitable and inclusive socio-economic transformation".

The Donor-funding structure and financial sustainability of universities

Donor-funding geared towards socio-economic development in the Global South is a persisting phenomenon, partly due to the enduring colonial legacy and partly due to the systemic social structural imbalances fuelled by the economically debilitating policies of the Bretton Woods institutions and their imperial guardians (Langan, 2017). When it comes to university education, the donor priorities also shifted to other pressing priorities in Kenya such as healthcare, basic education and the vocational training institutions (Mutula, 2001; Kavulya, 2006; Koehn, 2012). A 2014 study into the effect of donor funding on the organisational performance of government ministries in Kenya revealed a significant negative linear association between donor funding and performance (Cheboi, 2014).

Koehn (2012) explored the risks and potential benefits of transnational partnerships between donors and higher education partners in his critical assessment of the US and Canadian support for transnational research and sustainable development. The data for this study came from 74 university partnerships supported by the Canadian International Development Agency, and 186 university partnerships backed by the US Agency for International Development active between 2007 and 2009. Some of the projects were implemented in Kenya, and most were in the Global South. One of his key findings was that while these agencies had hired intermediaries in order to avoid getting mired in the local politics of associated with donor project management in universities, their allocations "remain meagre and contested in relation to material-resource and human-capability requirements for sustainable development".

For the purposes of this paper, it is Koehn's conclusion that matters:

"…by providing bilateral higher education partners with project awards of larger sums and longer duration, … donors can further encourage and empower universities to address the challenges of sustainable development by realizing opportunities inherent in long-term personal and institutional commitments to contextually informed knowledge-building, equity-promotion and poverty-reduction collaborations" (Koehn, 2012, p501).

What Koehn (2012) does is to echo the views of King and McGrath (2004) and Maassen and Cloete (2009) in the call for "larger sums and longer duration" therefore, obliquely hinting that the financial sustainability embedded in "green" systems is crucial if universities have to benefit from the opportunities available in Green Finance. Thus donors in the "green economy", keen on furthering the "green agenda" can invest in "green projects" and scholarships tied to the sustainable development agenda to achieve the overall goal of transitioning university infrastructure and the whole education financing ecosystem into an environmentally sustainable economy.

The key things for universities in Kenya to remember as they target donors and pursue financial sustainability is that donors remain "gatekeepers" in the background because they "establish key parameters that influence outcomes" (Koehn, 2012, p492). For resource-starved, ill-equipped and desperate universities in Kenya, just like in other donor-funded campaigns, it is difficult to say "no" at the beginning, but as the project proceeds, it is upon the universities to map out and implement their "green goals" especially in financial sustainability, even as they execute donor deliverables (King & McGrath, 2004; Tarabini, 2010).

III. Research Methodology

This paper draws from the descriptive cross-sectional correlational survey research design, which as Yin (2013) explained, is the best suited in unpacking the research problem and achieving the objectives. As Mugenda & Mugenda (2003) argue, the correlational approach helps to determine the degree of relationships between quantifiable variables, in this case, the donor-funding structure of financial resource mobilisation and its effect on the financial sustainability of Kenyan universities.

The study population comprised all 71 universities in Kenya. The sampling frame consisted of the list of universities available at the Commission of University Education (CUE) as at December 31, 2018. The total number of universities in Kenya is low and can all be easily accessed. This study therefore targeted the 71 finance officers as the respondents effectively adopting a census sampling technique.

Data collection

This paper sought primary and secondary data. The collection of primary data was done using structured questionnaires with open-ended questions. The justification for questionnaires is that they allowed the collection of data in a uniform manner from all the finance officers in the 71 universities within the limited period. The questionnaire was part of a larger study on the financial resource mobilisation structures and the financial sustainability (Chumba, Muturi & Oluoch, forthcoming), with the specific data on donor-funded structure sought in one of the sections. For secondary data, this study used data collection sheets to curate data obtained from the financial statements of the public universities, and from the reports and journals at the Ministry of Devolution and Planning. This information is gathered annually because financial statements are prepared every fiscal year. The secondary data was germane for panel data analysis. Secondary data was analysed by panel data analysis by first reshaping data into panel data format in which universities were treated as panel variables. The reshaping resulted in N = 710 observations (71 Universities × 10 years)

Data Analysis

The collected data was analysed using the Statistical Package for Social Scientists (SPSS, version 24.0), but first, all the questionnaires were checked for completeness and thereafter the available responses were coded to facilitate data entry. Using Cronbach's Alpha, the reliability tests were done. Further, during the analysis, descriptive statistics reports were developed representing the various research items. A Five-point Likert scale – with 1 as the minimum score and 5 as the maximum— was used to assess the means and percentage responses to the items in the questionnaire. It is at this point that cross-tabulation was used to measure the relationship between two categorical variables, leaning on the wisdom of Babbie (2011) that cross tabulations are an appropriate statistical test to determine the independent and dependent categorical variables. For this paper, the statistical significance of relationships was ascertained using the arson chi-square values and associated probability values (P-values).

Besides, to establish the extent of the linear relationship between the donor-funding resource mobilisation structure and the financial sustainability of the Kenyan universities, multiple linear regression analysis was conducted. The model used in this study is:

$$\boldsymbol{Y_i = \beta_0 + \beta_1 X_1 + \varepsilon}$$

Where: $\boldsymbol{Y_{it}}$**-** Financial Sustainability of the Universities
$\mathbf{B_0}$**-** Constant term of the regression model
$\mathbf{B_1}$**-** Regression coefficient for Donor Funding
$\mathbf{X_1}$**-** Donor Funding
$\boldsymbol{\varepsilon_{it}}$Random error term
i and *t* are indices for panel variables (Universities) and time variables respectively

A *p-value*<0.05 for the regression coefficient indicates a statistically significant relationship between the variables.

The model summary has the coefficient of determination showing the percentage of variations in the dependent variable resulting from the variations in the independent variables. This is followed by an Analysis of Variance (ANOVA) table covering both the model and the residuals and a table summarising the regression coefficients of the variables of the study, the computed values of the t-statistic and a determination of the statistical significance in comparison to the baseline significance level.

IV. Results

The Potential of Green Finance

The first objective of the study sought to explore the potential of Green Finance as an avenue of donor-funding structure in Kenyan universities. The findings in Table 1 show that highest value of the arithmetic mean, *M* = 4.33, was associated with the statement "The university has made efforts to secure funding for green policies"

Table 1: The Potential of Green Finance

Statement	Mean	SD
The university has made efforts to secure funding for green policies	4.33	1.8021
University gets donations to finance green development projects	4.02	0.9762
University has secured funding for green financial systems	3.91	1.5118
University has secured funds for green scholarships	3.22	1.7121
Donors remit their funds in good time	3.15	2.0237

This implied that the statement was the most strongly agreed to by the respondents. The findings also show that the least standard deviation, *SD* = 0.9762, was associated with the statement "University gets donations to finance green development projects". This was an indication of low variation, which implied that the scores related to the statement were most consistent among the respondents. The key aspects of donor funding from green finance that this paper investigated were research and project grants, and scholarships; and the characteristics of the donations, their adequacy to the research or project; the timeliness of disbursement and if the portion of donor funds compared to the whole revenue spectrum.

Through the five-point Likert scale, we established that 40% of the universities which responded to the survey attached less or no significance at all to the donor funds. The other 60% attached, in near-equal parts, moderate, more or higher significance to the donor funds. This pattern also held at nearly the same numbers, with very minor variations, for those universities which have access to grants to run their operations. With regard to the question of whether the universities get donations to finance its operations, again, a total of 45% of the universities which responded to the survey said they get little (20%) or no donations (25%). Whether the university has projects financed by donors, the numbers show that 21% have no projects financed by donors, while 15% have few projects financed by donors, a cumulative total of 36%. These numbers also hold in nearly the same pattern for the question as to whether universities have scholarships run by donors. The adequacy of the donor funding, and the timeliness of the funds also followed a similar pattern, where 21% said they did not get adequate funding from donors, and even if the funds came, they were late.

The influence of research grants, project grants, and academic scholarships on the overall finances of the universities was also investigated, and found on the balance, to be average.The determination from this is that there's an appetite for donor funds in Kenyan universities. Green Finance is either under-exploited, or the universities are unaware of its value (KSh23 billion in potential government grants alone), or they may be ill-equipped in terms of technical capacity to apply for and manage funding for grants and projects in the Green Finance space both in Kenya and beyond. As the donor and international focus turns on greening the planet, this is a space that Kenyan universities can tap into.

Descriptive statistics for the donor-funding resource mobilisation structure

The second objective of the study sought to establish how donor-funding structure influenced financial sustainability of the universities. Similarly, the first aspect of the analysis focused on descriptive analysis. The findings were summarised in Table 2 below.

Table 2: Donor Fund Structure

Statement	Mean	SD
The University has access to grants to run its operations	3.24	1.711
The University gets donations to finance its operations	2.68	1.0525
The University has a number of projects financed by donors	3.31	1.5454
The University has several scholarship projects run by donors	3.48	1.4625
The donors avail adequate resources to operate the different projects they have partnered	2.34	0.9553
The donors remit their contributions on a timely basis	3.52	1.5662
The donor avails adequate finances for the various scholarship programs they support	2.7	0.9768

The statement with the highest mean (3.52) is the one that "The donors remit their contributions on a timely basis" followed closely by the statement that "university has a number of projects financed by donors". This implied that the statement was the most strongly agreed to among the respondents.While checking the variability of the respondents on various aspect of donor-funding resource mobilisation structure , the least variation with SD=0.9553 was on the statement that "donors availed adequate resources to operate the different projects that they had partnered", therefore indicating that the issue was more consistent among respondents vis-à-vis the statement that "The university has access to grants to run its operations" which had the highest standard deviation, SD =1.71, therefore indicating highest variability on this issue.

Secondary data was analyzed by panel data analysis. This was achieved by first reshaping data into panel data format in which universities were treated as panel variables. The reshaping resulted in N = 710 observations (71 Universities × 10 years).

The effect of donor-funding resource mobilization structure on financial sustainability of universities in Kenya

Besides, the second objective of the study sought to establish how donor-funding structure influenced financial sustainability of the universities. After conducting simple linear regression analysis, the results of the goodness-of-fit test for the model in which the computed F statistic had a *p-value* of less than 0.05, therefore indicating that the model was fit to be used for the relationship between donor-funding resource mobilization structure and financial sustainability.

Table 3: Model summary and ANOVA table

Source	SS	df	MS	Number of obs = 71 F (1, 69) = 700.72
Model	13.5658445	1	13.5658445	Prob > F = 0
Residual	1.33583138	69	0.019359875	R-squared = 0.9104
				Adj R-squared = 0.9091
Total	14.9016759	70	0.212881084	Root MSE = 0.13914

The goodness of fit of the model results summarized in the table above clearly show that the value of R-squared = 0.9104, which means that 91.04% of variations in the dependent variable were caused by variations in independent variables, while 8.96% was caused by other factors.

Heteroskedasticity was checked using **Breusch-Pagan/Cook-Weisberg** test, with Prob >$\boldsymbol{chi^2} =$ 0.0721which was more than 0.05 (5%), implying constant variance of residuals. Auto correlation (serial correlation) of residuals (error terms) was checked using **Durbin Watson Tests,** with d =2.03 indicating the error terms were not serially correlated hence the model was fit.

The model results show that donor funding structure explained a significant proportion of variance in financial sustainability, $\boldsymbol{R^2 = .9104}$, $\boldsymbol{F = 700.72}$, $\boldsymbol{p < .05}$.

After testing the goodness of fit of the model, the next step was to examine the table of regression coefficients which is summarized below:

Table 4: Regression coefficients table

Financial Sustainability	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Donor Funding Structure	0.8232659	0.031101	26.47	0.000	0.761222	0.8853098
_cons	0.2185404	0.047093	4.64	0.000	0.1245922	0.3124887

The results for regression analysis show that donor funding had a coefficient of $\beta_2 = 0.82$ which indicates that a unit increase in donor funding was associated with 0.82 increase in financial sustainability of universities and furthermore the p-value is less than 0.05 level of significance which could be inferred that there was a statistically significant relationship between donor-funding resource mobilisation structure and financial sustainability.

From the results, a positive value of regression coefficient indicated that an increase in donor funding structure was associated with an increase in financial sustainability. Furthermore, donor funding structure significantly predicted financial sustainability,

$$\boldsymbol{\beta_1 = .823}, \boldsymbol{p} < .05.$$

The results imply that a unit increase in donor funding structure was associated with an increase in financial sustainability by 0.823 units, which was statistically significant at 5% level.

V. Discussion

The issue of universities having access to grants was among the issues that were strongly agreed to with an arithmetic mean, *M* =3.24, a high score which reflected how respondents agreed strongly on the issue of access to grants which was in line with an observation made by Bloom, Canning and Chan (2015) who after conducting a study on higher education in the context of Sub-Saharan Africa revealed that one of the main sources of funding for higher education included grants especially from the government. Grants for projects tied to the "green economy" from country donors and even from individual or corporate donors are therefore a viable resource mobilization route for universities in Kenya. It has been observed from the descriptive analysis results that indeed respondents admitted that universities get donations in order to finance the operation which corroborates an observation made in a local empirical survey by Maseno (2011) that in many instances, universities depend on donors in order to improve their financial sustainability**.**

While considering the results of the linear regression analysis, it was established that donor funding structure was among the resource mobilization structures that had statistically significant regression coefficient at 5% level of significance and furthermore the regression coefficient was positive indicating a positive relationship between this structure and financial sustainability in other words an increase in donor funding structure was associated with an increase in financial sustainability. The study findings therefore concur with observations by Bogan (2008) who pointed out the fact that the higher the donor funding for the universities, the more funds available to them for running their projects. This was later affirmed in a study on Egerton University by Murage and Onyuma (2015) who reported that an improvement in financial sustainability could be attributed to the funds received from donor agencies.

VI. Conclusion

This paper has explored the potential of Green Finance as a possible funding opportunity for Kenyan universities as they pursue financial sustainability. After looking at the literature on Green Finance, the recent successful launch of the Green Bond for university accommodation, this paper holds the view that Kenyan universities have a golden opportunity to exploit "green" financing, not only because it furthers the country's green policy and sustainable development agenda, but also because, many donors are keen on funding green projects.

The data shows there's appetite for donor funds in Kenyan universities. Green Finance is either under-exploited, or the universities are unaware of its value (KSh23 billion in potential government grants alone), or they may be ill-equipped in terms of technical capacity to apply for and manage funding for grants and projects in the Green Finance space both in Kenya and beyond. As the donor and international focus turns on greening the planet, this is a space that Kenyan universities can tap into

But, donor-funding through Green Finance projects will require significantly larger amounts of money, and projects running over longer periods, preferably five to ten years, in order for these to be sustainable. Therefore, donors in the "green economy", keen on furthering the "green agenda" can invest in "green projects" and scholarships tied to the sustainable development agenda to achieve the overall goal of transitioning university infrastructure and the whole education financing ecosystem into an environmentally sustainable economy. Similarly, this paper has established that the donor-funding resource mobilisation structure has an influence on financial sustainability of the universities. The timeliness of donor funding disbursements is a key element of donor funding that influences financial sustainability of the universities. Most universities too have several scholarship projects that are run by donors. Harnessing the donor disbursements for the projects dealing with sustainable development is paramount for establishing and sustainably adopting green financial systems, which in turn guarantee the financial sustainability of universities.

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