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USING ARCHITECTURAL STRATEGIES IN CONSERVATION OF IGBO CATTLE (EHI IGBO): A CASE STUDY OF IGBARIAM, AWKA NORTH LGA, ANAMBRA STATE

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ABSTRACT

This research paper focuses on the conservation of Igbo cattle (Ehi Igbo) in Awka North Local Government Area of Anambra State, Nigeria, through the implementation of architectural strategies. The study explores the significance of conserving the historic Igbo cattle breed and its relevance to the local community and Nigeria as a whole. The paper highlights the importance of animal domestication in human civilization and emphasizes the social, cultural, economic, and environmental roles played by livestock, particularly in African societies. It argues that architecture can contribute to addressing the challenges related to cattle grazing routes by employing environmentally conscious strategies that accommodate the needs of both livestock and humans. The research employs a qualitative methodology, focusing on a case study approach to investigate the conservation of the Igbo cattle breed. The findings reveal the agrarian nature of Awka North and its influence on food and livestock production. The study underscores the need for architectural strategies in conserving indigenous cattle breeds, taking into account factors such as animal psychology, facility design, and the preservation of cultural values. The paper concludes by emphasizing the economic, ecological, and socio-cultural significance of conserving Igbo cattle and recommends collaborative efforts among professionals, including architects, veterinary doctors, and allied experts, to develop sustainable policies for cattle ranching and bree used (Gillespie, Flanders, 2010) *ding. Overall, this research contributes to the discourse on architectural strategies for conservation and highlights the importance of preserving indigenous cattle breeds for future generations.*

Keywords: *Architectural strategies, Conservation, Igbo Cattle, Igbariam.*

Introduction

Man's civilization nay industrialization owes much to history of animal domestication. To domesticate means to adapt the behaviour of an animal to fit the needs of people. The domestication of animals began when early humans had contact with wild animals, which they hunted for food and skins. After a period of time these early humans began to confine some of these animals to ensure a steadier supply of food and clothing. These animals were bred in captivity to replace those that were

Livestock play crucial and cultural roles alongside their contributions to food security, human health, economy, and the environment. In numerous regions of Africa, livestock are integral to defining social relationships, and the quantity of livestock owned by a family can bestow significant social status. Sharing livestock

with others is a common practice that fosters and reinforces social bonds. Livestock are utilized as dowries or bride prices, allocated to family members, and provided as loans, all serving as means to create or strengthen social connections. (Kitalyi et al., 2005).

Architecture, when properly conceived, planned, designed and erected gives shelter for man, his properties and activities (Ikpo, 2006). The study ponders the possibilities and conflicts that emerged from the non-

possibilities they will be in total extinction (Francis, 1986).

There are many breeds of cattle indigenous to Nigeria. The popular breeds of cattle in Nigeria includes; White Fulani, Red Bororo, Sokoto Gudali, Adamawa Gudali, Wadara, Azawak, Muturu, Keteku, N'dama and Kuri (Pagot, 1992; Babayemi, Abu & Opakunbi, 2014). The Igbo cattle (Muturu and N'dama) which appears smaller than the Fulani cattle, were regarded highly in Igbo



adoption of architectural strategies and cultural significance as a central concept in Igbo cattle breeding and conservation, including its possibilities to be used in the measurement of impacts; in monitoring tasks during conservation planning and management.

Conservation is a process of caring, maintaining repair and continuous preservation of a historic heritage and or building of significant importance (Orbaslin, 2007). Through architecture, conservation reinforces the five senses of quality communities, namely; sense of place, sense of identity, sense of evolution, sense of ownership and sense of community (Akinade, 2005). It involves painstaking preservation and careful management features without which there are all

land as they were used to perform some traditional rituals became endangered due to extensive uncontrolled crossbreeding with exotic breeds, the Nigeria Biafra civil war also had a significant effect on the elimination of some indigenous cattle breeds down east, especially the forest breeds and some environmental factors like desertification, bush burning, flooding, etc. There was also waning interest among farmers in the use of intact indigenous breeds (Gwaza, Momoh, 2016). Finally, the characteristics of the aging population and the high emigration rate to the cities have led to a decrease of agricultural activities, results in an abandonment of agrarian activities.

Plate 1. Herded Muturu/Ehi Igbo, Umunze, Orumba South Source: Anaebo, May 11, 2023



According to Feilden (2003), cultural property holds value in three primary categories: emotional values encompassing feelings of awe, personal and group identity, continuity, spirituality, and symbolism; cultural values relating to documentation, historical significance, archeological age and rarity, aesthetic and symbolic qualities, architectural importance, urban and natural landscapes, and technological and scientific importance; and use values encompassing functionality, economic significance, social relevance, political importance, and ethnic significance.

Most gourmand or beef lovers in South East and Nigeria in general are keen on meat from the North, Niger and even Chad no matter how pricey. Few know or tend to forget the indigenous breed of cattle (Ehi Igbo) which is raised in parts of the zone with its distinct cultural, economic and culinary attributes. These cattle are robust and perfectly suited to those climate. They are like the Igbo people- distinct and unbothered even by hostile climate and also are friendly. They are easy to feed, very fecund with an average cow able to wean a calf and take in almost 13th month afterwards as against almost two years gap of its counterparts. The only major reason they seem to be left is their use for cultural events like funeral, title taking, traditional weddings and the like.

Plate 2. Open grazing opposite Government House, Onitsha-Enugu Expressway, Awka Source: Anaebo, September 24, 2022

Aim of the Study

To investigate and propose an architectural design solution for a research center focused on the development of Igbo cattle in Igbariam, Anambra state.

Research Method

Research process (method) is a systematic, controlled, empirical and unbiased method of investigation. It is systematic and objective search for new knowledge of the subject of study. Research is carried out to make informed decisions i.e. decisions that are not based on intuition, experience or hearsay (Olotuah, 2018).

The known methodology used here is purely qualitative research method which includes case study. This is a research strategy that most architectural research thesis uses. It does not involve the numeric study of a phenomenon.

Findings

Awka North, the scope of the study, comprises several agrarian communities. They are situated in the hinterland within the tropical savannah belts. Its location greatly influences production, consumption and preservation of foods and livestock. Their main foods are yam, cassava and a few legumes, which are also seasonal. They include; Achalla, Amanuke, Awba Ofemili, Ebenebe, Igbariam, Isu Aniocha, Mgbakwu, Ugbene and Urom. The zone houses the famous Igbariam Settlement of the then Eastern regional government under Dr. Micheal I. Okpara which was inspired by the Israeli Moshavim Farm Settlement Scheme, pioneered the establishment of farm settlements in Abak, Erei, Boki, Igbariam, Ohaji, Ulonna and Uzo-Uwani areas of the region (Isiani and Uche 2020**).** Igbariam farming settlement included wide expanse of lands of about 340 hectares bordering 4 towns. The settlement was divided into 3 villages, known as village one, two and three. Presently it is barely surviving, with most if not all the palm trees wild. Housing dedicated to oil palm milling with residential places for workers fall apart.

Conservation of Igbo indigenous cattle breed of Nigeria genetic resources for future use requires the attention of policy makers to be successful. Further development and implementation of national policies for the conservation of indigenous cattle breeds of Nigeria must be embedded in an overall architectural developmental plan and be integrated into ironclad polices.

According to Agbonome et al (2012), they opined that an understanding of animal psychology combined with well-designed facilities has the capacity to reduce stress on both the animal and the minders, consequently enhancing health, comfort and productivity. Stress reduces the ability to fight diseases, gain weight and productive capacity. Facilities must be appropriate for the species, anticipated number of animals and the expected length of stay in order to ensure physical and psychological well-being of the animals. The design should also provide for proper sanitation, separation of animals by health status, age, gender, species, temperament, and predator-prey status integrating a relatively soft, clean, flat bed with good footing. In other words, lighting, ventilation, proper zoning, adequate noise control, landscaping, suitable effluent disposal and other architectural. Animals can become crippled and injured if they slip and fall on slippery concrete floors. Cattle handling facilities should have nonslip floors (Stevens and Lyons, 1977; Grandin, 1983b). In races, crowd pens, scales and other cattle-handling areas, concrete floors should be deeply grooved.

Space requirements for cattle vary with size of breed and age of animal. Allowance must be made for increase in size of growing

animals during the housing period. Every cattle housing system must include appropriate provision for calving pens and sick pens to isolate animals that are unwellor injured. Additionally, all cattle farms should have a separate building designated for the isolation and quarantine of newly introduced animals.

Allport (1955) in Theories of Perception and the Concept of Structure states that human's perception of what is consists of a transaction between 'what is there' physically and 'in the real world', stimulating the sensory receptors and thoughts or ideas which one has inherited from birth or particularly learnt from experience. For cattle however, it will be strange to attribute thoughts or ideas to it, but just as humans have predictable behaviours, so does a cattle.

Cattle have 360^{o} wide angle vision (Prince, 1977). They can see behind themselves without turning their heads and are sensitive to harsh contrasts of light and dark in loading ramps, races and handling areas. Even though ruminant animals have depth perception (Lemmon and Patterson, 1964), their ability to perceive depth at ground level while moving with their heads up is probably poor. Cattle may see the world differently and can is often distracted by motion off to the side. Lastly, Cattle are more sensitive to high-pitch noises than people (Kilgour et al., 1983). The sound of banging metal can cause balking and agitation. Understanding these behaviours can be very useful in designing cattle handing facilities. To facilitate cattle movement, illumination should be even, and there should be no sudden changes in floor level or texture. Rubber stops on gates and squeeze chutes will help reduce noise.

Conclusion

In economics, it is the differentiated product that commands a monetary premium, thus if in the long run a community wants to attract capital and investment, it must differentiate itself from anywhere else. It is the built environment that expresses, perhaps better than anything else, a community's diversity, identity, individuality and, in short, its differentiation (Tijanni, et al 2015).

Igbo cattle conservation increases production and efficiency as it results in more sustainable ways of doing things. Before this is implemented, it has resulted in three-fold crisis of modernization: Ecological significance, Economic significance and Socio and cultural significance.

1. Ecological significance: In this context, design of such focuses on creating built environments that are essential for preserving the natural environment. It involves careful consideration and attention to maintaining the quality of the constructed space to ensure they align with ecological principles. By incorporating sustainable practices, utilizing environmentally friendly materials, and promoting energy efficiency, ecological design aims to minimize the negative impacts of ecosystem, conserve natural resources, and support the overall well-being of the environment. The goal is to strike a balance between human needs and ecological sustainability, creating harmonious spaces that promote the health and preservation of the natural environment.

2. Economic significance: The economic significance of the quality of the built environment for cattle and livestock breeding goes beyond local and regional considerations. It directly influences a county's international image, trade relations, and market competitiveness. By investing in well-designed and modern facilities, countries can attract investments, secure trade opportunities, and foster economic development at various scales. Socio and Cultural significance: An important factor determining why people choose to visit, relocate, and even invest in a particular place is the 'atmosphere of the cultural identity'.

Lastly, this study has explored the use of architectural strategies in the conservation of Igbo cattle (Ehi Igbo) in Awka North Local Government Area of Anambra State, Nigeria. The aim was to examine the purpose and significance of conserving the historic Igbo cattle heritage through architectural interventions and to assess their validity in the study area and Nigeria at large.

The research highlighted the importance of livestock and cattle in human civilization, not only for food security, economic benefits, and environmental roles but also for their social and cultural significance. Livestock, including cattle, play a vital role in defining social relationships and cultural practices in many African communities. Therefore, the conservation of indigenous cattle breeds, such as the Igbo cattle, is crucial for preserving cultural heritage and maintaining the balance between tradition and modernization.

Architecture, as a discipline, has the potential to contribute to the conservation efforts through environmentally conscious strategies. By integrating architectural strategies into cattle breeding and conservation, it is possible to create a humane and responsive environment for the animals, while also addressing the concerns of stakeholders involved in the cattle grazing debate.

The findings of this study emphasized the need for policy makers to recognize the importance of conserving indigenous cattle breeds and incorporate architectural strategies into the overall developmental plan. This integration should focus on the well-being of the cattle, considering their psychological and physical needs, such as appropriate lighting, ventilation, noise control, flooring, and separation of animals based on various factors.

Furthermore, the study highlighted the ecological, economic, and socio-cultural significance of Igbo cattle conservation. The design and quality of the built environment for cattle breeding can contribute to the preservation of natural resources, enhance the local, regional, and international image of the community, and maintain the cultural identity and atmosphere that attract visitors, residents, and investors.

In light of the recent legislation in Anambra State to prohibit open and nomadic cattle grazing and establish ranches, it is crucial for professionals, including architects, veterinary doctors, and allied experts, to collaborate and provide their expertise in shaping the implementation of these policies. Standardizing the subsistence Igbo cattle breeding methods scattered across

Igbo land requires a comprehensive approach and careful consideration of the architectural aspects to ensure the success and sustainability of the conservation efforts.

By adopting architectural strategies and integrating them into conservation planning and management, it is possible to conserve and preserve the historic Igbo cattle heritage. This will not only contribute to the economic development and sustainable agriculture but also ensure the preservation of cultural identity and heritage for future generations. The collaboration of various stakeholders and the commitment to architectural interventions will play a vital role in the successful conservation of Igbo cattle and the promotion of a harmonious coexistence between humans and animals.

Recommendation

The following comprehensive recommendations were made:

1. Collaboration between Professionals: Professionals from various fields, including architects, veterinary doctors, and other allied professionals, should come together and collaborate on designing comprehensive strategies for the conservation of Igbo cattle. This collaboration will ensure a multidisciplinary approach to address the challenges and opportunities associated with the conservation efforts.
2. Development of Architectural Guidelines: It is crucial to develop architectural guidelines specifically tailored to the conservation of Igbo cattle. These guidelines should encompass the design and construction of cattle ranches, handling facilities, and other infrastructure necessary for cattle breeding and preservation. The guidelines should consider the specific needs and behaviors of Igbo cattle to ensure their well-being, health, and productivity.
3. Adoption of Sustainable Practices: Conservation efforts should prioritize sustainable practices that minimize the ecological impact of cattle breeding. The design of cattle ranches and infrastructure should incorporate environmentally conscious strategies such as efficient waste management, renewable energy sources, water conservation, and integration with the natural landscape.
4. Education and Awareness: Public awareness and education programs should be developed to highlight the cultural, economic, and environmental significance of conserving Igbo cattle. These programs can target local communities, farmers, policymakers, and the general public to promote understanding and support for conservation initiatives. By raising awareness about the unique attributes and benefits of Igbo cattle, it may foster pride and appreciation for the indigenous breed.
5. Policy Integration: Conservation policies and regulations should be integrated into broader architectural development plans. This integration will ensure that the conservation of

Igbo cattle is considered in all aspects of architectural design and development. National policies should also be developed to provide a framework for the conservation and management of indigenous cattle breeds across Nigeria, with specific emphasis on the Igbo cattle.

6. Preservation of Cultural Identity: The conservation of Igbo cattle should be seen as a means to preserve the cultural identity of the Igbo people. Architectural strategies should aim to create an atmosphere that reflects and celebrates the cultural heritage associated with Igbo cattle breeding. This can be achieved through the design of culturally appropriate and aesthetically pleasing cattle ranches, public spaces, and infrastructure.
7. Research and Monitoring: Continuous research and monitoring efforts should be conducted to assess the effectiveness of architectural strategies in conserving Igbo cattle. This research should focus on the impact of design interventions on cattle health, productivity, and overall conservation goals. Regular monitoring will provide valuable insights and enable adaptive management approaches to be implemented.
8. Capacity Building: Capacity-building initiatives should be undertaken to empower local communities, farmers, and professionals with the knowledge and skills necessary for the successful implementation of architectural strategies in cattle conservation. Training programs, workshops, and knowledge exchange platforms can be organized to disseminate best practices and build expertise in the field.
9. Public-Private Partnerships: Collaboration between public and private stakeholders is crucial for the sustainable conservation of Igbo cattle. Public- private partnerships can provide the necessary resources, expertise, and investment to support architectural strategies and ensure their long-term viability. These partnerships can also facilitate the establishment of well- managed cattle ranches and breeding centers.
10. Promotion of Local Economic Opportunities: Conservation efforts should be linked to local economic opportunities to enhance their viability and sustainability. Architectural strategies should consider the potential for agro-tourism, eco-friendly agriculture, and the production of high-quality indigenous cattle products. This can contribute to the economic development of the region while reinforcing the value of conserving Igbo cattle.

By implementing these recommendations, the conservation of Igbo cattle can be effectively supported through the strategic use of architecture. This approach aims to preserve the cultural economic and environmental significance of Igbo cattle for future generations. However, achieving these objectives will not be a straightforward task, as the current state of Igbo cattle breeding practices is characterized by fragmented and outdated subsistence methods. To address this challenge, it is crucial for professionals,

such as architects, agricultural engineers, veterinary doctors and other related experts, to come together and engage in a comprehensive discussion.

This collaborative effort entails convening a roundtable discussion where professionals can pool their expertise and knowledge. Architects can contribute their insights on designing appropriate infrastructure and facilities that cater to the unique needs of Igbo cattle breeding. Veterinary doctors can provide valuable insights into best practices for animal welfare, health, and disease prevention. Other allied professionals, such as agricultural experts and environmental scientists, can offer their expertise in sustainable land use, ecological preservation, and resource management.
Through these collaborative approach, the aim is to leverage the potential of the upcoming fourth revolution, characterized by advancements in technology and innovation, to transform the Igbo cattle breeding landscape. This requires a collective effort to shape and guide the trajectory of this revolution, ensuring it aligns with the specific needs and aspirations of the local community and future generations.

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