**The Challenges of Cultural Diversity on the Use of Smart Technology to Promote Sustainable Land Governance, Administration and Management in Liberia**

**Abstract**

In many parts of the world, especially in Liberia and Africa at large, culture plays a vital role in the administration, governance and management of land, while land remains a highly valuable resource. Culture often determines the way of life, the land value, the land use practices and development, policies, administration, technology and management techniques. The objective of this research is to identify the challenges of cultural diversity on the use of smart technology in promoting sustainable land governance, administration and management activities with respect to good governance principles. Research questions for this purpose were developed and used. Based on this, the study will serve for researchers, academicians, students, judges and in general the government by showing the pros and cons of “Cultural Diversity on the Use of Smart Technology to Promote Sustainable Land Governance, Administration and Management in Liberia”. The research was conducted in Liberia. The research used both primary and secondary sources of data. The research revealed that cultural diversity and the use of smart technology to promote sustainable land governance, administration and management activity in the country is being conducted by taking in to account principles of good governance. But still, there are gaps in the governance of the system. Problems as far as participation, transparency, responding issues as fast as possible, effectiveness, and the role Medias and civil society organizations are playing, however, challenges still exist which need urgent solution. The researcher recommends that the Liberia Land Authority should reconsider land issues in Liberia and develop a comprehensive land use policy and plan of the country, with a focus on cultural diversity and smart technology in order to promote sustainable land governance, administration and management in Liberia.

**Key words:**Culture Diversity, Smart Technology, Land governance, Administration, Management, Sustainability

**Introduction**

In the mixed of the changing world and diverse culture, effective and sustainable land administration, governance management remain a serious challenge for many developing nation (Arko-Adjei, 2011). In many parts of the world, especially in Liberia and Africa at large, culture plays a vital role in the administration, governance and management of land (Brown, 2017) while land remains a highly valuable resource (African Union, 2010). This is true because majority of the land are obtained or inherited by cultural or traditional means (FAO, 2012). Culture often determines the way of life, the land value, the land use practices and development, policies, administration, technology and management techniques (Brown, 2017; FAO, 2012). Land are not only assets (Richards & Chauveau, 2007) but they are integral part of the social, religious and inheritance of the people (FAO, 2012; Peters, 2012) and are interwoven with land use practices and management (Arko-Adjei, 2011). This has huge influenced on how land should be governed, administered and managed (FAO, 2012; Namubiru-Mwaura *et al*., 2012). Most traditional authority still hold to the sacredness of land, customary tenure system and they believe that land boundaries are linked to ethnic identity and practices (Berry, 2001). Because of diversity and changes in cultures, is a huge set back. A culture varies from one region to another (Berry, 2001). Even within a nation, there exist a high disparity in culture that has different implications for land administration, management and governance (Peters, 2012; Obeng-Odoom, 2015; Richards & Chauveau, 2007). Although many nations’ cultures have changes fast, some are yet to evolve to align with current global technology, policies and administration evolution (Brottem & Unruh, 2009). Numerous evidences show that culture has the potential to influence the kind of technology for land administration, governance and management (Brottem & Unruh, 2009; Brown, 2017; Austin, 2010).

Liberia as a Nation has been lagging behind in the use of smart technology specifically in promoting sustainable land governance, administration and management in the country. Effective and sustainable land administration, governance and management are still a serious challenge (Brown, 2017; Republic of Liberia, 2014). When technology was being bridled and harnessed globally from the period of 1990s (1990 – 2000) to the inception of the 21st century Liberia was at war thereby causing us to lag behind in the use of smart technology on the basis of the aforesaid the researcher decided to conduct this research.

The study focuses on a comprehensive approach to solve complex dynamics of the Liberian culture and examine its practicality for the implementation of smart technology for sustainable land administration, governance and management. This research is very cardinal to the social, economic and environmental transformation of Liberia. It serves as a source of information to help guide policy makers and stakeholders in harnessing the challenges posed by cultural diversity on the use of smart technology to promote sustainable land governance, administration and management in Liberia. This study also serves for researchers, academicians, students, judges and the policy makers to learn lessons from the challenges posed by cultural diversity on the use of smart technology to promote sustainable land governance, administration and management in Liberia. Specifically, it is essential for all on the area of land governance, administration and management and its co-existence with the principles of good governance; the challenges and prospects of the country’s sustainable land governance, administration and management.

**Materials and Methods**

This research employed a qualitative approach, data were collected and presented in a more descriptive and explanatory manner. The finding of this research is also illustrated by employing quantitative approach using tables. This research is a retrospective study where data were collected from relevant stakeholders at both governmental and non-governmental levels from institutions that are involved with issues relating to land governance, administration and management as well as land development and planning using smart technologies throughout the territorial boundaries of Liberia. The study used descriptive analytical method with discourse and narrative analyses involve a critical examination and explanation of the data. The descriptive analytical procedures for the qualitative data involve critical examinations and explanation of the data whereas quantitative data analysis describes the open and closed-ended questions.

The population for this study includes all those that were legitimately chosen and have worked with the relevant institutions listed for a period of at least three or more years (2018 up to the time of the interview and were all Liberian by nationality. According to the 2022 revision of the world population prospects, Liberia population was 5,193,416 in 2021 (world population prospect, 2022). Liberia has the total of sixteen (16) tribes spread across the fifteen (15) political sub-division of Liberia, with the kpelleh tribe being the largest follow by the Bassa tribe (Ministry of Internal Affairs, 2018).

The study adopts a case study of mixed method (Yin, 2003; Barry & Fourie, 2002; Silva & Stubkjaer, 2002) involving both qualitative and quantitative data. The use of mixed methods guarantees the reliability of the data collection process (Yin, 2003). Data was collected on two stages. First, secondary data were gathered through literature review while the second stage was based on empirical evidence of case studies. The case studies were through Participatory engagements and interactions to understand the challenges posed by cultural diversity on the use of smart technology in promoting sustainable land governance, administration management.

Data were also collected by the use of prepared close ended questionnaire that was prepare by the researcher and distributed to the selected interviewee by the interviewer to assert how the challenges of cultural diversity on the use of smart technology to promote sustainable land governance, administration and management in Liberia.

The fieldwork follows thematic analysis including descriptive, discourse and narrative analysis to critically examine and explain the data. Thematic analysis enables the analysis of patterns within the data in order to facilitate a detailed account. Data was analyzed using Microsoft excel and Statistical Package for Social Scientist - SPSS. Data gathered during the conduct of this research was presented in tables, charts, figures and graphs where necessary.

**RESULTS AND DISCUSSIONS**

In this section, the researcher set to draft a complete results interpretations, findings and discussion of key findings on The Challenges of Cultural Diversity on the Use of Smart Technology to Promote Sustainable Land Governance, Administration and Management in Liberia. A total of 100 questionnaires were distributed among the100 participants of the study area and all were returned fully responded to. The data collected from these questionnaires are analyzed below using tables.

**The Challenges Posed by Cultural Diversity on the Use of Smart Technology in Sustainable Land Governance, Administration and Management.**

Though there are many importance and benefits of culture diversity in Liberia according to majority of the respondents, but there are still challenges posed on the use of smart technology in sustainable land governance, administration and management in

Liberia. The table below confirms that of the entire population of 100, (89) persons constituting 89%, agreed to the option **“all of these”** which identifies the challenges posed by culture diversity as the result is shown in the table above **(see table below)**.

 **Table 1 : Highlighting the Challenges posed by cultural Diversity in Liberia**

|  |  |  |
| --- | --- | --- |
| **The Challenges Posed by Cultural Diversity** | **Frequency**  | **Percentage**  |
| 1. Land owners who are predominantly people of culture beliefs with little or no knowledge on education refusal to accept or give need to improvement within the land sector
 | 2 | 2% |
| 1. Lack of good internet connectivity and high illiteracy rate, war, underdevelopment and poor economic growth.
 | 4 | 4% |
| 1. Liberia is a country that has wide diversity of traditional heritage ranging from one ethnic group to another. In most instances, the use of smart technology is not applicable in sustaining land governance, management and administration
 | 5 | 5% |
| 1. All of These
 | 89 | 89% |
| **Total**  | **100** | **100%** |

**The Characteristics of Cultural Practices That Support Land Acquisition**

The table below discusses findings from ways Land is acquire in Liberia. It mentions:

* 1% of respondent believe that land is acquired through transfer means
* 6% of respondents believe that land is acquired through users right
* 93% agreed with the option, “all of these” suggesting that all the methods are accurate

The study indicates that although various methods exist for acquiring land in Liberia, most respondents find both methods valid (**See table below**).

**Table 2: indicating ways Land is acquired in Liberia**

|  |  |  |
| --- | --- | --- |
| **Ways Land Is Acquired in Liberia** | **Frequency** | **Percentage** |
| 1. Transfers Rights
 | 1 | 1% |
| 1. User Rights
 | 6 | 6% |
| 1. Exclusion Rights
 | 0 | 0% |
| 1. All of These
 | 93 | 93% |
| **Total**  | **100** | **100%** |

 **Source: (Researcher Survey Data, 2022)**

**The Links between Cultural Diversity and Land Governance, Administration and Management in Liberia.**

With regards to cultural and land governance, administration and management and the link between them; respondents mentioned various links between cultural diversity and land governance, administration and management. The results below display 100 respondents, the results indicate that:

92% confirmed to the option, “all of these.” This indicates that there is a huge link between cultural diversity and land governance, administration and management in Liberia (**See table below**).

**Table 3 : highlighting links between cultural diversity and Land**

|  |  |  |
| --- | --- | --- |
| **The Links between Cultural Diversity and Land**  | **Frequency** | **Percentage** |
| 1. The link between both cultural diversity and land governance, administration and management are mainly livelihood and speak about the importance to adequately accept and managed the environment one’s find themselves
 | 3 | 3% |
| 1. Culture is a belief one’s share as a group of people, while governance is essential in achieving economy growth that provides the basic for land governance, administration and management taken into consideration the diverse culture of the people
 | 5 | 5% |
| 1. Another link is the recognition of customary norms that are aligned with statutory laws in land governance, administration and management in Liberia
 | 0 | 0% |
| 1. All of These
 | 92 | 92% |
| **Total**  | **100** | **100%** |

 **Source: (Researcher Survey Data, 2022)**

**The Significant Impact the Liberia Land Authority Has Made in the Land Sector since It Establishment**

Theresult displays the entire population of 100, that suggests:

* (95) respondents constituting 95% confirmed yes that the Liberia land authority has make significant impact in the land sector since its establishment,
* (4) respondents constituting 4% suggest maybe, and
* respondent constituting 1% disagreed completely by saying the LLA has make no impact at all.

The result demonstrates that even though there were a number of options as mentioned above, but most respondents of the study area approved that the Liberia land authority has make significant impact in the land sector since its establishment by responding to the option **“Yes”.** **(See table below).**

 **Table 4 : indication the significant impact of Liberia Land Authority**

|  |  |  |
| --- | --- | --- |
| **Significant Impact** | **Frequency** | **Percentage** |
| 1. Yes
 | 95 | 95% |
| 1. Maybe
 | 4 | 4% |
| 1. No Impact
 | 1 | 1% |
| **Total** | **100** | **100%** |

 **Source: (Researcher Survey Data, 2022**

**The Benefits Smart Technology Can Have on Culture Diversity in Liberia Land Sector.**

The results below confirmed that out of 100 population:

 (86) respondents constituting 86% agreed to the option **“all of these”** as displayed in the table are benefits smart technology can have on Liberia land sector. The result indicates that thereby having many choices on the benefits that smart technology can have on the land sector of Liberia as stated above, most respondents of the study area agreed to the option **“all of these”** as the benefits that smart technology can have on the land sector of Liberia **(See table below).**

**Table 5: Highlighting the benefits of smart Technology in Liberia**

|  |  |  |
| --- | --- | --- |
| **The Benefit of Smart Technology**  | **Frequency** | **Percentage** |
| 1. Conveniences
 | 3 | 3% |
| 1. Fast and Accurate
 | 8 | 8% |
| 1. Ensure Sustainability
 | 3 | 3% |
| 1. All of These
 | 86 | 86% |
| **Total**  | **100** | **100%** |

 **Source: (Researcher Survey Data, 2022)**

**The Influence of Culture on the Use of Smart Technology in Land Governance, Administration Management in Liberia**

The table shows that out of 100 population:

* (84) respondents constituting 84% mentioned yes, that culture can have influence on the use of smart technology in land governance, administration management in Liberia,
* (14) respondents constituting 14% disagreed by saying no, somehow, while (1) respondents constituting
* 1% mentioned that it is not possible that culture can have influence on the use of smart technology in land governance, administration management in Liberia.

This is an indication that the sector is ready for the use of smart technology as per the results gathered from the respondents in this session during the interviews (**See table below**).

 **Table 6 : showing the influence of culture on Land Use**

|  |  |  |
| --- | --- | --- |
| **The Influence of Culture on the Use of ...**  | **Frequency** | **Percentage** |
| 1. Yes
 | 84 | 84% |
| 1. No
 | 14 | 14% |
| 1. Somehow
 | 1 | 1% |
| 1. Not Possible
 | 1 | 1% |
| **Total**  | **100** | **100%** |

 **Source: (Researcher Survey Data, 2022)**

## Things to Be Done to Resolve the Challenges and Ameliorate from the Good Governance of Land Administration and Management in Liberia

While it is true that land is well managed in Liberia according to majority of the respondents, there are still challenges that need to ameliorate the good governance of land administration and management in Liberia.

The researcher was able to come up with some solutions to help close the gap of the challenges by gathering responses from respondents in the land sector of Liberia. This table as displayed below shows that out of 100 population, (89) respondents constituting 89% confirmed to the option **“all of these”** can resolve the challenges and ameliorate the good governance of land administration and management.

 **Table 7 : displaying possible solutions to resolve challenges in Land administration**

|  |  |  |
| --- | --- | --- |
| **Things to Be Done to Resolve the Challenges** | **Frequency** | **Percentage** |
| By Educating the People on the Significant Of Good Governance on the Issue of Land Administration and Management in Liberia | 9 | 9% |
| Through Legislating Laws That Promote Good Governance on Land Administration and Management in Liberia | 2 | 2% |
| By Carving a Working Document on the Ways to Ameliorate the Good Governance in Liberia | 0 | 0% |
| All of These | 89 | 89% |
| **Total**  | **100** | **100%** |

 **Source: (Researcher Survey Data, 2022)**

## The Proposals to the Good Use of Smart Technology in Sustainable Land

**Governance, Administration and Management in Liberia**

During the research, there was a full proposal crafted by the respondents on the good use of smart technology in sustainable land governance, administration and management in Liberia**,** to help closed the gaps on the challenges posed by culture diversity. This result shows that out of 100 population:

(90) respondents constituting 90% agreed to the option **“all of these”** as presented in the table as the proposals to the good use of smart technology in sustainable land governance, administration and management in Liberia (**See table below**).

 **Table 8 : proposing the good use of Smart Technology in Land use**

|  |  |  |
| --- | --- | --- |
| **The Proposals to the Good Use of Smart....**  | **Frequency** | **Percentage** |
| 1. The government should insure that there is good internet connectivity throughout the country and also making sure that the citizen is educated to the use of the application/software by qualified and trained personnel’s
 | 4 | 4% |
| 1. The good governance principles and rules of law. And also, the important of storing data information electronically and improve land governance, administration and management.
 | 5 | 5% |
| 1. Land owners who are predominantly people of culture beliefs willingness to accept smart technology in sustainable land governance, administration and management in Liberia.
 | 1 | 1% |
| 1. All of These
 | 90 | 90% |
| **Total**  | **100** | **100%** |

 **Source: (Researcher Survey Data, 2022)**

**Conclusion**

The challenges of cultural diversity on the use of smart technology to promote sustainable land governance, administration and management in Liberia remains a sensitive matter that, not only threatens the peaceful coexistence of communities in fragile sub-Saharan Africa, but also has potential to result in negative economic effects. Evidence from this study suggests that, that some challenges posed by culture diversity is as the result of Liberia being a country that has wide diversity of traditional heritage ranging from one ethnic group to another thereby causing the use of smart technology not applicable in sustaining land governance, management and administration.

Also, 5% of the total respondents indicates that Lack of internet connectivity and high illiteracy rate and the fourteen years of civil war cause many homeless and underdeveloped while 2% of the entire population reported the adverse effect on land owners who were predominantly people of culture beliefs with little or no knowledge on education, refusal to accept or give need to improvement within the land sector.

Therefore, some of the main land issues in Liberia today are the displacement of local communities related to government land concessions for logging, mining, and large-scale agriculture; urban property; and woman’s land rights.

However, in the case of the characteristics of cultural practices that support land acquisition, the study found out that 93% of the respondents indicated all of the above followed closely by 6% of the respondents who mentioned user rights and exclusion rights was unattended to probably because it has to do with force or exclusion. The analysis suggests that Land is acquiring in Liberia either by transfers rights, user rights or exclusion rights.

**Reference**

African Union, (2010). Framework and Guidelines on Land Policy in Africa. Land Policy in Africa: A Framework to Strengthen Land Rights, Enhance Productivity and Secure Livelihoods. UC-ECA-AfDB fromhttp://www.uneca.org/ sites/default /files/Publication Files/ fg\_on\_land\_policy\_eng.pdf.

Arko-Adjei, A. (2011). Adapting Land Administration to the Institutional Framework of Customary Tenure. The Case of Peri-Urban Ghana. Proefschrift. Technische Universiteit Delft. # 39 Sustainable Urban Areas Series. University of Delft, Delft, the Netherlands.

Berry, S. (2001).Chiefs Know their Boundaries. Essays on Property, Power, and the Past in Asante, 1896-1996. Portsmouth & Oxford: Heinemann & James Currey.

Brown, D. (2017).Social dimensions of land rights reform in Liberia: Some unresolved issues and policy dilemmas. Dev Policy Rev. 2017;35:O270–O286. <https://doi.org/10.1111/dpr.12322>

Brottem, L., & Unruh, J. (2009).Territorial tensions: Rainforest conservation, postconflictrecovery, and land tenure in Liberia. Annals of the Association of American Geographers, 99, 995–1002. <https://doi.org/10.1080/00045600903202855>

FAO/UN. (2012).Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. http://www.fao.org/docrep/ 016/i2801e/i2801e.pdf.

Namubiru-Mwaura, E., Knox, A., & Hughes, A. (2012).Customary land tenure in Liberia: Findings and implications drawn from 11 case studies (USAID Report). Retrievedf [https://www.landlinks.org/wpcontent/uploads/2016/09/USAID\_Land\_Tenure\_L](https://www.landlinks.org/wpcontent/uploads/2016/09/USAID_Land_Tenure_L%20) [iberia\_LPIS\_Synthesis\_Report.pdf.](https://www.landlinks.org/wpcontent/uploads/2016/09/USAID_Land_Tenure_Liberia_LPIS_Synthesis_Report.pdf)

Peters, P. E. (2012).Conflicts over land and threats to customary tenure in Africa Today. CID Working Papers no. 247. Center for International Development at Harvard University.

Richards, P., & Chauveau, J.-P. (2007).Land, agricultural change and conflict in West Africa: Regional issues from Sierra Leone, Liberia and Côte d’Ivoire. Historical overview. Retrieved from http://www.oecd.org/countries/sier- raleone/39495967.pdf