



STATUS OF BATTERY CAGE FARMING IN KENYA

JUNE 2020

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AFRICA NETWORK FOR ANIMAL WELFARE (ANAW) 2020

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Acknowledgement

Foremost, it is a genuine pleasure to express a deep sense of gratitude to the Open Wing Alliance for their financial support in ensuring the successful execution of this study.

We acknowledge with thanks the kind of patronage, loving inspiration and timely guidance offered by the leadership of Africa Network for Animal Welfare (ANAW) in particular the Executive Director, Josphat Ngonyo, Director of Programs, Josiah Ojwang', Director of Research and Development, Purity Karuga as well as the Director of Policy & Public Affairs, Benson Wachira for their tireless support and leadership in the implementation of this study.

We are highly indebted to the County Directors of Veterinary Services and Livestock Production within the forty-seven counties that constitute the Republic of Kenya, as well as the countless poultry farmers we visited. Their support in availing rich and all-inclusive data has facilitated the development of this report.

Finally, we thank profusely all the ANAW staff members that worked determinedly and diligently to guarantee the successful execution and completion of this research.

Executive Summary

Utilization of the battery cage system has been globally criticized for its violation of poultry welfarism, subjectivity, and sentience. The confinement associated with this poultry management system severely impairs the birds' welfare, as they are unable to express their natural behavior hence compromising their overall physical and psychological well-being. Extensive scientific evidence has shown that intensively confined farm animals are frustrated, distressed, and suffering. Most cages hold 5-10 birds affording an average space allowance of just 440-550 cm² (65-84 inches squared) per bird, which translates an amount of floor space smaller than a single A4 sheet of paper. These cages curtail a myriad of natural behaviors, including nesting, perching, dustbathing, scratching, foraging, running, jumping, flying, stretching, wing-flapping, and even walking. Furthermore, the severe confinement restricts physical movement leading to metabolic disorders, including cage osteoporosis and liver damage. Despite its ban in Europe and specific states in North America, the use of battery cages has gained a strong footing in Sub-Saharan Africa being evinced in almost all countries in our continent.

An assessment on the adoption of battery cages as a means of poultry production in Kenya revealed that their use is increasingly gaining popularity among small-scale peri-urban and urban farmers. The system was shown to have been adopted within close to half of the counties within Kenya with the target market being the urban populace. Despite the low adoption of the cage system with a majority of the poultry being raised under free-range, 41.26% of respondents indicated that a few elite farmers had already incorporated the use of battery cages further suggesting that the system is rapidly gaining popularity among other farmers. Key counties identified to have adopted the use of battery cages include Migori, Bungoma, Nyeri, Uasin Gishu, Isiolo, Busia, Kericho, TransNzoia, Kirinyaga, Embu, Bomet, Kiambu, Nyamira, Laikipia, Tana River, Kisii, Nakuru, Taita-Taveta, Meru, Homa Bay, Muranga, Machakos, Narok, Lamu, Kisumu, Elgeyo-Marakwet and Marsabit. It was identified that cognizance on poultry welfare issues associated with use of battery cages was low among farmers as well as businesspeople involved in the importation, sale, and supply of the cages. 70.49% of county officials indicated that most battery cage suppliers and farmers are keen on profits and view animal welfare as a foreign concept.

Consumer behavior especially their attitudes and preferences that affect buying behavior of products derived from poultry raised in battery cages was noted to be a less contributing factor as a criterion for purchase. 84.12% of county officials believe that consumers of poultry products raised under battery cage systems are not interested in the means of production nor the compromised welfare state of the birds. Consumers consider factors that include size, fat content, presentation of chicken, meat, and color of eggs. Consumers were mentioned to be ignorant of the origin of the products, the type of management system used to rear the birds, irresponsible use of antibiotics and growth promoters, the means of transportation used to deliver them to the market and general food safety.

Finally, poultry welfare is not well articulated nor appreciated among consumers who are more fascinated by the end product rather than the means of production utilized.

Introduction

Scientific research has confirmed that conventional cage systems repudiate birds the opportunity to exhibit a number of key behaviors which are fundamental to their welfare, resulting in increased levels of frustration, pain, and stress (Bradford 2017). These vital behaviors include the opportunity to build a nest, preen, stretch, and flap their wings, perch, and dust-bathe (Duncan, 2001). Chickens facing environmental conditions that deny them important inherent behaviors attempt to find ways to cope in these environments. Their behavior then takes on abnormal patterns, becoming directed towards self or against cage mates and including such problems as feather pecking, cannibalism, or other stereotypic behaviors (Michael.B 2017).

Global Perspective

The whole of the European Union and the United Kingdom have legally phased out battery cages, and Canada and New Zealand are currently phasing them out based on scientific reviews. For an industry to be sustainable it needs to be able to adapt to changing market demands. In Australia, more and more people have been buying cage-free eggs at the supermarket over the past 5 years. Seven out of ten consumers are concerned about battery cages, and many consumers and businesses are already choosing cage-free eggs. In fact, fresh cage-free eggs now represent the highest value to the egg industry, in terms of grocery sales. Despite this, more than 11 million-layer hens, around two-thirds of all layer hens in Australia, are still confined to battery cages since many of these eggs are still being used in manufacturing and food services. Since consumers are increasingly demanding eggs which are not from hens in battery cages, the egg industry and government need to respond to this shift in demand and public concern. Given that this change in demand does not happen overnight, there is no expectation that producers would need to change overnight. A phase out of battery cages can be done over a controlled and appropriate timeline, to allow producers to make the necessary changes to their infrastructure.

During the second half of the 20th century, in response to the growing pressure from environmental movements and organisations, European countries began to abandon rearing laying hens in battery cages, which were so far considered the most efficient husbandry system. Council Directive 1999/74/EC has banned housing laying hens in conventional cages effective from 1 January 2012, and only housing in enriched cages is allowed (Windhorst 2006). Enriched cages are often called furnished or modified. They combine the main advantages of battery cage systems as intensity, maintenance of better hygienic parameters, restricted contact among birds and between birds and manure, better production indices, more efficient use of electrical energy, litter, and veterinary medications. On the other side, furnished cages provide a larger living area for the bird, as well as perches, nests and other "enrichments" for satisfying the natural biological needs of poultry ensures the humane aspect of cage husbandry systems for laying hens. In some EC countries (Austria, Belgium), a trend to complete ban on battery cage rearing during the next decade is observed. In Switzerland, cage systems for laying hens, both in conventional and enriched cages, are completely prohibited (Pickett H 2007).

Michigan became the fifth and largest egg-producing state to enact a "cage-free" egg law. On November 22, 2019, Michigan Lt. Gov. Garin Gilchrist signed a Senate Bill 174 into law on behalf of Gov. Gretchen Whitmer. This law banned the production and sale of eggs produced by hens kept in cages with a five-year phase-in period; all eggs produced and sold in the state must be

sourced from cage-free operations by December 31, 2024. Oregon, Washington, and California also prohibit the production and sale of eggs obtained from caged hens. In addition, Massachusetts has passed what is considered a “cage-free” law — although the legislation does not reference cages specifically, its minimum space requirements for hens, by the egg industry’s own definition, requires a de facto shift to cage-free housing (Pallota 2020).

African Status

In the March 2017 issue of *Poultry Bulletin*, published by the South Africa Poultry Association (SAPA), carried a huge spread titled ‘The Cage Free Revolution’ that warned egg farmers that the cage-free revolution is moving rapidly through the world and the South African egg industry should make sure that they are prepared to accommodate the change. As for the rest of Africa, the caged system is still gaining momentum with its adoption in almost all the nations in the continent.

In Kenya, poultry farming has been on the rise on the last 15 years. It has dramatically changed, moving from traditionally small family farms to a large agricultural industry (Agricultural Sector Development Strategy in Kenya 2010- 2020). An in-depth analysis of the legislative framework governing the poultry industry in Kenya depicts that battery cage system is neither enacted nor unauthorized. The paucity and inadequacy of legislation has boosted the utilisation of the cage system in rearing egg-laying chicken among a growing number of small-scale farmers within several counties in the country targeting consumers residing in peri-urban and urban centres. This scarcity has also propelled the importation, acquisition, and supply of the battery cages from outside countries where their ethical use has been questioned and subsequently banned due to raised welfare concerns. Disguised with the prospective of alleviating poverty through job creation and upholding food security among the low-income earners in Kenya, the battery cage system is bound to make a strong foothold within Kenya. No contemporary legal instrument oversees the practice providing for consumer rights exploitation and abuse of animal welfare freedoms (Muriithi, 2020).

In an effort to establish the current status of battery cage use in Kenya, Africa Network for Animal Welfare with the support of Open Wing Alliance, commissioned an online survey in June 2020 targeting the County Directors of Veterinary Services and Livestock Production within the forty-seven counties that constitute the Republic of Kenya. In July 2020, poultry farm visits were also conducted through targeted sampling to assess for poultry welfare concerns as well as farmers’ perception and view on the use of battery cages as a poultry production system.

Study Objective

To assess the prevalence and status of poultry battery caging as a livestock management system in Kenya by reviewing the practice in the forty-seven counties that constitute the Republic of Kenya.

Sub-Objectives

1. To identify specific geographical zones that practice poultry battery caging within the 47 counties.
2. To identify stakeholders’ knowledge (including views and perspectives) on poultry battery caging and its associated animal welfare issues.

3. To understand the varying drivers of battery cage use among Kenyan poultry farmers.
4. To establish a baseline for future assessment on the status of poultry management in the country.

Study Scope

The study scope encompassed the 47 counties of the Republic of Kenya targeting the County Directors of Veterinary Services and Livestock Production.



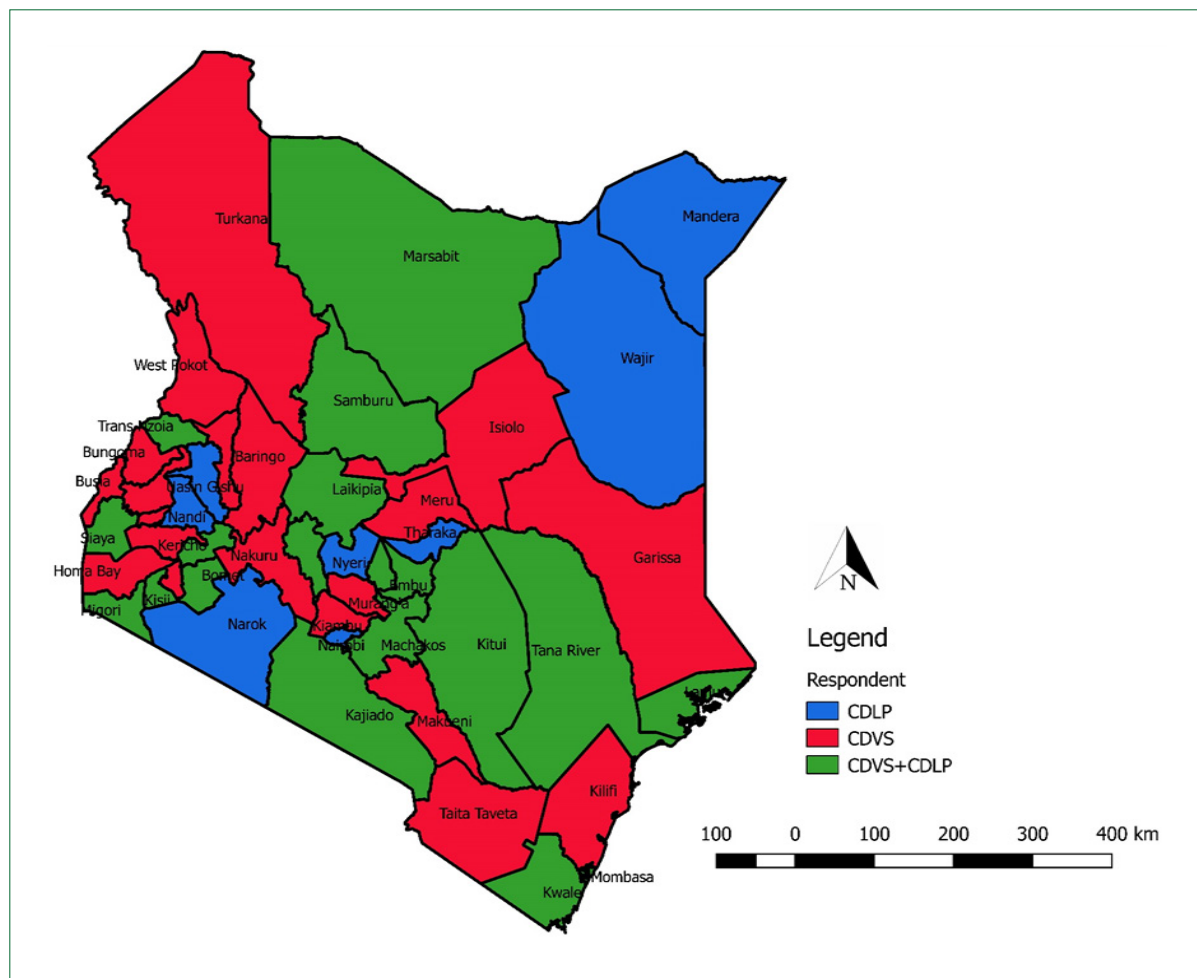
Methodology

Phase 1 - Personalized interviews by use of comprehensive questionnaires targeting County Directors of Veterinary Service and Production within the 47 counties that constitute the Republic of Kenya. SurveyMonkey an online survey development cloud-based software used to administer the survey.

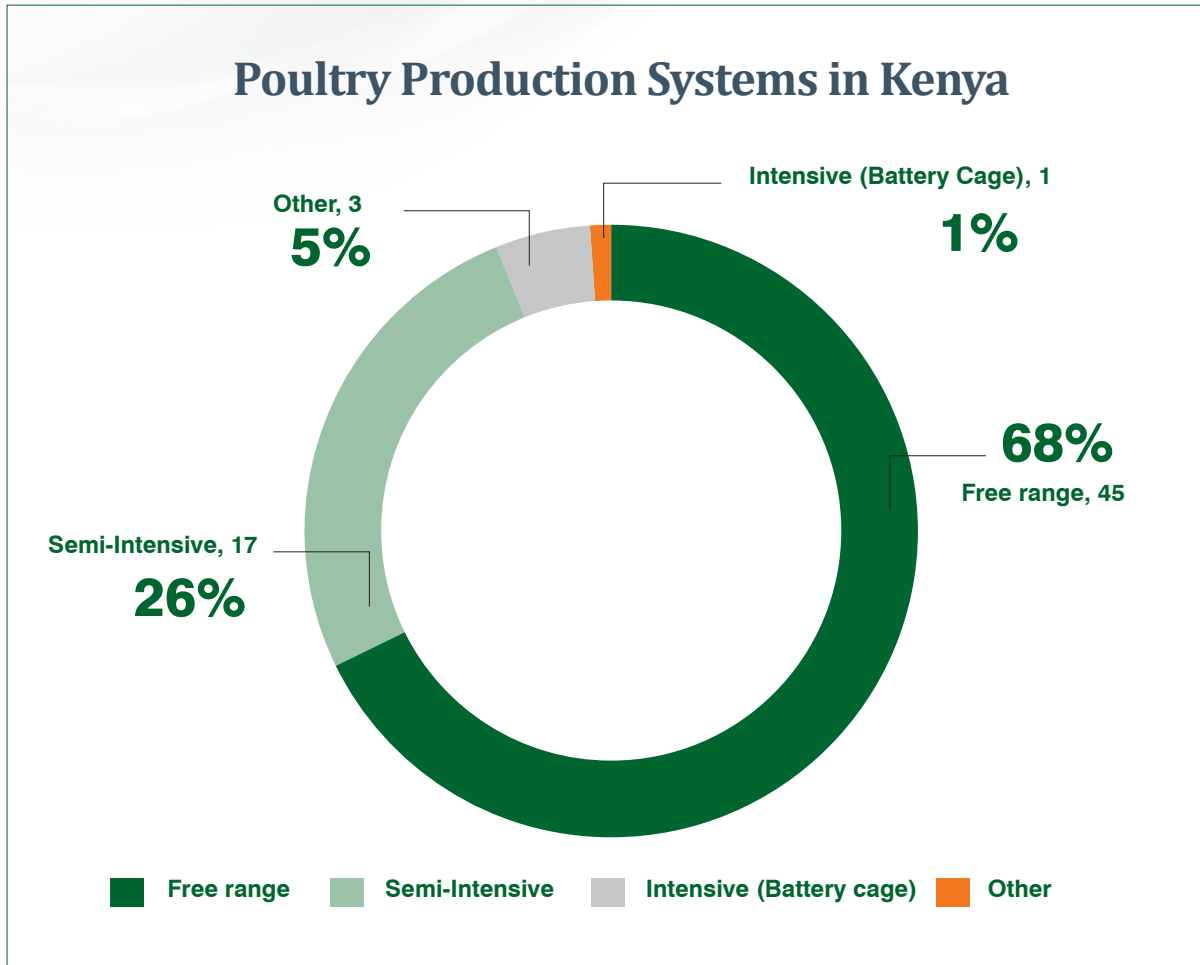
Phase 2 – Targeted/Purposed Poultry Farm Visits within 6 Counties.

Study Findings – Phase 1

66 out of the 94 intended responses (70.21%) were received encompassing views of both County Directors of Veterinary Services and Livestock Production (CDVSs and CDLPs) within the 47 Counties in Kenya. CDVS responses accounted for 38 of the total responses (57.58%) while the CDLP were 27 (40.90%).



Free-range poultry production was highlighted as the most common system adopted by most poultry farmers in the country at 68% (45/66) followed by Semi-Intensive at 26% (17/66), Intensive (battery cage) at 1% and other forms of production at 5% (3/66).



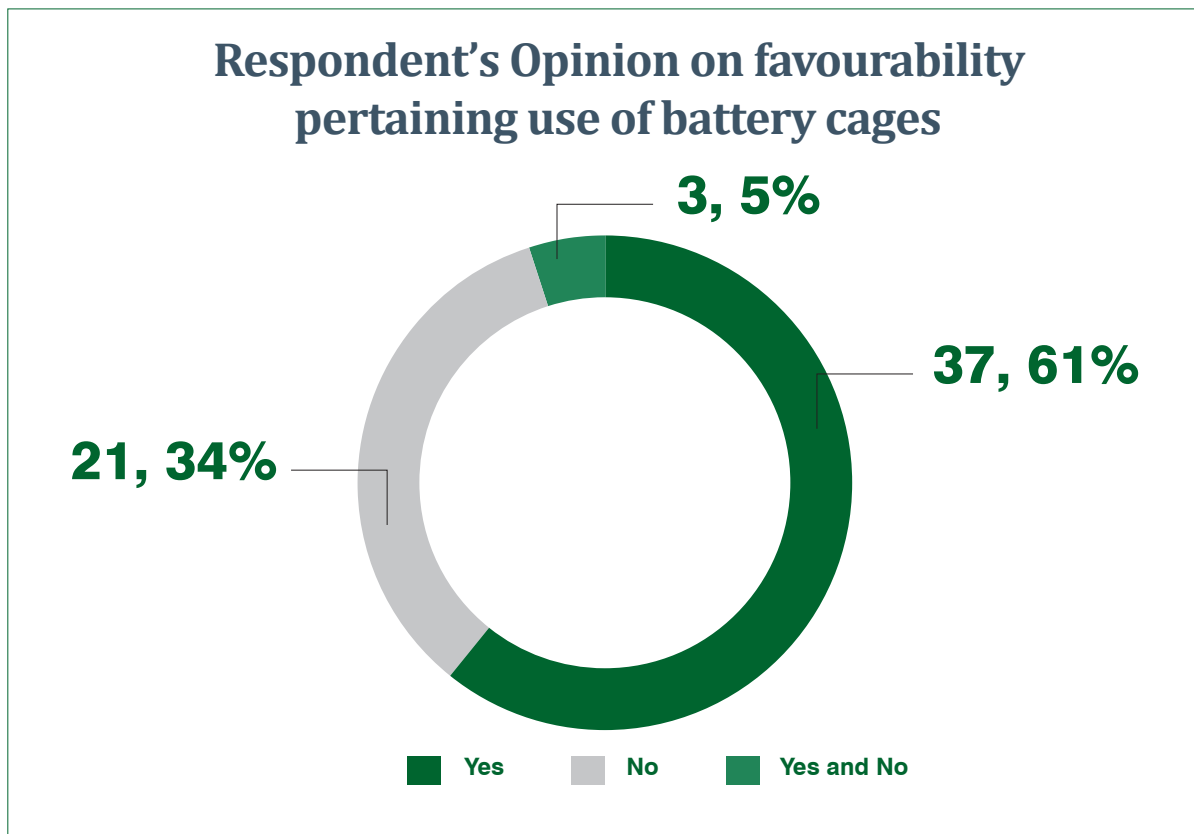
The Kienyeji breed (Local) was identified as the most common chicken breed prevalent in the country followed by the improved Kienyeji. These breeds were favored due to their resilience in warding off diseases as well as their preferred healthy products.

Chicken Breed	Responses
Improved Kienyeji	1
Indigenous	46
Exotic	2
Broilers	2
Indigenous and Improved Kienyeji	8
Mixed Breeds	4

Commercial Poultry production was noted to be low in a majority of the counties with 61.90% (39/63) of the respondents highlighting that it is not a common practice in comparison to the 38.1% that said it is widespread. 94% (59/63) of respondents indicated that use of battery cages is not a common poultry management technique that is prevalent in their county. Only 6 % (4/63) said that it has

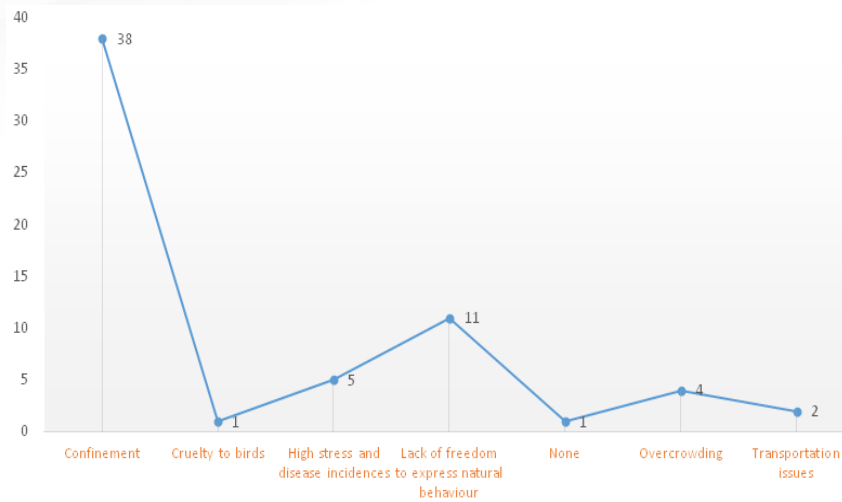
been adopted. In view of poultry management systems adopted in the 47 counties, battery cages accounted for 1% based on 66 responses obtained. A high investment cost was coined as the main limiting factor averting the adoption of this practice among farmers in the country. Farmers preferred more cheaper management systems such as the deep litter system that is less capital intensive. Despite the low adoption of the cage system, 41.26% of respondents (26/63) indicated that a few elite farmers had already incorporated the use of battery cages further suggesting that the system is rapidly gaining popularity among in the country. Key counties identified to have adopted the use of battery cages include Migori, Bungoma, Nyeri, Uasin Gishu, Isiolo, Busia, Kericho, TransNzoia, Kirinyaga, Embu, Bomet, Kiambu, Nyamira, Laikipia, Tana River, Kisii, Nakuru, Taita-Taveta, Meru, Homa Bay, Muranga, Machakos, Narok, Lamu, Kisumu, Elgeyo-Marakwet and Marsabit.

61% of respondents held the opinion that the use of battery cages as a poultry management system is not a favorable production technique highlighting concerns with compromised welfare and the high investment attached to it. However, 34% of respondents believed that the adoption of the system would be beneficial due to its proficiency in enhancing biosecurity, reduction in labor cost, better disease monitoring and surveillance, effective resource use as well as economizing on space.



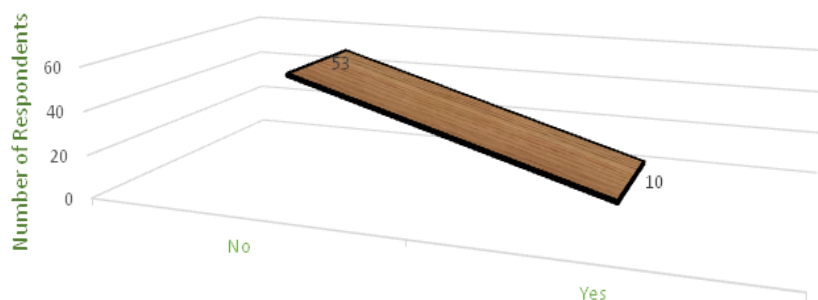
Confinement resulting in restricted movement was highlighted as the main welfare issue associated with the use of battery cages accounting for 61.29% (38/62) of the responses. Other key welfare concerns highlighted included a lack of freedom to express natural behavior (17.74%), high stress and increased disease incidences (8.06%), overcrowding (6.45%), poor handling during transportation (3.22%) and cruelty (1.61%). 1.61% of respondents saw no welfare issues associated with the use of cages. Development of stereotypic behavior due to high levels of stress was also mentioned. This subsequently resulted in fights and incidences of cannibalism among the birds. The cage structure caused excessive rubbing against the wire resulting in loss of feathers, development of blisters and traumatic injuries i.e. bone fractures.

Poultry Welfare Issues associated with use of battery cages



Awareness on poultry welfare issues associated with use of battery cages was shown to be low among farmers as well as businesspeople involved in the importation, sale, and supply of the cages. 70.49% (43/61) of respondents indicated that most battery cage suppliers and farmers are keen on profits and view animal welfare as a foreign concept. Farmers are more interested in maximizing space while boosting their income. Others highlighted that farmers may be aware of these welfare issues but chose to ignore them due to more pressing social issues such as poverty alleviation, creation of employment and income generation. One response indicates that animal welfare is an alien phrase among the farming community being evidenced by how poorly poultry and other livestock are reared. A varied notion put forward suggests that battery cage suppliers may be aware of the welfare issues associated with cages but withhold such information fearing farmers may opt not to purchase the cages. The response further states that suppliers will only advertise on the benefits of battery cages without indicating its disadvantages and risk to poultry welfare. A substantial knowledge gap exists among poultry farmers and battery cage suppliers regarding poultry sentience and welfarism. Farmers lack sensitization and education forums to learn on poultry welfare and its significance in enhancing productivity.

Consumerism Preference



	No	Yes
Total	53	10

Consumer behavior especially their attitudes and preferences that affect buying behavior of products derived from poultry raised in battery cages was noted to be a less contributing factor as a criterion for purchase. 84.12% of respondents (53/63) believe that consumers of poultry products raised under battery cage systems are not interested in the means of production nor the compromised welfare state of the birds. The biggest criteria used in purchase was visual assessment of eggs and whether products are from indigenous (Kienyeji) chicken which consumers were more inclined towards. Consumers consider factors that include size, fat content, presentation of chicken, meat, and color of eggs. Consumers were mentioned to be ignorant of the origin of the products, the type of management system used to rear the birds, irresponsible use of antibiotics and growth promoters, the means of transportation used to deliver them to the market and general food safety. There lacks traceability of the production process. It was highlighted that most consumers lack awareness on criteria used to ascertain food safety and security. Poultry welfare is not well articulated nor appreciated among consumers who are more fascinated by the end product rather than the means of production utilized.

Poultry Farm Visits - Phase 2

The key objective of the poultry farm visits was to conduct a comprehensive welfare assessment of egg-laying chicken reared under the battery cage system. The visits were also intended to enhance the team's understanding of farmers' perceptions and ideologies regarding the adoption of this system and why they are more inclined to it as compared to the other systems. The following were the key highlights established from the 6 counties sampled.



Figure 2: Consultative meeting with the chicken farmers at the Bomet County Veterinary Office

Bomet County

The farmers in this county have adopted the cage system for a while now, some having begun as early as 2015. A few of the farmers began rearing chicken using the free-range system but later shifted to battery cage farming due to space constraints. The main chicken breeds kept in cages in this county include - **Rhode Island Red** and the **Improved Kienyeji**. According to the farmers, the system has several advantages as follows:

- The system is easy to manage with low labor input.
- There is reduced cases of cannibalism.
- It is easy to identify any abnormality in a specific chicken if they fall sick.
- It is easy to isolate/ quarantine sick birds which can be kept in another room.
- It is cleaner/ more hygienic than other production systems as the excrement falls to the floor.

- The birds have easier access to clean water (24/7) as compared to other production systems where the birds pour the water or contaminate it with their excreta.
- The birds do not waste food minimizing on losses.
- There are minimal egg breakages.

Disadvantages of the system from their point of view included:

- The birds appear to be stressed in the cage.
- Vent pecking during egg laying.
- Feather pecking as they birds are crowded in the cages.
- Birds tend to get overweight increasing their susceptibility to sudden death syndrome.

Challenges involved with the poultry business included:

- Difficulty in accessing chicken vaccines in large numbers.
- There is a disconnect between the farmers and the county veterinary department in terms of provision of veterinary services and training.
- Flooding of the egg market with eggs from Uganda which are cheaper than the eggs they produce hence increased losses.
- The price of poultry feeds keeps fluctuating eating into the profits of the farmers.



Figure 3: Dr Dennis Bahati (ANAW Veterinarian) assessing the welfare status of caged birds at a poultry farm in Kisii County.



Figure 4: A highlight of chicken reared in a battery cage with marked feather loss at the neck and crop area

Kisii County

Remarks from the county officials indicated that farmers in this county kept chicken either in the free-range system or deep litter systems with a few of them intensifying their farming by adopting the battery cage system. The most common chicken breed reared is the Improved Kienyeji sourced from Kenchic Limited. The farmers key target market include big hotels in the town. Records from the County Veterinary Office showed the poultry population in the county to be as follows (*this is per the 2019 census*) - Indigenous chicken 936,213, Exotic layers 122,621, Exotic broilers 26,064.

According to the farmers, the battery cage system has the following merits:

- There are fewer cases of poultry diseases as the chicken do not come into contact with their excreta.
- It is easy to keep track of which chicken is not laying to facilitate culling.

- It is easy to identify the sick birds and administer treatment.

The demerits of this system included:

- Cannibalism when the birds are laying eggs leading to wounds on the vent. This is seen mostly with the top tier cages where the birds are next to each other. The birds in the opposite cage will peck their counterpart as they lay eggs.
- Feather pecking thus some birds do not have feathers around the neck.
- The birds are very susceptible to stress and any small stress can result in a decrease in egg production.
- Flooding of Ugandan eggs in the market leads to a drop in egg prices.
- Scarcity of supplements in the market.

Kericho County

Kericho County had both commercial and indigenous poultry farming where most of the commercial farmers kept birds under the deep litter system. The Deputy Director of Veterinary Services in the county was aware of battery cages being banned in the European Union but was not aware of its status in Kenya. The owners spoke to us about the pros and cons of battery cage farming as follows:

Pros:

- It is easy to manage the amount of feed the chicken consume to reduce on wastage.
- The chicken excreta can be collected with ease and used to produce fertilizer.
- Biosecurity and biosafety of the farm is easy to uphold with this system.
- It is easy to manage the chicken with this system.

Cons:

- Excess excrement from the chicken gets washed off into neighboring farms hence a source of conflict.



Figure 6: Pure Layer chicken in the battery cage system in Narok County

Narok County

The County Veterinary Department confirmed that indeed there was battery cage farming in the county. The target farmer had been practicing chicken farming for the past 9 years and had initially began with deep litter system and later shifted to battery cages. The adoption of the cage system was due to:

- Reduced cases of cannibalism.
- It is easy to identify any abnormality in a specific chicken if they fall sick.
- It is easy to isolate/ quarantine sick birds which can be kept in another room.
- It is cleaner/ more hygienic than other production systems as the excrement falls to the floor.
- There are minimal egg breakages.



Figure 5: The ANAW team conducting a consultative meeting with the county veterinary officers



Figure 7: Pure Layer birds in the battery cages in Nyeri County

Nyeri County

This county mainly practices deep litter system as battery cage farming is capital intensive thus it is not a viable option for many farmers. The County Veterinary officers opined that battery cage farming is good for job creation but on the other hand is detrimental to the welfare of the poultry kept in the cages. The visited farm had 70,000 chicken in cages and supplied eggs to a well-known bakery. Their reason for choosing the battery cage system was similar to the other farmers; good utilization of space, low labor input, minimal egg breakages and improved biosecurity. The team also interacted with small scale farmers who practiced both the deep litter system and free-range system. They preferred to use these respective systems because setting up the battery cage system is costly but would definitely go for battery cages as soon as they are able to afford it.

Meru County

Battery cage farming though present is not a widespread practice in this county according to the County Veterinary Department. The team visited one farm to confirm the presence of the practice and there were 17,000 birds on this farm according to the manager. The reasons for choosing battery cages over the other systems included:

- Effective management of space. Cages took up to 2.5 times less space as compared to the deep litter system for the same number of birds.
- It is easy to maintain good hygiene and sanitation reducing disease incidences.

The main disadvantage of using this system was poor waste management due to the huge number of birds on the premises. There is a lot of excreta produced that needs to be disposed safely according to the National Environmental Management Authority regulations.



Figure 8: Chicken in the battery cages on the farm in Meru

Discussion

A majority of the farmers interviewed were aware of the welfare issues associated with battery cage farming. Common welfare issues highlighted included restricted movement, lack of exercise and increased stress levels. Despite being cognizant of these welfare issues, most farmers were more eager to expand their chicken farming practice as well as encourage other farmers to adopt the system. For these farmers, the profits they derive from this type of farming far outweigh the suffering and cruelty inflicted on the birds. Only one farm manager was aware of alternative options for battery cage farming where the welfare of the birds is taken into consideration and was willing to incorporate it in his farm.

Conclusion

From the study, free-range poultry production was the most common system adopted by poultry farmers in the country at 68% followed by semi-intensive at 26%, intensive (battery cage) at 1% and other forms of production at 5%. Commercial poultry production was low in most counties at 38% and 94% of the respondents indicated that the use of battery cages is not a common practice in their counties. A high investment cost was coined as the main limiting factor averting the adoption of this practice among farmers in the country, farmers preferred cheaper management systems such as the deep litter system that is less capital intensive. Even though battery cage farming is not widespread, 41% of respondents indicated that a few elite farmers had already incorporated the use of battery cages further suggesting that the system is rapidly gaining popularity in the country. The counties identified to have adopted the use of battery cages include Migori, Bungoma, Nyeri, Uasin Gishu, Isiolo, Busia, Kericho, TransNzoia, Kirinyaga, Embu, Bomet, Kiambu, Nyamira, Laikipia, Tana River, Kisii, Nakuru, Taita-Taveta, Meru, Homa Bay, Muranga, Machakos, Narok, Lamu, Kisumu, Elgeyo-Marakwet and Marsabit.

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From the farm visits, the drivers of battery cage use among Kenyan poultry farmers included low labor input, reduced cases of cannibalism, better hygienic standards, minimal egg breakages, ease in identifying and isolation of sick animals, reduced wastage of feed and water along with increased biosafety and biosecurity with this system. Many of the farmers interviewed were aware of the welfare issues associated with battery cage farming but the profits they derive from this system far outweigh the suffering the birds undergo. Only one farmer was aware of alternative options of battery cage farming that take into consideration the welfare of the birds and was willing to incorporate it in his farm.

Recommendations

A substantial knowledge gap exists among poultry farmers and battery cage suppliers regarding poultry sentience and welfarism. Farmers lack sensitization and education forums to learn on poultry welfare and its significance in enhancing productivity thus would benefit greatly from forums that educate them on animal welfarism, sentience and how this is linked to improved productivity. There is need to expand the scope and conduct more poultry farm visits so as to get a more holistic view of the status of battery cage use in the other counties in the Country.

Despite having a background in animal health and welfare, some County Veterinary Officials were supportive of the adoption of the battery cage system in their counties. An awareness campaign is also needed to sensitive county officials on the detriments of the cage system as a form of cruelty to caged birds.

A study on public perception and views on the systems used to rear chicken and whether it affects their purchasing preference is needed. This will inform adoption of effective tools for cage-free campaigns within Kenya.

It was noted that consumers are also unaware of poultry welfare issues, the source of their products and how they were handled before it gets to their plates. There is need for education forums to educate consumers on poultry welfare and how it affects the quality of their products so that they can demand for quality products forcing the producers/farmers to adhere to good welfare practices and proper production standards.

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Africa Network for Animal Welfare (ANAW) is an indigenous Pan-African non-governmental organization which works to sustain animals as sentient beings through showing them compassion, care, and appreciation. We achieve this by influencing policy, community empowerment, advocacy and attitude change.

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