

Received : 07.07.2022 | Accepted : 14.09.2022 | Online published : 01.10.2022

https://doi.org/10.54986/irjee/2022/oct_dec/38-41I
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EXTENSION
EDUCATION

THEMATIC ARTICLE

Perceived Biological Attributes of the Wayanad Dwarf Cattle – A Qualitative Study Using Thematic Analysis

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ABSTRACT

The Wayanad Dwarf Cattle have been reared traditionally by the Kuruma tribes of Wayanad district of Kerala. This paper uses unstructured interviews with thematic analysis of interviews to explore the perceptions of the Kuruma cattle keepers about the important biological attributes of the Wayanad Dwarf Cattle. The results of the study shed light on important perceived biological attributes of the Wayanad Dwarf Cattle such as the perceived higher milk non-fat solid and fat, higher quality of animal dung, the fact that these animals did could be reared without feeding them expensive concentrates. The hardiness of the Wayanad Dwarf Cattle was also an important perceived biological attribute with the ensuring advantages of very minimum housing facilities, rare incidence of diseases and their ability to withstand extremes of climate and terrain. Important recurring themes in this regard included the adaptable nature of the animal in seasons of water scarcity and their unique grazing behaviour wherein they used their straight pointed horns to dig on the hard barks of the tall trees of the Wayanad forests, for feeding on the exposed softer, green, inner parts of tree stems. Policy interventions to for sustainable community based conservation of the Wayanad Dwarf Cattle would inevitably have to take into consideration the perceptions of the traditional stakeholders in this sector.

Key words : Wayanad dwarf cattle; Attributes of native cattle; Perception.

Global conservation discourse has often given limited importance to the voice of the indigenous people (DeGeorges and Reilly, 2009). Previous approaches to conservation especially those centred upon the management of protected areas have their foundations rooted on ordered ecological systems that were undisturbed by humans (Wu and Loucks, 1995). Of late however, these views have now been replaced with approaches that see the ecosystem and the current global context - for that matter- as the result of a complex interplay between activities of economic and political origin and changes in the environment and climate accompanied by transformative changes on the social and cultural plane. This new understanding has rephrased the current practice of conservation in such a manner that it accounts for anticipated future threats while at the same time ensuring that sufficient room to accommodate various genetic and ecological processes that result from communities responding

to change are made. These socio ecological systems are the results of the interaction of communities with their landscapes such as folklore, agro biodiversity and food sovereignty and it is this long process of interaction that makes them sustainable. Indigenous communities in their traditional or ancestral environments are intrinsic elements of these social ecological environment that have been shaped by very long process of interdependency co-evolution. Their role in the conservation of native animals has to find a place in modern day conservation discourse and this study sought to specifically explore the perceptions of such a community in this regard. The community studied are the Kuruma community, who are the reported traditional keepers of the Wayanad dwarf cattle. These cattle have been reported from the tribal settlements of the Kurichiat Range of the Wayanad Wildlife and Muthanga Wildlife sanctuaries as well as from the Periya area of Manathavady block

in Wayanad district and from the catchment areas of the Karapuzha Dam (*Kerala Biodiversity Board, 2016*).

METHODOLOGY

Wayanad district of Kerala state was purposively selected for this study based on reports that indicated that the Wayanad Dwarf cattle were native to this district of the state (*Dinesh, et al 2008; Kerala Biodiversity Board, 2016; Anilkumar, 2018*). The panchayats of Wayanad district with a significant population of the Wayanad Dwarf cattle were then identified from identified Key Informant officials of the Department of Animal Husbandry, Government of Kerala. These panchayats were Noolpuzha, Amabalavayal, Thirunelly and Thavinhah. The focus of the perceived attributes of the Wayanad Dwarf cattle as reported by the keepers of these cattle and as constructed by them using their contextual and personal frames of reference in their daily life as they engage in the stewardship of this animal. Keeping in mind the objective of this study to gain an understanding of the perceptions of the respondents about the attributes of the Wayanad Dwarf Cattle, an interpretative/constructivist research design was used for the study. The interpretative/constructivist paradigm based on the epistemology of idealism and exploration was used for this study. Initial data for preparation of the broad areas of the interview guide relating to the attributes of the Wayanad Dwarf Cattle were arrived at by conducting unstructured interviews with sets of 5 key informants in the identified tribal hamlets of Noolpuzha, Amabalavayal, Thirunelly and Thavinhah. The interview guide was then pretested among eight non sample respondents from Noolpuzha, Amabalavayal, Thirunelly and Thavinhah panchayats.. This pretested interview guide was then used to collect data relating to the attributes of the Wayanad Dwarf cattle from 12 respondents selected at random from the list of Wayanad Dwarf cattle keepers in these four panchayats. Repeated interviews to further probe any further details were conducted wherever felt necessary. Thematic analysis of the interviews for was undertaken as per the procedure of *Braun and Clarke (2006)*. In the first step the data in each of the interviews was transcribed, read and re read and ideas generated during discussions with the respondents were noted. Important features across the entire data set were then coded and data relevant to each code were then collated. Themes were then generated by collating codes and gathering

data from the interviews that were relevant to each theme. Each theme was then reviewed at two levels; the first check was to ascertain if the theme matched the coded extracts whereas the second check was focused on whether the theme matched the entire data set. Themes were further refined by reanalysis to arrive at clearer themes. Various themes arrived at during the process were then combined to obtain the text of the biological attributes of the Wayanad Dwarf Cattle as perceived by the keepers of the Wayanad Dwarf Cattle.

RESULTS AND DISCUSSION

Theme 1: Milk and dung of the Wayanad dwarf cattle : Analysis of the interview transcripts revealed the recurring theme aired by the respondent farmers that highlighted the fact that although the milk yield of the Wayanad cow was low, the milk was high in non-fat solid and fat. Besides this, the respondent farmers also held the belief that the milk of the Wayanad dwarf cow and all value-added products prepared from this milk were highly nutritious and healthy with additional medicinal properties due to the practice of grazing these animals in the adjoining forestlands that were rich in plants with various properties. For the same reasons, the farmers also echoed the theme that the dung of the Wayanad dwarf was of higher quality when compared to that of stall fed cross-bred cows. Farmers believe that Wayanad cows' dung is more beneficial. The findings of this study are in consonance with those of *Dash and Sethi (2007)* who observed that among the *Koya* tribesmen and the origins of the the *Motu* cattle in their native regions of Malkangiri, Orissa also observed that their cattle were small, hardy and easy to maintain and high fat percentages of upto 5.3 per cent were recorded. *Savalia et al. (2019)* also observed that the milk of the Belahi cattle reared by the Gujjar had a higher milk fat of 5.2 per cent.

Theme 2: Zero input-based system : The unique adaptation of the Wayanad Dwarf cattle to the local vagaries of climate and flora of their breeding tract was a boon for the resource scarce tribal folk. The *Kuruma* tribespeople reported that the fact that these animals did not require any sophisticated housing, or expensive concentrates but could be reared using the bare minimum housing facilities created using locally available natural resources while allowing for their products to be harnessed by allowing these animals to graze on the local grasses and shrubs that grew freely in the adjoining forests of Wayanad. No special labour

was also expended in this process. Animals were just let out and they wandered into the adjoining forest areas. Only in hamlets that were deep in the forests were the animals accompanied during grazing due to the threat of attack by wild animals.

Theme 3: Hardiness and resilience : The hardiness of the Wayanad cows was another recurring theme that emerged as the interview transcripts of the respondent farmers were analysed. Further perusal of the data from the interview transcripts of the respondent farmers shed light on the hardiness of the Wayanad dwarf cows and the fact that the occurrence of diseases among them was extremely rare. Common problems encountered with cross-bred cows in Wayanad such as mastitis, production related diseases and the occurrence of protozoan and endo-ectoparasitic among these animals were according to the respondent farmers totally unheard of. Similar themes have also emerged on review of previous studies among various tribal groups in the country such as the hardiness of the cattle reared by the *Soliga* tribesmen of the hilly forest areas of Bili Giri Rangana Hills and Mahadeshwara Hills of Chamarajanagar district of Karnataka (*Dash and Sethi (2007), Savalia et al. (2019) and Somagond et al.,2020*), the strength and ability of the *Motu* cattle of Orissa to subsist on the barest of vegetation (*Dash and Sethi,2007*). Similar findings were made by *Gaur et al. (2003)* who observed that the Gir animals that were reared by the *Rabaris, Bharwads, Maldharis, Ahirs and Charans tribes* of the Gir hills and forests of Kathiawar including Junagadh, Bhavnagar, Rajkot and Amreli districts of Gujarat were famous for their tolerance to stress conditions and resistance to various tropical diseases.

For the same reasons, the farmers also echoed the theme that the dung of the milk was high in non-fat solid and fat Wayanad dwarf was of higher quality when compared The *Kuruma* tribes people reported that the fact that these animals did not require any sophisticated housing, or expensive concentrates but could be reared using the bare minimum housing facilities dwarf cows and the fact that the occurrence of diseases among them was extremely rare. Analysis of the interview scripts also shed light on the resilience of the Wayanad cows in the harsh climatic conditions of the Wayanad forests where they exhibited persistence in braving extremes of climate, be it rain or hot summer, and terrain in their search for fodder as they navigated the forests when sent for grazing. Respondent farmers

repeatedly echoed the recurring theme that these animals were highly adaptable in seasons of water scarcity and even in hot summers, they patiently and successfully scanned the forests for forage.

Theme 4 : Unique grazing habits of the Wayanad dwarf cattle : A unique grazing behaviour of the Wayanad cattle was also revealed in the analysis of the interviews. Respondent farmers observed that these cattle had a grazing behaviour wherein they used their straight pointed horns to dig on the hard barks of the tall trees of the Wayanad forests, exposing the softer, green, inner parts of the stems, on which they fed. This behaviour was observed in summer when the forests experienced a severe shortage of green grass for grazing. times when there was extreme of tall trees using their straight pointed horns, when there is extreme shortage of green grass during summer.

Theme 5: Reproductive efficiency and longer life span : Other characteristics of the Wayanad dwarf that were highlighted by their *Kuruma* keeper farmers was their reproductive efficiency and long life of more than 30 years as revealed from the recurring theme that emerged on analysis of the interview transcripts. These animals almost always calved annually and single cows having calved as much as fifteen times in their life span were also reported by the respondent farmers. however contrary to the observations of *Dash and Sethi,(2007)* who reported a higher incidence of reproductive problems like abortions among the *Motu* cattle of Orissa and they attributed this to the practice of the *Koya* tribesmen of using female cattle for agricultural operations including ploughing.

In contrast to their cross bred counterparts, the incidence of post-partum disorders such as dystocia, post calving metritis, downer cow syndrome, and milk fever among the Wayanad dwarfs was almost non-existent according to the *Kuruma* farmers.

CONCLUSION

Explicit emphasis on the conservation of biodiversity in the surroundings that nurtured it is the crux of The Convention on Biological Diversity (CBD). Here the 'surroundings' refer to the plethora of communes and associated communities who have for centuries engaged in the keeping of most of the domestic animal diversity as we know it today. The *Kuruma* cattle keepers are one such community who equate their life and prestige with that of the welfare of the Wayanad dwarf cattle. A comprehensive

understanding of their rearing practices and preferences would be crucial to the success of any conservation programme in this regard.

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