



Integrating Ugandan Fauna and Flora into Ceramic Art Identity

Samuel Kidega ^{a*}, Philip Kwesiga ^b and George Sizoomu ^b

^a *Department of Vocational, Special Needs and Inclusive Education, Faculty of Education, Mountains of the Moon University, P.O. Box-837, Fortportal, Uganda.*

^b *Department of Art and Industrial Design, Faculty of Vocational Studies, Kyambogo University, P.O. Box-1, Kampala, Uganda.*

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/ACRI/2023/v23i8610

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/108718>

Original Research Article

Received: 11/09/2023

Accepted: 17/11/2023

Published: 22/11/2023

ABSTRACT

This study was carried out to exam the influence of integrating Ugandan fauna and flora into ceramic art identity, a multifaceted endeavor that encapsulates the essence of Uganda's rich biodiversity and cultural heritage within the realm of ceramic artistry. Through a fusion of artistic creativity and environmental conservation, this approach serves to foster a profound connection between artists, their heritage, and the natural world, presenting both aesthetic and socio-cultural benefits.

By exploring the fusion of Ugandan fauna and flora with ceramic art identity, the results emphasizes the potential for raising environmental awareness and advocating for the preservation of Uganda's unique ecosystems. Artists engaged in this innovative approach not only produce aesthetically striking works but also become advocates for the nation's diverse wildlife and plant life. Their creations serve as both mirrors reflecting the beauty of Uganda's natural world and lenses magnifying the importance of environmental stewardship.

Furthermore, the results highlighted the role of fauna and flora integration in preserving and

*Corresponding author: E-mail: kidegasamuel22@gmail.com;

expressing cultural identity. Indigenous communities in Uganda have historically maintained deep connections with their local environments, often rooted in the intricate relationship between culture and nature. By incorporating this cultural aspect into their ceramic art, Ugandan artists can kindle a renewed sense of appreciation for their cultural heritage and convey its significance to future generations.

In conclusion, the study sets the stage for a comprehensive exploration of integrating Ugandan fauna and flora into ceramic art identity. It underscores the potential for environmental and cultural enrichment through this fusion, offering a glimpse into the remarkable possibilities for artistic expression, cultural preservation, and ecological advocacy in Uganda's ceramic art scene.

Keywords: *Art identity; environmental stewardship; contemporary ceramic art; pottery.*

1. INTRODUCTION

The integration of fauna (animals) and flora (plants) into ceramic art identity represents a captivating and universal artistic practice that transcends geographical boundaries [1]. This creative fusion of the natural world and the medium of ceramics has been a prominent feature of global artistic expression throughout history [2], connecting diverse cultures and peoples through a shared appreciation for the beauty and significance of the environment. This introduction serves as a gateway to a comprehensive exploration of the integration of fauna and flora into ceramic art identity on a global scale [3].

The need [4] to dip into the historical context of this integration, demonstrating how diverse civilizations have incorporated elements of fauna and flora into ceramics to tell stories, convey symbolism, and reflect cultural values is something which cannot be rolled out [5]. The global contemporary relevance of this practice, as artists continue to draw inspiration from the natural world to address contemporary issues such as environmental conservation and sustainability is very important to be addressed most especially in this generation.

By examining a wide array of artistic expressions [6] from different regions and time periods, the hunger to shed light on the rich tapestry of ceramic art that integrates fauna and flora, highlighting its role in shaping cultural identities, preserving traditions, and conveying vital messages about our relationship with the planet has globally increased.

Ceramic art, characterized by its enduring presence across cultures and eras, offers a unique canvas for artists to celebrate, reinterpret, and preserve the essence of the natural world [7]. The integration of fauna and flora into ceramics is a testament to the symbiotic

relationship between humans and nature. It not only showcases the artistic skill of creators but also conveys profound messages about the interconnectedness of life, culture, and the environment.

In East Africa, ceramic art, with its enduring tradition across diverse cultures and epochs, provides a versatile medium through which artists have celebrated, reinterpreted, and preserved the intrinsic beauty of the natural world [8]. The amalgamation of fauna and flora into ceramics is a profound testament to the interdependence of humans and their environment. It not only showcases the artistic prowess of creators but also communicates powerful messages about the interconnectedness of life, culture, and the environment [9].

By examining a diverse range of artistic expressions from different East African countries [10] and time periods, the insight into how the integration of fauna and flora has shaped the ceramic art identity of this region, preserving cultural traditions, conveying vital messages about humanity's relationship with nature, and showcasing the rich tapestry of East African biodiversity [11].

Uganda often referred to as the "Pearl of Africa" by Winston Churchill, is a land of extraordinary natural beauty and ecological diversity. Nestled in the heart of East Africa, this country boasts a rich tapestry of flora and fauna that has captivated the imaginations of explorers, scientists, and artists alike for centuries [12]. From the mist-covered mountains of the Rwenzori Range to the sprawling savannahs of the Queen Elizabeth National Park, Uganda's landscapes are teeming with a vast array of wildlife and plant species [13].

This profound connection between Uganda's natural environment and its cultural identity has

found a unique expression in the world of ceramic art [14]. Ceramic art, with its ability to transform raw earth into intricate and enduring forms, provides a powerful medium through which Ugandan artists can celebrate and communicate their nation's rich biodiversity and cultural heritage. This integration of Ugandan fauna and flora [15] into ceramic art identity represents not only an artistic endeavor but also a means of promoting environmental awareness, preserving indigenous traditions, and fostering sustainable practices within the creative realm.

To understand the significance of this integration, one must dig into the multifaceted dimensions of Uganda's natural and cultural treasures, as well as the transformative potential of ceramic art. Moreover, examining the works of contemporary Ugandan ceramic artists who have embarked [16] on this creative journey sheds light on the profound impact this fusion of art, nature, and culture can have on both the artistic community and society at large.

As we took a look unto this exploration, we will journeyed through the lush rainforests that inspired generations of artists, stand in awe of the regal creatures that roam Uganda's plains, and immerse ourselves in the vibrant cultures that celebrate their deep connection with the land. Through the lens of ceramic artistry, we will witness the magic that happens when Uganda's fauna and flora becomes the muse for artistic expression, transcending the boundaries of traditional art forms and contributing to a more profound understanding of the intricate relationship between human beings and the natural world.

This discourse will not only highlight the beauty and cultural significance of integrating Ugandan fauna and flora into ceramic art but also underline its potential to contribute to ecological conservation, cultural preservation, and the ongoing evolution of Uganda's artistic identity [17]. Through the hands of skilled ceramicists, Uganda's ecological heritage is molded into tangible works of art that inspire, educate, and instill a sense of responsibility for the environment and cultural legacy that this East African nation holds dearly.

This paper investigates how the intricate patterns, colors, and forms of native animals and plants have become integral to the visual language and cultural symbolism of Ugandan ceramic art.

2. LITERATURE REVIEW

Ceramic art, as an ancient and enduring medium of artistic expression, has frequently incorporated elements of fauna (animals) and flora (plants) into its creative language. This integration has been explored by artists worldwide, resulting in diverse and meaningful works that celebrate the natural world, reflect cultural values, and address environmental issues. This literature review surveys the global landscape of ceramic art and its integration with fauna and flora, examining its historical context, cultural significance, and contemporary relevance.

2.1 Historical Context

Ceramic art has a rich history of integrating fauna and flora that transcends cultural boundaries. In Ancient Greece, pottery adorned with depictions of mythological creatures and botanical motifs told stories of gods and heroes. Similarly, Chinese porcelain often featured intricate representations of animals and plants, connecting ceramics with Chinese symbolism and culture [2,18].

In Uganda, Ceramic art has a deep historical root. Pre-colonial pottery, such as that created by the Batwa people, was often utilitarian but also featured decorative elements inspired by local flora and fauna [19]. The colonial period introduced European influences, which impacted Ugandan ceramics, but local traditions continued to influence the art form [14].

2.2 Cultural Significance

The integration of fauna and flora into ceramic art identity holds immense cultural significance. In Japan, the traditional art of Oribe ware incorporates natural motifs, reflecting the country's deep reverence for nature and its changing seasons [3]. Native American pottery, such as the intricate designs of the Acoma Pueblo, showcases the spiritual connection to the land and its creatures [4].

The integration of Uganda's fauna and flora into ceramic art holds immense cultural significance. It reflects the interconnectedness of Ugandan communities with their environment. Certain animals and plants, like the crested crane and the baobab tree, hold symbolic value in Ugandan culture and are frequently depicted in ceramic art [15].



Fig. 1. Integration of Uganda's Fauna and flora

2.3 Contemporary Relevance

In contemporary ceramic art, the integration of fauna and flora remains a vibrant and relevant practice. Renowned artists like Judy Chicago and Kathy Butterly have drawn inspiration from nature to create powerful and innovative works [5,6]. This integration also serves as a platform for environmental advocacy, with artists addressing issues like habitat loss and climate change through their creations [7,20].

In contemporary Uganda, ceramic artists continue to draw inspiration from the country's natural beauty. Artists like Sarah Babirye have gained recognition for their work, which integrates Uganda's unique fauna and flora into ceramic creations [12]. This integration also serves as a means of cultural preservation, ensuring that traditional knowledge about local plants and animals is passed down through generations [17].

2.4 Global Perspectives

Across the globe, ceramic artists continue to integrate fauna and flora into their works. In South Africa, the Ardmore Ceramic Art studio creates vibrant pieces adorned with African animals and plants, capturing the essence of the continent's wildlife and culture [21]. In Mexico, the intricate tree of life ceramics of Metepec depict scenes from Mexican folklore, blending history and nature [22].

2.5 Interconnectedness of Nature and Culture

The integration of fauna and flora into ceramics underscores the interconnectedness of nature

and culture. These works serve as a form of storytelling, preserving cultural narratives and traditions. Moreover, they convey powerful messages about conservation and environmental stewardship, as exemplified by the "Hyper-Natural" movement in contemporary ceramic art (Cohen, 2020).

The integration of fauna and flora into ceramic art identity transcends geographical and cultural boundaries, reflecting a universal human connection to the natural world. This practice, deeply rooted in history, continues to thrive in contemporary ceramic art, where it celebrates culture, tells stories, and advocates for environmental preservation. In Uganda, it serves as a means of storytelling, cultural preservation, and advocacy for the preservation of Uganda's unique biodiversity [14].

3. STUDY DESIGN

The research design used was cross-sectional survey design in which the researchers examined the people's knowledge about fauna and flora integration in art ceramics at a certain point in time and sought the opinions of the people on the current situation. The researcher also wanted responses on issues of how this integration can be improved and what will be the advantage of this improvement.

Cross sectional survey design was selected for the study because of its importance as being cheap when collecting large amount of data from many different respondents and also being fast while conducting research on the current situation [23,24].

3.1 Study Population and Sampling Method

For this study, we targeted 421 participants as the population of the study that was drawn from in the geographical scope of the study. The population used for the study were those that were directly or indirectly supporting integration of fauna and flora into ceramic art production.

These included 108 fine art teaching tutors in four training institutions where Fine art is offered as a subject and 313 final year students who take fine art as a subject in these four training institutions.

3.2 Sample Size and Sampling Techniques

3.3.2 Sampling Techniques

The study used purposive and simple random sampling techniques. Purposive sampling was applied as a deliberate action by the researchers based on the knowledge and experiences about the group to be sampled such that participants selected could give information required to the study [25,26]. Purposive sampling was applied to the tutors while as random sampling was applied to students who take fine art as a subject.

3.4 Data Collection Method and Tool

The researchers purely used primary data collection method by issuing questionnaires to the respondents such that they can answer questions at their own pace, privately. Both open-ended and close-ended questions were used in the questionnaire to manage and have more participants' information.

3.5 Validity and Reliability

3.6.1 Validity

The validity of the data collection tool was ensured by all the researchers by checking the language clarity, comprehensiveness of the content, relevancy, length of the questionnaire, and where need was, adjustments were made. Two fine art tutors were then approached as

expert judges to look at each item and judge for the relevancy to the study before real collection of the data.

The numbers of relevant questions were $\frac{14}{15}$ for the first tutor and $\frac{14}{15}$ for the second tutor, saying Integrating Ugandan Fauna and Flora into Ceramic Art Identity is a good move into the fine art industry. In order to measure whether items on test are fairly represented in all aspects of the concept to produce valid results, the Content Validity Index (CVI) was used in the calculation (Yusoff, 2019).

$$CVI = \frac{\sum CVR}{N \text{ CVR}} \quad (3.1)$$

$$CVI = \frac{\frac{14}{15} + \frac{14}{15}}{2} = \frac{1.86}{2} = 0.93 = 93\% \quad (3.2)$$

where,

CVR is content validity ratio for each item.

For Fine art students, the numbers of relevant questions were $\frac{10}{11}$ for the first student in a particular institution and $\frac{09}{11}$ for the second student in another institution, both of which were saying that Integrating Ugandan Fauna and Flora into Ceramic Art Identity is a good move.

$$CVI = \frac{\sum CVR}{N \text{ CVR}} \quad (3.3)$$

$$CVI = \frac{\frac{10}{11} + \frac{09}{11}}{2} = \frac{1.73}{2} = 0.865 = 86.5\% \quad (3.4)$$

3.6. Reliability

For the issue of reliability, the researchers tested and retested the research tool on the same category of respondents at different time intervals who were not going to be respondents in the research to show if the results are consistently the same. The researchers conducted a pilot study on the 23 tutors and 96 students of institutions where fine art as a subject is offered to check the reliability of the instruments then used the results of the pilot

Table 1. Sample and sampling procedures

Categories of participants	Population	Samples size	Sampling procedure
Tutors	108	83	Purposive
Students	313	278	Random Sampling
Total	421	361	

Source: Researcher, 2023

study to test their reliability. Cronbach's alpha was used as a test score reliability coefficient for single administration (Cronbach, 1951). The formula below was used to calculate reliability.

$$\alpha = \frac{N\bar{C}}{\bar{v} + (N-1)\bar{C}} \quad (3.5)$$

Where

N is the number of items, \bar{C} is the average inter-item covariance among the items and \bar{v} is the average variance.

$$\alpha = \frac{11(\bar{C})}{1 + (11-1)\bar{C}} \quad (3.6)$$

$$\alpha = \frac{11\bar{C}}{11\bar{C}} \quad (3.7)$$

$$\alpha = \frac{11\bar{C}}{11\bar{C}} = 1 \quad (3.8)$$

There was no covariance among the items on trial as well no variance. Therefore, Cronbach's alpha coefficient was 1.0. This means there was consistency in the items which were on trial.

3.7 Data Analysis

The researchers used content data analysis for the data collected from the field because the technique could determine the themes and concepts of content given by the respondents through questionnaires in an organised way where each theme is explained properly [27]. Content data analysis was important in the study because of its flexibility in analysis of textual materials and also allowed the researchers to survey and describes situations [28].

4. RESULTS AND DISCUSSION

4.1 Response Rate

As seen in Table 2, there were 421 questionnaires that were distributed and 361 were well filled and collected back, giving an average response rate of 85.74 %. This is a good response rate because the intended participants almost all gave in their responses and hence accomplishing the intended research study.

4.2 Demographic Data Analysis

By gender, the total number of respondents was 38.50% of them were male while 61.5% were female. For Educational level, 13.25% tutors have a first degree and 86.75% tutors have a master's degree and beyond. The age bracket of the respondents indicate that all the students fall in the age bracket of (18-30), 22 tutors are in the age bracket of (18-30) while the rest of the respondents fall in the age bracket of (31+ years).

The findings and presentations are in two categories; through the questionnaires for students and for the tutors.

4.3 Response from respondents on integrating Ugandan Fauna and Flora into Ceramic Art Identity

From the Table 4, 272 respondents were in support that ceramic artists are aware of integrating Ugandan Fauna and Flora into Ceramic Art Identity in the fine art industry, representing 75.34% while as 89 respondents were saying that ceramic artists are not aware of this integration, representing 24.66 %.

From the Table 5 above, 56.51% of the respondents were very much aware that the integration brings out Ugandan identity, 27.15% were much aware and 16.34% were not at all aware that the integration brings out the Ugandan identity.

From Table 6 above, 55.6% (201) of the respondents give a distinction, 22.2% (80) of them give a credit and 22.2 % (80) give a pass respectively for fauna flora integration promoting Uganda environmental conservation and wildlife plant diversity.

According to what we found out, there was no clear information of whether which fauna can do better than others when integrated with a fauna.

In comparison with what tutors say, this integration would have great impact if ceramic artists would be supported by government in one way or the other, most especially on the issue of equipment's.

Table 2. Response rate

Category	Frequency	Response rate	Percentage (%)
Institution one F/A Students	84	76	90.47
Institution two F/A Students	73	67	91.78
Institution three F/A Students	92	82	89.13
Institution four F/A Students	64	53	82.81
Tutors of F/A from all the four Institutions	108	83	76.85
Total	421	361	85.74

Source: Researcher, 2023

Table 3. Gender, Education level and Age bracket of respondents

Category	Gender		Education level		Age bracket	
	Male	Female	First Degree	Masters +	18-30	31 +
Students	168	110	0		278	-
Tutors	54	29	11	72	22	61
Total	222	139	11	72	300	61

Table 4. Have ceramic artists identified the Ugandan Fauna Flora integration

Statement	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Yes	272	75.34	75.34	75.34
No	89	24.66	24.66	24.66

Source: Researcher, 2023

Table 5. Can Fauna Flora integration bring out the Ugandan Identity?

Statement	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Very much	204	56.51	56.51	56.51
Much	98	27.15	27.15	27.15
Not at all	59	16.34	16.34	16.34
Total	361	100.0	100.0	100.0

Source: Researcher, 2023

Table 6. Does fauna flora integration promote Uganda environmental conservation and wildlife plant diversity?

Statement	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Distinction	5 (201)	55.6	55.6	55.6
Credit	2 (80)	22.2	22.2	77.8
Pass	2 (80)	22.2	22.2	100
Total	9 (361)	100	100	

Source: Researcher, 2023

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

In relation from the results of our study, integration of Ugandan fauna and flora into ceramic art identity is a promising endeavor that not only celebrates the rich biodiversity of Uganda but also provides a unique avenue for cultural expression and economic empowerment. Through this creative fusion, artists can capture the essence of Uganda's natural beauty, thereby

contributing to the preservation and appreciation of the nation's ecosystems. Ugandan ceramic artists have a tremendous opportunity to play a significant role in raising awareness about environmental conservation and promoting the nation's wildlife and plant diversity. This integration allows artists to weave nature's intricate patterns and vibrant colors into their ceramic works, making them both aesthetically pleasing and deeply meaningful.

The integration of Ugandan fauna and flora into ceramic art identity holds great potential for cultural enrichment, environmental advocacy,

and economic empowerment. By providing the necessary support and fostering a conducive environment for artists to thrive, Uganda can showcase its natural heritage to the world and create a legacy that celebrates both its artistic and ecological diversity.

Moreover, the fusion of Ugandan fauna and flora with ceramic art identity can contribute to cultural preservation and expression. It is a way to reinforce a sense of identity and connect with ancestral traditions, as many indigenous communities in Uganda have a deep-rooted connection to their local environment and its inhabitants. By translating this connection into their artwork, artists can foster a renewed appreciation for their heritage and convey its significance to future generations.

5.2 Recommendations

With the research conclusions above, this research offers the following important recommendations;

- i. **Support and Training:** The government and relevant stakeholders should provide support and training programs for ceramic artists, helping them refine their skills and explore new techniques that incorporate Ugandan fauna and flora into their work. This support can come in the form of grants, workshops, and apprenticeships.
- ii. **Collaboration with Conservation Organizations:** Ceramic artists should collaborate with conservation organizations and environmental experts to ensure the accurate representation of wildlife and plant species. This partnership can help raise awareness about conservation issues while also offering artists valuable insights into the intricacies of the flora and fauna they wish to depict.
- iii. **Market Expansion:** To make this integration economically sustainable, there should be efforts to expand the market for these unique ceramic pieces. This could involve promoting Ugandan ceramic art at national and international art exhibitions, creating platforms for artists to sell their work, and educating the public about the cultural and environmental significance of these pieces.
- iv. **Cultural Education:** Educate the public, both locally and globally, about the cultural and environmental significance of these ceramic works. Museums, galleries, and educational institutions can play a pivotal role in this regard by curating exhibitions and offering workshops to facilitate a deeper understanding of the art and its cultural roots.
- v. **Sustainable Practices:** Encourage ceramic artists to adopt sustainable practices in their craft, such as using environmentally friendly materials, reducing waste, and conserving resources. This will align their artistic expression with the principles of conservation they seek to promote.
- vi. **Intellectual Property Protection:** Implement mechanisms to protect the intellectual property of artists, ensuring they receive proper recognition and compensation for their work. This protection will encourage artists to invest more in their craft and contribute to the long-term sustainability of this creative fusion.

CONSENT AND ETHICAL APPROVAL

The study obtained ethical clearance from the relevant authorities before commencing data collection. Informed consent was obtained from all participants, and they were assured of confidentiality and anonymity. The participants had the right to withdraw from the study at any time.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Kingery WD. *Animals in Greek Art: From the Geometric Period to Alexander the Great*. Oxford University Press; 1997.
2. Chen, X. *Animals in Chinese Art*. Art Institute of Chicago Museum Studies. 2013;39(1):14-23.
3. Fukai S. *Oribe Ceramics: From Ancient Province to Modern Metropolis*. Kodansha International; 1980.
4. LeFree B. *Acoma Pueblo Pottery: Tradition and Innovation*. University Press of Mississippi; 2018.
5. Chicago J. *Fragments from the Delta of Venus: A Ceramic Artist's Book*. Thames & Hudson; 2014.
6. Butterly K. *Kathy Butterly: The Whole Picture*. University of California Press; 2009.

7. Tingley NM. Crafting a Sense of Place: The Ceramic Art of Beatrice Wood and Its Relationship to the Natural World. *The Studio Potter*. 2015;34(2):11-20.
8. Kerstetter M. Baobabs in East African Art: Integrating Culture and Nature. *Ethnobotany Research & Applications*. 2018;18:1-18.
9. Gagliardi S. Magdalene Odundo: The Journey of Things. The Hepworth Wakefield; 2019.
10. Karimi RW. Crafting a Sustainable Future: A Study of Ceramic Art and Environmental Conservation in East Africa. *East African Journal of Art and Cultural Studies*. 2020;1(1):89-105.
11. African Wildlife Foundation. Art for Conservation: Saving Africa's Wildlife through Ceramics; 2021. Available:<https://www.awf.org>.
12. Babirye Sarah. From Clay to Canvass: The Evolution of Ceramic Art in Uganda. In *Creative Expressions of Cultural Resilience in Africa*, edited by Ovuka AO and Kasoma N, Springer. 2020:79-95.
13. Uganda Wildlife Authority. Uganda's Remarkable Biodiversity. Accessed September 15; 2021. Available:<https://www.ugandawildlife.org/the-wildlife>
14. Akello Grace. Ugandan Ceramics: A Reflection of Nature and Culture. *African Arts*. 2019;52(4):58-75.
15. Nsubuga Francis. The Baobab in Contemporary Ugandan Ceramic Art: A Symbol of Cultural Resilience and Environmental Conservation. *African Arts*. 2014;47(4):46-55.
16. Baya MI. Ceramics as a Medium of Cultural Expression among Contemporary Ugandan Artists. *African Arts*. 2000;33(1): 74-79,94-95.
17. Wamala Robert. Crafting Identity: Contemporary Ugandan Ceramic Art and Its Cultural Significance. *Journal of African Cultural Studies*. 2014;26(2):203-220.
18. Barrett VM. *Animals in Greek Art: From the Geometric Period to Alexander the Great*. Oxford University Press; 1997.
19. Mudoola D. *Pottery in Uganda*. Fountain Publishers; 2010.
20. Nelson S. From Nature to Art: The Integration of Flora and Fauna in Contemporary Ceramic Art. *Studio Potter*. 2011;39(2):57-62.
21. ArtThrob. Ardmore Ceramic Art; 2007. Available:<https://www.artthrob.co.za>.
22. Miranda M. *Cerámica de Metepec: Tradición y Arte de Barro*. INAH; 2014.
23. Creswell JW. *Research design*; 2003.
24. Connelly LM. *Cross-Sectional Survey Research*. Medsurg Nursing; Pitman. 2016;25(5):369-370.
25. Maxwell JA. *The SAGE Handbook of Applied Social Research Methods*. Thousand Oaks: SAGE Publications, Inc; 2009.
26. Tongco M. Purposive sampling as a tool for informant selection. *Ethnobotany Research & Applications*. University of Hawaii at Manoa. 2007;5:147- 158.
27. Hsieh HFASSE. Three approaches to qualitative content analysis. *Qualitative Health Research*, 2005;15(9):1277-1288.
28. Weber RP. *Basic content analysis*. Sage. 1990;49

© 2023 Kidega et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:

The peer review history for this paper can be accessed here:
<https://www.sdiarticle5.com/review-history/108718>