

## Examination of The Causes of Realignment of Electricity Wayleaves in South-East Nigeria

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**ABSTRACT:** *The research is a study of causes of realignment of electricity wayleaves in the south eastern part of Nigeria. The aim of the study is to examine the causes of realignment of electricity wayleaves in South-East, Nigeria with a view to enhance revocation and compensation process. The study identifies causes of realignment of electricity wayleaves in the south eastern part of Nigeria. The study covered Abia, Anambra, Ebonyi, Enugu and Imo state. The total population of this study is 4304 comprises of 465 Estate Surveyors and Valuers, 422 Revoking Authority staff comprises of ESV consultants of TCN for the revocation and compensation exercise and ESV employees of TCN, and 3,417 Affected Rights Holders. A sample of 1031 was drawn from the five states and questionnaires were administered for the collection of data. The analytical tools used are tables, frequencies and percentages. The statistical model adopted for the study is the mean ranking, Relative Importance Index, and Pearson product moment correlation coefficient. The result of the study showed that engineering factor is the major cause of realignment of power line. It also revealed that Short notice given to ARHs on realignment route, Reason of realignment not explained to ARHs and Delay payment of compensation that ranked first with (RII = 4.63) is the major challenges faced by the ARHs. and the exercise was perceived to cause disunity and disaffection among community. The study revealed also that there is no difference between causes of realignment before and after assessment. The research recommended formation of committee for serious monitoring of the exercise and as such the exercise will foment unity rather than disunity and disaffection among committee.*

**KEYWORDS:** electricity wayleaves, realignment, power line, causes, revoking authority, affected rights holders and estate surveyors and valuers.

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## INTRODUCTION

Electricity is one of the fundamental facilities that support the functionality of countries, cities, and other areas. Electricity is produced in power stations and transmitted to power substations and then distributed to consumers. The voltage varies from high to low; the high voltage is produced in power stations then transmitted to substations and distributed to consumers in lower voltage. It flows through power lines and other transmission infrastructure to schools, houses, hospitals, factories, offices and other buildings. Tall structures need to be constructed to carry transmission lines and high voltage distribution lines across land, roads and rivers. As such there is no doubt that the electricity rely heavily on wayleaves. Perhaps, for this to be achieved it requires people's rights in land along the required corridor to be revoked.

Revocations of rights in land are the most taxing thing the holders of those rights face, and the government is not left out in this tax. Though, land often means different things to different people, and as such is not easy to relinquish. According to Obineme, Udobi, and Ifediora (2021), few people look at land as an area of the ground or a structure that is not covered by water while other people look at it as the area for producing grains and food to feed themselves, their families, friends, others and their livestock. Also, some people derive their dignity from land, which is the reason people respect land more. This is what brings about different reactions to revocations of rights in land made by the government, whether it is for the installation and operation of electricity equipment or not.

Realignment of electricity wayleaves can happen before, during or after assessment which causes the Revoking Authority (RA), Affected Rights Holders (ARHs), and Estate Surveyors and Valuers (ESV) in the revocation and compensation exercise a great loss. Perhaps, the revoking authority lost money and time spent so far in the exercise once decided to realign the electricity wayleaves and the private ESV losses the same as the RA; in the area of money spend to prepare powers of attorney, perfection of the powers of attorney donated to the private ESV and transportation money to and fro to the site. Moreso, the initially affected rights holders with regard to the initial route as well loss money and time in the sense that once the revocation notice is served, it is expected that every ongoing development should stop, to avoid increasing the cost of revocation. The crops and economic trees damaged to create center lines area and bearing points are not left out in addition, the mark made on the structure to show that the project is affected and the desecration of sacred sites and as such lead to disunity and disaffection among community.

It is based on the foregoing discussed issues such as; RA, ESV, ARHs loss of money so far spent before realignment of the route, disunity and disaffection experienced among the community that, this study is aimed at examining the causes of realignment of electricity wayleaves in South-East, Nigeria, with a view to enhance realignment of electricity wayleaves exercise.

This would be achieved by identifying the causes of realignment and challenges faced by the ARHs with the exercise in the study area, while testing the following hypothesis:

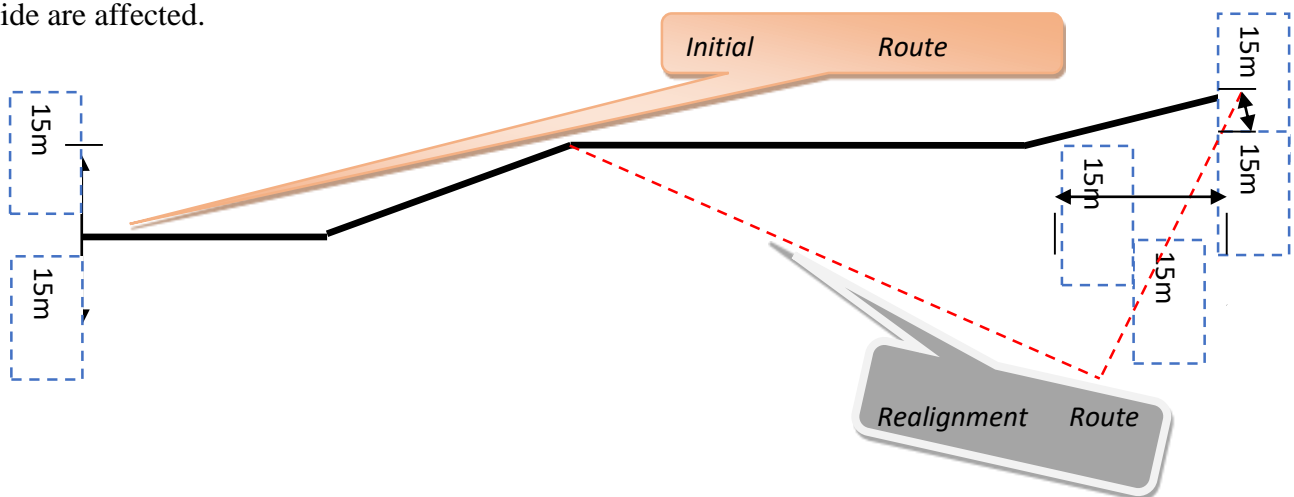
**H<sub>01</sub>:** There is no significant difference between the causes of realignment before and after assessment of electricity wayleaves, in the South-East of Nigeria.

## REVIEW OF THE EMPIRICAL STUDIES

### Route Realignment

Realignment of electricity wayleaves can occur before, during or after assessment which causes the revoking authority (RA), Estate Surveyors and Valuers (ESV), and affected rights holders (ESV) in the revocation and compensation exercise a great loss. Perhaps, the revoking authority lost money and time spent so far in the exercise once decided to realign the electricity wayleaves and the private Valuers losses the same as the revoking authority; in the area of money spend to prepare powers of attorney, perfection of the powers of attorney donated to the private Valuers and transportation money to and fro to the site. Moreso, the initially affected rights holders as well loss money and time in the sense that once the revocation notice is served, is expected that every ongoing development should stop, to avoid increasing the cost of revocation. The crops and economic trees damaged to create center lines area and bearing points are not left out in addition, the mark made on the structure to show that the project is affected and the desecration of sacred sites.

Figure 2.3 shows the researchers illustration of 132 KVA electricity wayleaves initial route and realignment with 30 meters width and as such any property that fall within this width in the both side are affected.



**Fig. 2.3:Electricity Wayleaves Initial Route (in black line) and Realignment (in dotted red line)**

**Source:**Extracted from Alpha Odumodu and Company Assessment Note, 2020

The black line represents the initial route while the dotted red line represents the realignment route and both black and dotted red lines are the centre points (lines) where the measurement of 15 meters are taken from, whether it is for the right side or the left side. However, Various authors (Kalu, 2001; German, Schoneveld, and Mwangi, 2011; Ghatak, and Mookherjee, 2011; Ogunba, 2013; Anuar, and Mohd, 2015; Odudu, 2017; Adekunle, Muhammad, Oluwole, Bello, and Idris, 2019; Obineme, et al, 2021 and others) had written on issues pertaining to acquisition (revocation) and compensation practice from different perspectives, but failed to consider the causes of electricity wayleaves realignment.

### **The Cause of Realignment**

Powerline, (2017) stated that realignment of the electricity wayleaves can be shifted from unproductive riparian valleys to productive parts of an individual's land through revocation process but the researchers failed to state the causes of realignment and the reaction of the affected rights holders when such shift occurs been aware of the previous route. Perhaps, there is no explicit provision that subjects the Governor's expropriation or Revoking Authority decision to a review by an independent committee or judiciary. The Land Use Act does not require the government to determine, prior to revocation of land rights, whether the proposed project is (a) necessary to serve a public purpose; (b) reasonably likely to achieve the intended public benefit, and (c) whether the proposed benefits to be deriving from the revocation would be proportionate to the costs borne by affected populations. However, to minimize the realignment of the power line, the characteristics of electricity wayleaves and factors that can lead to realignment have to be considered.

General Characteristics of the Electricity Wayleaves to Consider

West African Power Pool (2018) stated that the general characteristics of the electricity wayleaves to be considered are:

- a. Short, to minimize cost and the impact on the environment.**
- b. Rectilinear, to minimize the angles and the footprint.**
- c. Accessible, near roads and to facilitate maintenance.**
- d. Surrounding towns and villages, to facilitate electrification.**
- e. Bypassing towns and villages, to minimize the demolition of the built environment and relocation of populations.**

The factors to avoid are:

- a. Exclusion zones of airports and airfields.**
- b. Soils with low load-bearing capacity, thus, far from wetlands and floodplains.**
- c. Hills and ridges.**
- d. Protected areas, forest reserves, classified forests, Ramsar sites and other sites, which aim to protect natural areas and species.**

## RESEARCH METHODOLOGY

This includes the use of questionnaire, interview and document analysis. Descriptive analysis was used to summarise the data collected. Tables and simple percentages including Frequency Distribution, Mean Ranking and Pearson Product Moment Correlation Coefficient were used. The population of the study was 4,304 consisting of revoking authority (RA), affected rights holders (ARHs), and Estate Surveyors and Valuers (ESV). Since the study population has different characteristics, they were stratified and sampled for study as shown in Table I below.

Table1: Population and Sample Size

S/No.	Stratum	Population	Sample size
1	Stratum 1 Revoking Authority	422 (TCN Staff inclusive)	248
2	Stratum 2 Affected rights holders	3,417 (Anambra, Enugu and Imo affected rights holders inclusive)	511
3	Stratum 3 Estate Surveyors and Valuers	465 (Estate Surveyors and Valuers )	272
	Total	4,304	1031

## Data Presentation and Analysis

Table 2 display the frequency of respondents' response on the causes of realignment of electricity wayleaves in South-East Nigeria.

**Table 2: Response to Causes of Realignment of Electricity Wayleaves from both Revoking Authority (RA) in red and Estate Surveyors and Valuers (ESV) in black**

F	Cause/Response	S. Agreed		Agreed		Undecided		Disagreed		S. Disagreed	
1	Eng. Factor to reduce cost (hill, valley, river)	152	159	0	40	0	0	0	0	0	0
2	Politics	104	136	8	10	8	10	32	43	0	0
3	Conc. of ppty unhealthy to the proj.	34	44	110	144	8	11	0	0	0	0
4	Palace	76	100	51	66	8	11	17	22	0	0
5	Factory	25	33	17	22	42	55	59	78	9	11
6	Historical property	16	21	72	94	48	63	16	21	0	0
7	Religious property	53	70	38	50	23	30	30	40	8	9
8	River crossing	53	70	30	40	15	20	47	60	7	9
9	Angle points	16	20	40	52	40	52	48	63	8	12
10	Built environment	48	63	40	53	32	42	24	31	8	10
11	Exclusion zone of airport and airfield	72	94	56	74	24	31	0	0	0	0
12	Soil with low load bearing capacity, thus far from wetland and valley plane	46	60	61	79	15	20	23	30	7	10
13	Ridges	16	22	26	33	50	66	51	66	9	12
14	Protected areas, forest reserves, classified forests, Ramsar sites and other sites, which aim to protect natural areas and species	104	136	16	20	8	10	8	11	16	22
Total		815	1028	565	777	321	421	355	465	72	95

Table 2 displays the response to causes of Realignment of Electricity Wayleaves for both Revoking Authority (RA) and Estate Surveyors and Valuers (ESV). The frequency of response for the RA and ESV are in the left side in the column, first is for RA followed by ESV. The row total for the respondents is given in the last column named total and the column total for the choice is given in the last row named total. From the table it could be observed that the option “S. Agreed” dominated the opinion by both RA and ESV. The cause opined by the respondents to be responsible for realignment of electricity way leaves has been confirmed by their reactions by inference from outcome of this presentation.

Table 3 displays the variables ranks from Revoking Authority (RA) responses on causes of realignment of electricity wayleaves. This is done with the application of Relative Importance Index (RII)

**Table 3: Response to Causes of Realignment of Electricity Wayleaves from RA**

Cause/Response	S. Agreed W=5	Agreed W=4	Undecided W=3	Disagreed W=2	S. Disagreed W=1	RII	Rank
Eng. Factor to reduce cost (hill, valley, river)	152 WF=760	0 WF=0	0 WF=0	0 WF=0	0 WF=0	5	1 <sup>st</sup>
Politics	104 WF=520	8 WF=32	8 WF=24	32 WF=64	0 WF=0	4.21	4 <sup>th</sup>
Conc. of ppty unhealthy to the proj.	34 WF=170	110 WF=440	8 WF=24	0 WF=0	0 WF=0	4.17	5 <sup>th</sup>
Palace	76 WF=380	51 WF=204	8 WF=24	17 WF=34	0 WF=0	4.22	3 <sup>rd</sup>
Factory	25 WF=125	17 WF=68	42 WF=126	59 WF=118	9 WF=9	2.93	12 <sup>th</sup>
Historical property	16 WF=80	72 WF=288	48 WF=144	16 WF=32	0 WF=0	3.58	9 <sup>th</sup>
Religious property	53 WF=265	38 WF=152	23 WF=69	30 WF=60	8 WF=8	3.64	7 <sup>th</sup>
River crossing	53 WF=265	30 WF=120	15 WF=45	47 WF=94	7 WF=7	3.49	10 <sup>th</sup>
Angle points	16 WF=80	40 WF=160	40 WF=120	48 WF=96	8 WF=8	3.05	11 <sup>th</sup>
Built environment	48 WF=240	40 WF=160	32 WF=96	24 WF=48	8 WF=8	3.63	8 <sup>th</sup>
Exclusion zone of airport and airfield	72 WF=360	56 WF=224	24 WF=72	0 WF=0	0 WF=0	4.32	2 <sup>nd</sup>
Soil with low load bearing capacity, thus far from wetland and valley plane	46 WF=230	61 WF=244	15 WF=45	23 WF=46	7 WF=7	3.76	6 <sup>th</sup>
Ridges	16 WF=80	26 WF=104	50 WF=150	51 WF=102	9 WF=9	2.93	12 <sup>th</sup>

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Protected areas, forest reserves, classified forests, Ramsar sites and other sites, which aim to protect natural areas and species	104 WF=520	16 WF=64	8 WF=24	8 WF=16	16 WF=16	4.21	4 <sup>th</sup>
Total	815	565	321	355	72		

Key: WF = Weighted frequency.

Table 3 showed that Engineering Factor to reduce cost (hill, valley, river) ranked first (RII = 5.00). This was followed by Exclusion zone of airport and airfield (RII = 4.32). And followed by Palace (RII = 4.22), followed by Protected areas, forest reserves, classified forests, Ramsar sites and other sites, which aim to protect natural areas and species and Politics (RII = 4.21), followed by Concentration of property unhealthy to the project (RII = 4.17), followed by Soil with low load bearing capacity, thus far from wetland and valley plane (RII = 3.76), followed by Religious property (RII = 3.64), and others as shown in the Table 3. This goes to explain that the Engineering Factor to reduce cost (hill, valley, river) that ranked first with (RII = 5.00) is the major cause of realignment, that is not to say that other factors are not relevant because without considering other factors realignment can occur.

Table 4 displays the variables ranks from Estate Surveyors and Valuers (ESV) responses on causes of realignment of electricity wayleaves. This is done with the application of Relative Importance Index (RII)

**Table 4: Response to Causes of Realignment of Electricity Wayleaves from ESV**

Cause/Response	S. Agreed W=5	Agreed W=4	Undecided W=3	Disagreed W=2	S. Disagreed W=1	RII	Rank
Eng. Factor to reduce cost (hill, valley, river)	159 WF=795	40 WF=160	0 WF=0	0 WF=0	0 WF=0	4.80	1 <sup>st</sup>
Politics	136 WF=680	10 WF=40	10 WF=30	43 WF=86	0 WF=0	4.20	4 <sup>th</sup>
Conc. of ppty unhealthy to the proj.	44 WF=220	144 WF=576	11 WF=33	0 WF=0	0 WF=0	4.17	6 <sup>th</sup>
Palace	100 WF=500	66 WF=264	11 WF=33	22 WF=44	0 WF=0	4.23	3 <sup>rd</sup>
Factory	33	22	55	78	11		



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	WF=165	WF=88	WF=165	WF=156	WF=11	2.94	13 <sup>th</sup>
Historical property	21 WF=105	94 WF=376	63 WF=189	21 WF=42	0 WF=0	3.58	10 <sup>th</sup>
Religious property	70 WF=350	50 WF=200	30 WF=90	40 WF=80	9 WF=9	3.66	8 <sup>th</sup>
River crossing	70 WF=350	40 WF=160	20 WF=60	60 WF=120	9 WF=9	3.51	11 <sup>th</sup>
Angle points	20 WF=100	52 WF=208	52 WF=156	63 WF=126	12 WF=12	3.03	12 <sup>th</sup>
Built environment	63 WF=315	53 WF=212	42 WF=126	31 WF=62	10 WF=10	3.64	9 <sup>th</sup>
Exclusion zone of airport and airfield	94 WF=470	74 WF=296	31 WF=93	0 WF=0	0 WF=0	4.32	2 <sup>nd</sup>
Soil with low load bearing capacity, thus far from wetland and valley plane	60 WF=300	79 WF=316	20 WF=60	30 WF=60	10 WF=10	3.75	7 <sup>th</sup>
Ridges	22 WF=110	33 WF=132	66 WF=198	66 WF=132	12 WF=12	2.93	14 <sup>th</sup>
Protected areas, forest reserves, classified forests, Ramsar sites and other sites, which aim to protect natural areas and species	136 WF=680	20 WF=80	10 WF=30	11 WF=22	22 WF=22	4.19	5 <sup>th</sup>
Total	1028	777	421	465	95		

Key: WF = Weighted frequency.

Table 4 showed that Engineering Factor to reduce cost (hill, valley, river) ranked first (RII = 4.80). This was followed by Exclusion zone of airport and airfield (RII = 4.32). And followed by Palace (RII = 4.23), followed by Politics (RII = 4.20), followed by Protected areas, forest reserves, classified forests, Ramsar sites and other sites, which aim to protect natural areas and species (RII = 4.19), followed by Concentration of property unhealthy to the project (RII = 4.17), followed by Soil with low load bearing capacity, thus far from wetland and valley plane (RII = 3.75), and others as shown in the Table 4. This goes to explain that the Engineering Factor to reduce cost (hill,

valley, river) that ranked first with (RII = 5.00) is the major cause of electricity wayleaves realignment.

**Table 5: Ranking of Response on Causes for Realignment of Electricity Wayleaves (REWL) from RA and ESV**

Response	Minimum	Maximum	Mean	Rank
S. Agreed	18	140.50	64.25	1
Agreed	9	127.00	48.96	2
Undecided	0	95.00	32.61	3
Disagreed	0	68.50	29.29	4
S. Disagreed	0	18.00	5.89	5

From Table 5 the researchers could see from the ranking that “Strongly Agreed” topped the choice made by the respondents with a mean of 64.25 and ranked number 1 followed by “Agreed” with mean of 48.96 and ranked 2. From this result we can say that combining those who Strongly Agreed and Agreed in respect to the causes of realignment of electricity wayleaves, they are really true, and as such all the factors mentioned are the causes for realignment of electricity wayleaves from both Revoking Authority (RA) and Estate Surveyors and Valuers (ESV).

**Responses from the ARHs in respect to their reaction when realignment occurs**

**Reaction of the ARHs comes as questions as followed:**

- i. Why realignment?
- ii. Is it because ARHs with realignment did not have good structure?
- iii. Is it because ARHs did not have someone to influence the executors?
- iv. Why short notice?

The exercise is been perceived to cause disunity and disaffection among community.

Table 4 displays the variables ranks from affected rights holders (ARHs) response on challenges in realignment of electricity wayleaves. This is done with the application of Relative Importance Index (RII)

**6:Response on challenges in Realignment of Electricity wayleaves as reacted by ARHs**

Challenges/Response	S. Agreed W=5	Agreed W=4	Undecided W=3	Disagreed W=2	S. Disagreed W=1	RII	Rank
Initially ARHs left without notice	124 WF=620	124 WF=496	26 WF=78	0 WF=0	0 WF=0	4.36	3 <sup>rd</sup>
Initially ARHs left without compensation after causing damage	124 WF=620	99 WF=396	0 WF=0	24 WF=48	27 WF=27	3.98	6 <sup>th</sup>
Short notice given to ARHs on realignment route	200 WF=1000	47 WF=188	27 WF=81	0 WF=0	0 WF=0	4.63	1 <sup>st</sup>
Reason of realignment not explained to ARHs	173 WF=865	101 WF=404	0 WF=0	0 WF=0	0 WF=0	4.63	1 <sup>st</sup>
Delay payment of compensation	199 WF=995	49 WF=196	26 WF=78	0 WF=0	0 WF=0	4.63	1 <sup>st</sup>
Late compensation to ARHs on the realignment route	164 WF=820	83 WF=332	27 WF=81	0 WF=0	0 WF=0	4.50	2 <sup>nd</sup>
Omitted ARHs	82 WF=410	164 WF=656	28 WF=84	0 WF=0	0 WF=0	4.20	4 <sup>th</sup>
Time value of money	82 WF=410	114 WF=456	78 WF=234	0 WF=0	0 WF=0	4.01	5 <sup>th</sup>
Total	1049	924	223	24	27		

Key: WF = Weighted frequency.

Table 6 showed that Short notice given to ARHs on realignment route, Reason of realignment not explained to ARHs and Delay payment of compensation ranked first (RII = 4.63). This was followed by Late compensation to ARHs on the realignment route (RII = 4.50). And followed by Initially ARHs left without notice (RII = 4.36), followed by Omitted ARHs (RII = 4.20), followed by Time value of money (RII = 4.01), and followed Initially ARHs left without compensation after causing damage (RII = 3.98). This goes to explain that the Short notice given to ARHs on realignment route, Reason of realignment not explained to ARHs and Delay payment of compensation that ranked first with (RII = 4.63) are the major challenges faced by the ARHs.

**The research Hypothesis**

**H<sub>01</sub>:** There is no significant difference between the causes of realignment before and after assessment of electricity wayleaves, in the South East of Nigeria.

**Table 7:SPSS Output for Correlation**

		<b>ARHs</b>	<b>ESV</b>
Before R.	Pearson Corr.	1	1.00
	Sig. (1-tailed)		0.01
	N	2	2
After R.	Pearson Corr.	1.00	1
	Sig. (1-tailed)	0.01	
	N	2	2

**Probability:** 0.01\*\*

Table 7 is showing the results of analysis or output of correlation. The Pearson correlation coefficient is given as +1.00 and significant at 0.01. The probability value of 0.01 is less than 5% but within the range meaning that the value of Pearson correlation is significant at the 5% level of significance. The statistical connotation is that there is a positive and significant relationship between cause of realignment before and after assessment of electricity wayleaves. Therefore we accept the null hypothesis that says “There is no significant difference between the causes of realignment before and after assessment of electricity wayleaves, in the South East of Nigeria”.

## **DISCUSSION/CONCLUSION**

The major cause of realignment as revealed by the study is engineering factor to reduce cost (hill, valley, river) and as such it necessary to look into the engineering factor at the early stage to minimise or avoid the factor causing realignment of route. Perhaps, other factors as listed in the table 4.1a by the researchers are to be considered not minding the fact that engineering factor were the major cause of power line realignment as shown in the analysis. However, realignment of power line causes disunity and disaffection among community members as seen from the reaction of the ARHs by asking questions which if not proper handle will result to delay of construction. It also revealed that Short notice given to ARHs on realignment route, Reason of realignment not explained to ARHs and Delay payment of compensation that ranked first with (RII = 4.63) is the major challenges faced by the ARHs.

These ARHs properties that was affected by realignment of electricity wayleaves leads to the compensation sum been paid later when initial ARHs must have collected theirs and invested in nearby available land and as such causing the left available area to be costly as result of increase in land demand and as such for fairness and equity it requires prompt payment.

However, it is important for proper regulation of the activities of the executors of this exercise by both the government and community where it is being executed and as such creating a formidable committee which should include members of the committee and government representative.

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