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# Environmental Aspects Associated with Veganism

Navin Mehta

Department of Medicine and Orthopaedics, Halifax  
23 Chalfont Road, Etobicoke, Toronto, Ontario, Canada - M9W3R9  
Correspondence for materials should be addressed to NM (email: jainism@gmx.com)

Received:  
2024/08/03  
Accepted:  
2024/08/21  
Published:  
2024/09/10

## Abstract

Since about 40 years ago vegan diet and veganism has had increasing interest and adoption by people from all parts of the world. This paper is one of the few efforts to show the negative aspects of veganism in a scientific way without being emotional about it. The author explains the long-term negative impact on environment and climate, also alluding to the possible deterioration of health. Too much emphasis has been paid on veganism and its positive environmental impact. However, there are some potential negative aspects to consider. The Jains of India and the Buddhists of China had come to terms with milk and milk products. In India the Jains and Hindus worship the cow. In China, they searched the forests to find "mushrooms" with a taste equal to the meat that people wanted. There is an increasing tendency all over the world to adopt the vegan diet. The emphasis is on 'no milk' consumption and no consumption of milk derived products and of course, no beef consumption. The human species is a meat-eating species, and this trend will divert attention to eating other kinds of meat. This paper is written by a firm believer of vegetarianism, but not veganism.

**Keywords:** Vegan; Diet; Veganism; Milk; Environment; Impacts

## Introduction

Vegetarian diet means no meat or fish or eggs in the diet (Zaraska, 2016; Down to Earth, 2024). It allows milk because milk is considered vegetarian. Veganism, however, considers milk and milk products as not legal consumption because of the negative effects on the environment including cattle. The increasing vegan thought has now become almost a religion. *At the dawn of civilization*, most cultures turned from being "hunters" to being "cultivators". Meat eating was therefore discarded. Milk was discovered as a substitute. This attitude can be found in Jain, Buddhist, Hindu and Christian scriptures (Patin, 2022). Commercial interests caused unreasonable interest in fish eating and later fish production. This interest was later turned to meat production and eating.

Milk, although a good food substitute, was deliberately downgraded. Indian and Chinese civilizations were in a decline with colonialism taking over the world. Emphasis in the modern education on "balanced diet" (Ritchie and Roser, 2024; Government of Canada, 2019) to mean some meat eating has been drilled into the child's psyche to an extent that the child, even when growing in a vegetarian household becomes non-vegetarian and now his/her conscience being jogged, he/she turns to veganism. While veganism generally has some positive environmental impact, there are some potential negative aspects to consider. The author does not wish to emphasize a non-veg diet. Concerned should be about the negative environmental aspects, which were not there when vegetarianism was the backbone of diets in the old civilizations. These negative aspects have been introduced by unclear and almost religious adoption of veganism.

## Possible environmental impacts of veganism

### *Monoculture farming*

Anti-vegetarian community has an argument that the demand for certain crops like soy, almonds, and avocados can lead to large-scale monocropping. This practice is usually counteracted by rotational cropping (Robbins, 2022).



**Habitat Destruction**

Expanding crop cultivation through the centuries has not reduced the destruction of natural habitats, potentially harming local wildlife. There is some loss of forestation, mainly because of needless deforestation, which can be countered by political action and reforestation (Petruzzello, 2023).

**High water demand**

Some plant-based foods, such as almonds and avocados, require significant amounts of water. These increased water requirements may have deleterious effects on the environment (Pariona, 2019).

**Irrigation practices**

Irrigation helps in the effective use of water before it is delivered to the plant. It has therefore a positive effect on the overall plant growth.

**Pesticide and Fertilizer Use**

Intensive crop farming often involves the use of pesticides and synthetic fertilizers, which can lead to soil and water pollution, harm beneficial insects, and contribute to greenhouse gas emissions. This can be reduced by the use of cow dung fertilizer and other composting techniques (Meyers, 2024).

**Sustainable Practices**

Organic and sustainable farming practices can mitigate these issues, and they should be implemented on a large scale.

**Carbon Footprints of Imported Foods**

Many popular vegan foods, such as quinoa, chia seeds, and certain fruits, are often imported from distant regions. The transportation of these foods is insane to say the least and can contribute to carbon emissions (Keener, 2003). Depending on the location, the environmental impact of transporting vegan foods can offset some of the benefits of a plant-based diet.

**Energy use in processed vegan foods**

The production and packaging of processed vegan foods (e.g., meat substitutes, dairy alternatives) can be energy-intensive and may involve significant industrial processing (Park, 2020). While still generally lower in environmental impact than animal products, the energy use in producing processed vegan foods can be higher than whole plant foods.

**Socio-Economic Impacts**

The global demand for certain vegan staples can negatively impact local communities in producer countries, where land use for export crops may reduce availability and affordability of traditional foods. A rapid shift to veganism could disrupt economies reliant on animal agriculture, affecting livelihoods and leading to economic instability.

**Increase in Greenhouse Gas Emissions**

Overall, the decreased greenhouse gas emissions because of reduced cattle farming is nullified by increased greenhouse gas emissions from chicken farming. Similar increases in greenhouse gas emissions will be seen with increased goat and sheep meat consumption.

**Land and Water Use**

Chickens require less land compared to cattle, but increasing poultry farming can use up land intended for other uses, such as reforestation or crop production. Poultry farming is less water-intensive than cattle farming, but increasing chicken consumption and goat milk and meat consumption can contribute to overall increased water conservation.

**Meat consumption**

Reduced milk consumption can lead to more calves – even the female calves being used as meat. In fact, the already established great value of veal will become the new norm, as female calves will be slaughtered for veal.

**Ecosystem Health**

Industrial chicken farming often leads to habitat destruction and monocropping for feed production (soy and corn). More intensive poultry farming can have a damaging effect on local ecosystems and biodiversity.

**Pollution and Waste Management**

Poultry farms produce significant amounts of waste, which can pollute water and soil. Increased chicken consumption means higher manure and associated pollution.

**Antibiotics and Hormones**

Increasing poultry farming can increase the use of antibiotics and hormones, which can have negative environmental and health impacts.

**Environmental Impact on Fish****Overfishing and Marine Ecosystems**

High demand for fish can cause overfishing, allowing fish populations to diminish and disturb the marine ecosystems. Reduced animal meat consumption will increase fish consumption, damaging the environment. Selective fishing can disturb fish populations and reduce marine biodiversity. Fish farming may sometimes lead to water pollution, habitat destruction, and the spread of diseases (Martinez-Porchas and Martinez-Cordova, 2012). Fishing activities contribute to marine pollution, including plastic waste from nets and equipment. Increased fishing activity can help increase this pollution (UN Environment Program, 2023).

**Unreasonable aquaculture practices**

Higher fish consumption can encourage unreasonable aquaculture practices and increase the environmental footprint of fish farming.

**Pollution and Bycatch**

Fishing operations often result in bycatch, the unintentional capture of non-target species. Increased demand for fish can increase bycatch and its impact on marine life.

**Feed Conversion**

Fish farming requires feed, often derived from wild-caught fish, leading to further depletion of marine resources. Promoting non-beef diets can encourage the development of alternative food systems, increasing reliance on marine resources.

**Environmental impact on Cattle****Reduction in Demand for Beef and Dairy Products**

As more people adopt vegan diets, the demand for beef and dairy products decreases. This leads to fewer cattle being bred and raised for these purposes. Farmers and producers may shift their focus to other types of livestock that are less affected by changing consumer preferences. The overall positive impact on the environment is negligible.

**Cattle Population and Welfare**

With reduced demand for beef and dairy, the overall cattle population is likely to decrease. This could lead to fewer animals being subjected to the conditions of intensive farming. Fewer cattle might mean that remaining animals can be raised under better conditions, with more attention to welfare standards, though this is not guaranteed and depends on specific farming practices. However, this would be nullified by raising other livestock for meat production. Already there is a great appetite for calf meat. Only male calves are being eaten. With less demand for milk the female calves will also be sacrificed for eating. From a Jain point of view, there is no doubt that more of the female calves will become veal when less milk is consumed.

**Reduced Greenhouse Gases**

Fewer cattle mean less methane production from enteric fermentation and manure management, contributing to lower greenhouse gas emissions. However, veganism does not require elimination of goat milk in the diet, nor does it require elimination of goat and sheep meat in diet. Therefore, the net impact of veganism is likely to be zero in contributing to lower greenhouse gas emissions.

**Land use**

Vegans argue that reduced cattle farming can free up land (Alter, 2021) previously used for grazing or growing feed crops, which can then be repurposed for reforestation, conservation, or other agricultural uses. However, the anticipated freeing up of land can and will be used up by goat and sheep farming; therefore, the “freeing up” of land for food crops will not occur.

**Ethical and Moral Considerations****Animal Rights**

From an ethical standpoint, veganism promotes the idea of reducing animal exploitation and suffering, aligning with animal rights philosophies that oppose using animals for food. However, that argument falls short of the nutritional aspects of milk and milk products which nourish human society, particularly the infant child. In particular, one should recognize that no animals are killed for milk production. In reality, the old practices of India did not involve cow slaughter, but in fact had the opposite philosophy of respecting and worshiping the cow.

**Cultural Shifts**

Changing attitudes towards cattle and other livestock can influence cultural practices and traditions related to meat and dairy consumption. The increasing population of India, and perhaps a more religious attitude in China will help to reverse the vegan trend back to vegetarianism.

**Research and Development****Alternative Products**

Increased demand for plant-based and cultured meat alternatives can drive innovation and research, leading to the development of new products that mimic the taste and texture of beef and dairy without involving cattle. China is far ahead in this area of research where they have a considerable number of plant-based meat alternatives in use in daily consumption.

**Sustainable Practices**

Research into sustainable farming practices can benefit both plant-based and traditional livestock farming, potentially leading to more eco-friendly and humane practices overall.

**Conclusion**

While veganism has many environmental benefits, it is not without potential negative impacts. Sustainable practices, mindful consumption, and support for local and organic farming can help mitigate these issues. Balancing the demand for vegan foods with environmental stewardship and socio-economic considerations is essential for maximizing the positive impact of a plant-based diet. Veganism can significantly impact cattle in several ways, both directly and indirectly. The impact of veganism on cattle is multifaceted, encompassing environmental, economic, ethical, and social dimensions. While reduced demand for beef and dairy can lead to significant benefits for the environment and animal welfare, it also poses challenges for farmers and communities reliant on cattle farming. Balancing these impacts with sustainable and ethical practices is crucial for a comprehensive approach to dietary changes and their broader implications. Vegetarianism has been practiced for over 25 centuries in India and China and is the solution to the environmental problems of the world. In the search of plant products that taste like meat to satisfy the needs of meat eaters, there is no point in ignoring the advances the Chinese have made in meat substitutes.

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#### Author Contributions

NM conceived the concept, wrote and approved the manuscript.

#### Acknowledgements

Not applicable.

#### Funding

Not applicable.

#### Availability of data and materials

Not applicable.

#### Competing interest

The author declares no competing interests.

#### Ethics approval

Not applicable.



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**Citation:** Mehta N (2024) Environmental Aspects Associated with Veganism. *Environmental Science Archives* 3(2): 54-58.