



Role of Animal Welfare on Production Sustainability

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Abstract

The animal welfare is a priority issue for sustainable production system. The products obtained from livestock are the primary need of human beings since time immemorial. Evidence of livestock involvement for socio-economic and sustainable development is well understood. But, very often, the animal welfare issues are overlooked by excessive production, entertainments and utilization of drought power. The animals are essential for daily life of human being, so it demands welfare to serve it better. Moreover, the welfare provided to the livestock enhances their efficiency of production and power. Animal welfare is a multi-directional and fact based approach. It is essentially important for sustainable production in the natural, organic, integrated and backyard farming systems.

Keywords: Animal Welfare Ethics, rights; Sustainability; Socio-Economic Development; Five-freedom

Introduction

Livestock is the integral part of agricultural system and also a major entrepreneurial entity in the form of commercial specialized farming systems. The modernization and precision livestock farming system have succeeded to increase production and profitability. However, at the same moment, we are lagging behind to take up the welfare issues very seriously. It also has impaired one's carrying capacity and sustainability. The welfare based sustainable livestock production system is eco-friendly and it overcomes the adverse effect on the bio-networking. Sustainable livestock production involves optimising resource use to minimise environmental impact while meeting human needs. Animal welfare plays a crucial role in resource efficiency by ensuring that animals are raised in environments conducive to their health and well-being [1]. According to the Terrestrial Code, animal welfare means 'the physical and mental state of an animal in relation to the conditions in which it lives and dies [2]. Animal welfare adopts a fact-based approach, animal rights operate within ethical and legal frameworks with a philosophical orientation [3]. Animal welfare has received a considerable amount of attention in recent years and remains as an important issue in animal agriculture [4].

The function of animal in the natural community:

The natural wellbeing and sustainability is essentially complementary to each other. In healthy environmental affairs, healthy animal can dwell, in turn the environment is preserved in full tune with the aids of animal. This is true for both domesticated and wild animals. The livestock we use to produce the items of consumption and commerce are the back bone of millions of farming community in the world. The main objective of rearing livestock is a way of livelihood for the rural people. In the name of increasing production the livestock are intensively reared compromising its wellbeing and welfare needs. So, it becomes unfit to reciprocate to nature environments and ecosystem. Thus degradation starts, and its cumulative impact become visible later on. This is happening in most of the countries, globally. Animals play a crucial role in maintaining the health of natural communities. Plants and animals need each other in order to survive and thrive [5].

The important roles of livestock in the nature

- It completes the cycle of natural organic matters in our environment.

- The animals provide CO₂ for the growth of plants through expired air. In return the plant release O₂ in the atmosphere.
- The livestock supplies organic fertilizer to the soil for the growth of plant kingdom.
- Some animals help in spreading seeds and pollination of plants.

Livestock are mostly blamed for emission of methane gas. But "Methane has a half-life of around one decade, after which it is converted back into CO₂, from which it originated". *Methane is a potent greenhouse gas, and rising emissions would be really bad for the climate, but by reducing methane from livestock – such as through manure management or feed additives – cattle can be a part of a climate solution* [6]. It was reported that livestock contributed 14.5 percent of global green house gas, but the total is far less. The Food and Agricultural Organization (FAO) of United Nations (UN) has released a lower estimate of 11.10 percent emission from livestock [7]. Therefore, tendency of charging livestock for the GHG is reducing day by day. The GHGs production by livestock can be reduced through judicious care and management of livestock.

The welfare issues and sustainability

The animal welfare and production should go simultaneously to sustain natural resources. Both domesticated and wild animals play a great role to obtain a sustainably healthy environment. The optimum production level of livestock should be maintained to maximize its payback in terms of capital earning and better socio-environmental standing continuity. But its intensive production leads to unsustainable condition. Overlooking of animal welfare for increasing profitability may cause harsh impact on the environment. Once neglected can never be restored, it further swing to more adverse consequences and both the socio-environmental and economical deterioration occur; thus after a critical point profit gradually come down. The environment becomes unable to sustain, even with the minimum level of production from the livestock due to mismanagement and not meeting the welfare and wellbeing of the animals. The research on, the impact of mishandling and over production of livestock on sustainability has not yet been done and quantification on this matter is still unknown. But from the experiences and dealings with animal we are sure to confirm that well managed livestock yields better than improperly managed ones. Sustainable animal production systems require a capacity to not degrade the local resource base, as well as appropriate animal health and husbandry.

Let us see the five freedoms of livestock and their possible impacts on the livestock production:

- Freedom from hunger and thirst: Regular supply of fodder resources and wholesome drinking water to the animal ensures higher level of production, without adverse side effects in the environment. A hungry and deficient animal could not produce at its optimum level. On the other hand, over intake of feeds and fodder causes digestive upset and misuse of natural resources.
- Freedom from discomfort: An animal shelter and dwellings should be facilitated with all the structures to keep the animal comfortably. A discomfort animal cannot reach to the peak of its genetic potential causing less production and health problems. This may also add to the unsustainable production.
- Freedom from pain, injury and disease: The animal should roam around freely and have a good resting place. Provide adequate space for each category of livestock to nullify the pain, injury and diseases due to fighting, impure air, slippery floor or very rough & excessively uneven surfaces. Suitable drainage system helps in maintaining clean environment. All these together contributed to a sustainable production system.
- Freedom to express normal behaviour: The mental health and satisfaction can be attained by the animal if and only if they can express their normal behaviour. It is very much necessary to fulfil the mental demands of livestock. The mental and emotional satisfaction is equally needed for boosting physiological function of the animal body and thus increases production level to the tune of its full potentiality.
- Freedom from fear and distress: The fearless environment and distress free situation is also a part of requirements for mental health. Therefore, avoid unnecessary handling and teasing of the animal during transportation and restraining for various purposes. These are the culprit to develop vices and managing such animal become difficult. Docile nature of the animal may be converted to the ferocity.

It has been observed that the five freedoms essentially secure the health & favour mental and physical status of animal. Thus, the animal welfare by maintaining physical health & mental health and satisfaction .boost the production per unit without any adverse impact on the environment.

Intensive production and animal welfare

The intensive production system put stress on the body physiology of livestock and it becomes difficult to secure the five freedoms of animal. Moreover, in the name of commercialization and increasing demand of food from animal origin animals are compelled to produce beyond its capacity through various artificial means and ways. Suppose for maximizing the peak milk production the farm-

ers very often feed their animals with excessive concentrate ration, that adds to the digestive stress on the animal and many a times causes indigestion and bloat. The excess feeding of roughages also lead to more enteric emission of GHG. Therefore, we should avoid over production from the livestock beyond its optimum level. Very often in the intensive system, due to overcrowding the animal suffers seriously and their production cannot be sustained for a long time. Disposal of wastes and excreta from a intensive unit may be very difficult and inadequate, which again causes environmental degradation.

The solution and way forwards

The modern intensive livestock farming system with the advent of automation needs to be optimized to the point such that the critical level of production may not be exceeded and become a burden for the species. The animal should be habituated to such precision farming. The knowledge of open space or paddock and its advantages should be well known to the farming community. The loose housing is more suitable in view of animal welfare, but the shrinkage of land compels the farmers to keep their livestock in closed system or indoor system. In such cases provision of paddock should be ensured for free roaming, fresh air and exercise of animal. This is crucial for animal welfare and sustainable production. There is a need to reach out to the farmers and pastoralists of India who are economically and socially vulnerable. Technical and financial support will enable them to take advantage of the economic as well as environmental benefits of livestock rearing, making it less emission-intensive than it is at present [8].

Conclusion

Overall impact of animal welfare is very positive to the mankind. It is to be done by the people, for the livestock and ultimately for the benefit of people. It is mutually beneficial for the human and animal. The animal welfare is reciprocal and not unidirectional. After all existence of healthy livestock as a part of living beings is equally needed for a sustainable ecosystem. Momentum increase in production should be avoided; rather sustainable system of production is the need for a perpetual environment. We ought to engage with nonhuman animals in best way possible keeping in mind for the wellbeing of animal, environment and the people. It is will be wise to view animal welfare from the ethical point of view. Necessarily the best way one engage with nonhuman animals is called ethics. The animal welfare and ethics are essentially important in the natural, organic, integrated and backyard farming systems to sustain a regular long term benefits.

Bibliography

1. Brito M. How does animal welfare fit into the sustainability framework? © 2024 Global Animal Law GAL Association (2024). <https://www.globalanimallaw.org/blog/2024/04/how-does-animal-welfare-fit-into-the-sustainability-framework.html>
2. WOAAH. Animal Welfare, World organization for animal health, Copyright ©WOAH2024 (2024). <https://www.woah.org/en/what-we-do/animal-health-and-welfare/animal-welfare/>
3. Kshirsagar T. "Animal Rights and Welfare, Drishti IAS Blog" (2023). Copyright © 2018-2024 Drishti The Vision Foundation, India. All rights reserved
4. Erasmus M. Animal welfare and animal rights: Ethics, science and explanations, Department of Animal Sciences, Purdue University (2020). <https://www.woah.org/en/what-we-do/animal-health-and-welfare/animal-welfare/>
5. Anonymous. Explore Natural Communities (2024). <https://www.nps.gov/articles/000/explore-natural-communities.htm>
6. Anonymous. CLEAR Center, Clarity and Leadership for Environmental Awareness and Research at UC Davis, updated on February, 12, 2023 (2020). <https://clear.ucdavis.edu/news/methane-has-been-achilles-heel-cattle-emissions-it-may-be-part-climate-solution>
7. Gambino C and Rejto DB. "Livestock don't contribute 14.5% of global green house gas emissions". The Break Through Institute, USA (2023). <https://thebreakthrough.org/issues/food-agriculture-environment/livestock-dont-contribute-14-5-of-global-greenhouse-gas-emissions>
8. Chakraborty M., et al. GHG Platform India, Vasudha Foundation, India (2022). <https://www.ghgplatform-india.org/wp-content/uploads/2022/09/GHGPI-PhaseIV-Briefing-Paper-on-Major-Emitting-Sources-from-the-Livestock-Sub-sector-Vasudha-Foundation-Sep22.pdf>