GAST010

NO MEAT PLEASE; I'M VEGETARIAN: VEGETARIANISM TRENDS AND CLIMATE CHANGE

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ABSTRACT

This conceptual paper aims to explore the latest trend of vegetarian diets all over the world and the reasons for people turning vegetarian. The paper touches on vegetarianism from various angles; religion, health, environmental impact, economic reasons and food safety. Patterns of food production and consumption are at the core of all human ecology (Dietz, Kalof and Frisch 1996: 181). Every culture consumes different food products in different ways. Dietary habits and the food production processes that support them clearly have dramatic consequences for the global environment and economy (Goodland 1997). These impacts and consequences are getting compounded and enlarged at a very large scale post the industrial revolution and the world wars. Due to the environmental implications of food production and consumption, it is important to understand the factors that influence the human diet and the aspects of food production that are most harmful to environment. Many studies have shown that industrial meat production is a leading cause of many ecological problems (Durning and Brough 1991; Ehrlich and Daily 1995; Goodland 1997; Pimental and Pimental 1996; Rifkin 1992; Subak 1990). Also the production of meat and livestock for human consumption has significantly impacted virtually all aspects of the environment including climate change, land, soil, water and biodiversity. The most important non-CO2 greenhouse gas is methane, which is produced by a number of sources, including coal mining and landfills but the main source of methane produced worldwide is animal agriculture (Delgado, Christopher et al 1999). The global meat consumption has increased five times over in the past five decades, and it shows little sign of settling down (Ruminant Livestock, U.S. Environmental Protection Agency). Most of the methane gas is produced from the livestock meant for human consumption. If we turn our focus on vegetarian diets, this big chunk of environmental damaging greenhouse gas can be successfully prevented from causing further damage to our planet.

Keywords: Vegetarianism, climate change, environmental impact, food consumption trends

INTRODUCTION

All the life on earth as we know it needs some kind of fuel to sustain itself. In Hindu spiritual terms it can be said that whenever matter and energy fuse together, a living organism is

created and as soon as they disintegrate from each other the life ceases to exist and is transformed into non living entities like matter and energy. To sustain us on this planet we need 2 forms of energy, the manifested energy (In 8 forms: air, water, heat, earth, mind, ego and intellect and the un-manifested forms (like gravity, magnetic force, soul).

Consumption of food all over the world is not just a reflection of our nutritional needs, but is also guided by our preferences for different tastes, colours, odours, textures and also our cultural and ethical considerations. Our food consumption patterns have changed historically over time. In the post industrial-revolution society there has been a drastic increase in the scale of catching, producing and gathering food items with it becoming progressively easy to produce and distribute all over the world. Earlier meals were based on locally produced food products to the latest trends of diets with new and exotic food products like fruits, meats and spices. The relation between food, health and energy has become ever more complex and multifaceted in today's society which has raised a serious concern for governments all across the world. What our parents and grandparents considered as an attractive meal just a few decades ago may be considered as non-edible, strange and even unpalatable by many of us today. The present and future food consumption habits and patterns would also be a reflection on the changing lifestyle, financial levels of a family, social and ethical value system and also of the changing environment in which we and our children would be living.

There exists a widespread problem of over-nutrition and under-nutrition in today's societies, sometimes in the same population. To feed this ever increasing human population, the worlds agricultural sector uses about one fifths of the total greenhouse gas emissions, most of which come from livestock production and preparation for consumption (www.vegsoc.org/environment/climate_change.html). This contributes significantly to the global climate change along with affecting the health and food production yields all over the world. The food production capacity of the world has increased manifold in the last few centuries along with increase in health, life expectancy and increase on children and mothers nutrition levels. This is based also on the transportation facilities, opening of world markets and also refrigeration facilities which contribute to all year round availability of nutritious and healthy food the world over.

The bad news is that while we have achieved this tremendous increase in food production and distribution levels the health risks also seem to be increasing. The land cover and biodiversity is reducing because of higher land use for food production to feed the humans and livestock, which in turn is having negative consequences for our health and wellbeing. Food crop production for humans and animal husbandry also contribute substantially to the greenhouse-gas emissions around the world. This paper tries to explore the

recent trends of vegetarianism and whether vegetarianism is a possible solution, in part at least, to the global climate change issue.

Humans or homo-sapiens enjoy a unique dietary pattern of consumption. We are classified as omnivorous, wherein we can consume both vegetal and plant matter along with meat and meat products. It is also true that meat and meat product have a higher status for humans and the role of this class of food items have attracted the interest of many sociologists, social-anthropologists, nutritionists, dietitians', physiologists and psychologists all over the world since a long time.

According to the Vegetarian Society, A vegetarian is someone living on a diet of grains, pulses, nuts, seeds, vegetables and fruits with or without the use of dairy products and eggs. A vegetarian does not eat any meat, poultry, game, fish, shellfish or crustaceans, or slaughter by-products (http://www.vegsoc.org/info/definitions.html). Vegetarianism is a practice of eating only food items gathered from plant origins. Vegetarians abstain from meat products, fowl, fish and sometimes other animal products too like eggs and milk. This depends on the different type of vegetarian customs that they adhere to and the cultural practices and social norms in which they were brought up.

Vegetarian practices are very ancient and the context of many eastern cultures like Hinduism (certain sections of society based on caste system), Jainism and Buddhism (certain sections) are also embodied in religious percepts. They usually consider all animals as sacred.

Historically meat avoidance vegetarianism has been a minority lifestyle for some exceptional individuals. Many high status individuals in the classical civilizations of Greece and Rome practiced and advocated a vegetarian eating lifestyle and shunned meat consumption on ethical and health grounds. (Spencer, 1993; Dombrowski, 1985). Even in the Roman Catholic Church, the Cistercian monks and nuns of the 'Strict Observance', which is a Roman Catholic monastic order that originated in France in the 17th century (popularly known as Trappists) have been practicing vegetarianism monastically since 1666. It can also be seen among Protestants since 1809 by Seventh-Day Adventists who are members of the Bible Christian Church. In 1847 a nonreligious organization, the 'Vegetarian Society' was founded which started a movement which spread to continental Europe and the United States in 1850, and in 1908, the 'International Vegetarian Union' was founded. Today this union/society holds meetings/congresses every two years in different countries.

Latest trends in vegetarianism and meat avoidance

"Nothing will benefit human health and increase the chances of survival of life on earth as much as the evolution to a vegetarian diet." -Albert Einstein

Vegetarianism and the avoidance or shunning of meat products seem to be increasing at a slow but steady pace. According to a survey done by Gallup in 1990 in the UK, it was estimated that vegetarians and vegans are now making up 3.7% of the adult United Kingdoms population. This is an increase of 23% since the previous survey which was done in 1988. It is also a 76% increase since the first survey which was carried out in 1984. We can also see that 6.3% other people were avoiding read meat and its products from their daily diet. This is also an increase of 15% from the 1988 figures and a whopping 232% increase from the 1984 figures. From the survey it was found that the combined vegetarians and meat avoiding population was 10% of the total population of UK. In the survey it was also observed that the women in the 16-24 age brackets have the highest tendency to eat a meat free diet. They were also more concerned regarding the financial, ethical, moral and health aspects of meat consumption. of all the people who were avoiding meat products, it was observed that health reasons was a reason for the upper socio-economic groups and financial reasons were given by the lower socio-economic group (Beardsworth and Keil, 1991).

There are many reasons for becoming vegetarians. It ranges from ethical, health, ecological, religious, financial and philosophical reasons (Leitzmann and Hahn, 1996; Messina and Burke, 1997; Key and Davey, 1999; Rajaram and Sabaté, 2000). If we look at the ecological/ environmental effects of food production, the damage done by industrial meat production is startling (Giehl, 1981). The average meat protein production requirements are 10 times more in terms of land requirements compared to plant protein. Around 40% of the world's grain harvest is used to feed the animals used for meat production. Just 20% of this grain would be enough to feed all the hungry people in the world (Leitzmann, 2003). Also the animal waste and manure which is produced from this industrially produced meat seeps into the soil causing high levels of potentially carcinogenic nitrates in the potable drinking water and vegetables grown in and around the factory farm. The meat production industry requires a lot of electricity, fossil fuel and other forms of resources like water and also leads to overgrazing of land and deforestation to make way for more farm land (Pimentel 1983, Pimentel, 1999; Pinstrup-Andersen and Pandya-Lorch, 1998; Pimentel, 1999).

Many social anthropologists have analyzed in detail the high value placed on meat by many of the human societies (Harris, 1986; Farb and Armelagos, 1980). The founding of the Vegetarian society on 30 September 1847, at Northwood Villa in Ramsgate, Kent UK was an important step in the emergence of vegetarianism as a new social movement (Dietz et al., 1995). Vegetarianism was the opposite of the conventional food hierarchy models with red meat at the top, excluding power and vegetables as the undesirables at the bottom (Twigg, 1979a, 1979b). Modern vegetarianism is divided into many forms from the very strict Vegans

to the Ovo-vegetarians consuming milk and eggs to Pescetarians vegetarians who consume occasional fish and crustations but shun farmed meats (Beardsworth and Keil, 1992). Pescetarians are also called 'Pseudo-Vegetarian' or also 'Semi Vegetarian'.

In the last 50 years we have seen a long term decline in the red meat consumption since the early 1960 along with declining pork and pork products consumption since the early 1980's. Poultry consumption on the other hand seems to have risen progressively since the mid-1950s (Beardsworth and Keil, 1997). Consumption of processed meats like ready-made meals has also increased substantially with the food market becoming very complex and segmented (Fine et al., 1996).according to a research by the Institute of Food Research in Reading, it was observed that 28 per cent of its sample of 1,018 UK residents considered themselves to be reducing their meat consumption (Richardson et al., 1993).

According to a survey by the Vegetarian Society in 1991 in UK, it was also observed that the female respondents indicated a higher rate of vegetarianism (10%) compared to that of the males (4%) (Beardsworth and Keil, 1997). Another survey in the US shows there were 3 per cent to 7 per cent vegetarians in the USA (Beardsworth and Keil, 1997). On the other hand, in a survey in Fairfax County in Virginia it was found that people who turned vegetarian had higher 'altruistic or philanthropic ' value compared to non-vegetarians having higher 'traditional or conventional values' (Dietz et al., 1995). Many other researches (Beardsworth and Keil, 1992; Neale et al., 1993; Santos and Booth, 1996; Maurer, 1995) also suggest that the motives for a person to convert to vegetarianism are basically because of ethical considerations rather than the usual taste, health or ecological reasons.

Vegetarianism, meat consumption and climate change

Global temperatures are rising. In 2007 the United Nation's Intergovernmental Panel on Climate Change (IPCC) came up with a report that highlighted that global temperatures would most probably rise by between 1.8 and 4 degrees within the 21st century (Climate Change 2007). These numbers may not mean a lot to us but we know already that the polar ice caps are melting and the ocean levels are rising. The increase in the global temperatures would cause more and more typhoons, hurricanes and Tsunami's and tropical storms. Low lying coastal area countries housing one in ten humans may be submerged according to the International Scientific Congress on Climate (March 2009) as the water levels rise 50 cm to 1 metre. This increase in global temperatures is because of Greenhouse gases which are trapping the heat of the sun and warming up our planet. These naturally occurring gasses are in a delicate balance which helps sustain life on our planet. Of late we humans have been adding to this gas pool and upsetting the delicate balance causing an unnatural rise in the gases and in turn in the temperature of the earth.

Two of the most important gases other than carbon dioxide (CO2) which cause this rise in global temperatures are methane (CH4) and nitrous oxide (N2O). Both these gasses are primarily caused by agriculture (Climate change 2007) and have been rising at a very alarming rate in recent times. If we compare the 2005 figures with pre-industrial times (1750) methane has increased from 715 parts per billion (ppb) to 1774ppb. The increase in nitrous oxide has increased from 270 ppb to 319 ppb (Climate change 2007). Along with this there has also been an increase of carbon dioxide from 280 parts per million (ppm) to 379ppm mainly due to the burning of fossil fuels for transportation and agriculture. There was a huge increase of 70% (from 28.7 to 49 gigatones of CO2 equivalents) of these three gasses from 1970 to 2004 along with a 27% increase in agriculture emissions (Climate change 2007). The amount of greenhouse gasses produced by farming of animals (18%) for consumption is more than the entire transport system of the world (Food and Agriculture Organisation of the United Nations 2006).

	Carbon dioxide (global, 2002)	**Methane, enteric (global, 2004)**	**Methane, manure (global, 2004)**
Cattle	1906	75	8
Small ruminants (sheep and goats)	514	9	0·3
Pigs	590	1	8
Camels	18	..	..
Horses	71	..	..
Poultry	61	..	1
Total	3161	86	18

Note: Data are million tonnes of gas

Table 1: Greenhouse-gas emissions per year from livestock.

FAO. Livestock's long shadow. Environmental issues and options. Rome: Food and Agriculture Organisation, 2006: 414.

Methane is responsible for nearly as much global warming as all the other non-CO2 greenhouse gases put together (U.S. Department of Energy 2003). We humans produce one and a half times more methane as all natural sources put together (Kruger, Dina 2004). This warming has a compounded effect on methane production as the warming stimulates the organic matter delay of the wetlands of the world which are the main source of methane production in the world (Climate Change Fact Sheet 32 1993). The rearing stage of the animals for meat and dairy produce accounts for about half of food's total greenhouse gas

emissions (Garnett 2008). Most of this methane from animal agriculture is mainly due to the emissions from the livestock. These are mainly from a number of factors which include enteric fermentation during the digestive process by ruminants such as sheep and cattle, manure, deforestation and desertification of the land. Bovine flatulence, alongside farm animal excrement are both extremely damaging to the environment. There is an approximate of 1.4 billion cattle and 1.1 billion sheep on this earth (Food and Agriculture Organisation of the United Nations 2006). Each of these cows can produce as much as 500 litres of methane per day (BBC News 10th December 2006) or around 75 million tonnes per year (Table 1).

The other damaging gas, nitrous oxide is almost 300 times more damaging to the environment than carbon dioxide. 65% of the total quantity of nitrous oxide produced by human activity comes from livestock manure. 64% of all the ammonia we put into the atmosphere also comes from animal rearing which contributes significantly to acid rain (Food and Agriculture Organisation of the United Nations 2006). According to IPCC, if the world does not adopt a climate change policy the global mean temperature would rise up to 7 degrees Celsius compared to the pre industrial levels by the end of the 21st century (Stehfest, Bouwman, van Vuuren, den Elzen, Eickhout and Kabat, 2008). Fortunately in 2008 the Climate Change Act came into existence, aiming to reduce the greenhouse gas emissions in the UK and other countries by at least 80% by 2050. Along with this they also aimed to reduce carbon dioxide emissions by at least 26% by 2020 (Department for Environment, Food and Rural Affairs).

Shifting away from these methane producing food sources is much easier in reducing global warming compared to cutting carbon dioxide. There is an unlimited reduction potential in greenhouse gasses if the world shifts towards a vegetarian diet. Such high levels of carbon dioxide cuts are not possible without having adverse effects on the economy of the world. Also shifting to a vegetarian diet is a much faster way of reducing the greenhouse gasses compared to shifting away from petroleum burning technology. An immediate drop in methane emission levels can be achieved because the turnover rate for ruminant farm animals is just one to two years. In comparison, the turnover rate of greenhouse gas emitting vehicles, factories and industries can be many years. Even with the advent of electrical vehicles and hybrid vehicles it would take a long time to replace the current vehicles on the worlds roads and also cost a lot for the global economy. Also the methane gas cycles out of the earth's atmosphere within eight years compared to carbon dioxide which can stay in the atmosphere for more than a hundred years. This means that the lower methane emissions translate into a quickly cooling earth (The McDougall Newsletter December 2006).

Compared to efforts of cutting carbon dioxide, vegetarianism is a much faster and easier way of combating climate change as vegetarian food products are readily available

and their positive impact towards reduction of agricultural methane induced climate change starts almost with every vegetarian meal that we consume. To combat carbon dioxide we need to get involved in fighting many industries like the auto and oil industries which are both powerful and rich. Many environmental groups have been trying to get rid of polluting factories and vehicles but have met with very limited success. The maximum we people think about climate change and protecting the environment and its resources is to do an occasional charity event, switch-off a few lights at home, or reusing our plastic bags. Just reducing our meat consumption or switching over to vegetarianism would help our world tremendously and it is something which we can start doing regularly to save the planet.

In 2008 the world's total population of humans on this earth was approximately 6.5 billion (The United Nations Population Database). This figure is expected to rise to 9 billion by 2050 (Food and Agriculture Organisation) and would not stop at that figure. As the population grows, so would our requirements for food. With our resources already showing signs of collapsing and the increase in malnutritioned children and undernourished adults growing all across the world this population increase would have very severe effects. The rising bovine numbers for meat and other human consumption is a very harmful part of human agriculture as they cause soil erosion due to overgrazing, desertification of land, soil erosion and also tropical deforestation due to land requirements for the cattle (Goodland, 1997; White, 2000).

We have to realize that to achieve food security for the world we need to have access to sufficient, safe and nutritious food products to meet the dietary needs and food preferences of all people of the world at all times (Food and Agriculture Organisation). Over the period of the 21st century we humans would be putting additional pressure on the earth's ecosystems and food system due to the population growth and the amount of energy, land and water resources required for our survival. Already we had 963 million hungry people in 2008 which was a 40 million rise compared to 923 million in 2007 (Food and Agriculture Organisation).

The two fastest growing ingredients and also the costliest ingredients in our food menu are meat (chicken, pork and beef) and seafood. Meat is the term used for all edible parts of domestic livestock live cattle, calves, sheep, lambs, and pigs. The meat of each of these mammals are known by different names like beef for cattle, veal for calf meat, mutton for sheep or goat meat, lamb for lamb meat and pork for pig meat. Meat is also applied to the edible portions of poultry known as white meat, wild birds and game. Crustations and reptiles edible flesh is also termed as meat. We humans produced 276 million tonnes of chicken, pork and beef along with other meat products in 2006 which was a whopping four times higher to that of 1961. Also on average humans now eat two times as much meat

products as we did in 1961. According to Smil (2002), meat is now the biggest source of animal protein in all prosperous nations of the world. This demand for animal flesh is expected to increase more than 2 times by 2050 (Food and Agriculture Organisation of the United Nations. 2006). If we look at the fishing industry we also see a bleak future as we harvested 141 million tonnes of seafood all over the world in 2005 which was 8 times as much as what we did in 1950 (Worldwatch Institute, 2008). By the year 2050 the livestock population is expected to be 120 billion from the present 60 billion farm animals (Pachauri, 2008). To meet this growing human population the animals would be reared even more intensively and cheaply as they are done now. Factory farming would no doubt go even a step further and may produce legless chickens and headless genetic cows for food. The fish farming (aquaculture) industry would cause even more pollution to the land, water and the environment. This issue of factory farming and intensive rearing of animals is out of the scope of this paper but is a very interesting topic of research nonetheless.

If we look at the UK agriculture sector, livestock consume more than half of the 20 million tonnes of cereals which are produced and over 50% of wheat and 60% of barley (Garnett, 2008). All over the world 1/3rd of the global cereal harvest and about 90% of soya is used for livestock feed (Pachauri, 2008). We also need to stress on the fact that the amount of feed grains used to produce the animal products in a typical vegetarian diet are around half those of a meat-based diet (Pimental, D., and Pimental, M., 2003). Animal protein production is very energy intensive and puts a lot of pressure on our valuable fossil fuel resources. The ratio of fossil fuel required in production of animal protein output is 40:1 (for beef) and 57:1 (for lamb). To produce 1 kilocalorie (kcal) of protein from animal protein production system, it requires 25 kilocalories of fossil fuel input. This is more than 11 times greater than the fossil fuel requirements for the production of protein production from grains (Pimental, D., and Pimental, M., 2003).

Frey and Barrett (2007) in their paper 'The ecological footprint of what we eat' point out that UK currently imports around 40% of its food products and that switching from a imported food diet to one which is entirely locally produced in the UK would help to reduce a persons food footprint by 57%. Eating organic food would also help to the average food footprint by an additional 2%. Reducing the demand for dairy and meat products is one of the most important and significant step in reducing our foods and eating habits effect on the environment. According to a report by Oxfam (2009) there is an urgent need to drastically reduce the consumption of all types of meat and dairy products to save the planet. An ideal diet is one which has the lowest carbon footprint along with meeting the taste, energy and nutritional requirements of the consumer. A healthy vegetarian locally produced organic diet can reduce the carbon footprint in UK by 44% per capita (Frey and Barrett, 2007).

Environment	Parameter	Value	Remarks
Land	Total land for grazing Grazing land considered degraded Total land for feed crop cultivation	3,433 million ha or 26 percent of terrestrial surface 20 to 70 percent 471 million ha or 33 percent of arable land	
Air & Climate	Livestock's contribution to climate change in CO_2 Equivalent Livestock's share in carbon dioxide emissions Livestock's share in methane emissions Livestock's share in nitrous oxide emissions	18 percent 9 percent 37 percent 65 percent	Incl. pasture degradation and land use change Not considering respiration Incl. feed crops
Water	Share of livestock in total use of fresh water Share of livestock in water evapotranspirated in agriculture	8 percent 15 percent	Drinking, serving, processing and irrigation of feed crops For feed crops production only.

Table 2 Global facts about livestock.

Steinfeld H. et al (2006) *Livestock Long Shadow: environmental issues and option*, Chapter 7 pp.6, Table 7.1

Most of the total land used for livestock grazing (3,433 million hectares or 26 percent of terrestrial surface) and for feed cultivation for the livestock (471 million hectares or 33 percent of arable land) (Table 2) would otherwise be a natural habitat useful for all plants and animals of our rainforests. One third of the world's total suitable land is used for growing crops to produce feed for farmed animals rather than for human consumption (Food and Agriculture Organisation of the United Nations. 2006).

The livestock factory farming also leads to overgrazing of land which in turn leads to soil erosion, deforestation and desertification of land (White, 2000). The livestock mammals are very inefficient in producing meat from feed consumed. Most of the energy (89-97%) and

protein (80-96%) present in the grain fed to the cattle and pigs is not converted into edible fat or protein (Smil, 2002). The Cattle require approximately 7kgs of grain for them to be able to develop 1kg of beef and the pigs require 4kgs grain to develop 1kg of pork (White, 2000). Because of this sickening wastage 20% of the world's total grazing land has already been designated as degraded land due to the rearing animals for their meat (Food and Agriculture Organisation of the United Nations, 2006). Also the intensive feeding of concentrates to the livestock has proved to be an inefficient way of producing dietary proteins (Smil, 2002) therefore in order to supply the meat producers with cheap animal feed, many large areas of tropical forests are being cleared (The World Wide Fund for Nature, 2007). This deforestation increases greenhouse gas emissions in the earth's atmosphere by releasing carbon previously stored within the trees. Loss of forests also translates in loss of many plants and animals which were a part of that ecosystem. This is a cause of anxiety because now just a few species of livestock account for about 20% of total terrestrial animal biomass on the earth (Food and Agriculture Organisation of the United Nations, 2006).

According to the Food and Agriculture Organisation of the United Nations (2006), livestock production is the main cause of deforestation of the Amazon rainforests (70%) in Latin America, as the rainforests are being cut down and cleared to make way for new land for animal pastures. Our forests are home to approximately 300 million indigenous and non-indigenous people along with millions of plant and animal species. They are one of the most valuable resources for mankind as over 1.5 billion people depend on forests directly for food, medicine, fuel wood and livelihood (The World Wide Fund for Nature, 2007). Unfortunately these forests are being destroyed at a very fast pace. According to the World Wide Fund for Nature (2007), between the years 2000 -2005, 90 million acres of forest were destroyed all over the world and the World Resource Institute estimates that 39% of the world's remaining frontier forest is at risk due to commercial logging, mining, energy development and clearing of land for agriculture.

The total agricultural land area all over the world has increased from 4.49 billion acres to 4.96 billion between 1965 and 2005 which is more than a 10% increase (Ambler-Edwards et al., 2009). We have to realize that as our food requirements change and increase the planets resources remain constant and do not expand to suffice our needs. Zollitsch, Winckler, Waiblinger and Haslberger (2007) in their article Sustainable Food Production and Ethics state that it requires 2.5 times more amount of land for a meat based diet compared to that of a vegetarian diet and also 5 times more compared to a vegan diet.

CONCLUSION

What we eat in our diet plays a very important part in achieving environmental sustainability and combating climate change. Changing to a vegetarian diet is one very easy and effective solution to combat and lower the environmental impact caused by industrial animal production and to achieve food security (Goodland, 1997; Carlsson-Kanyama, 1998; White, 2000; Rajaram and Sabaté, 2000; Gussow 1994; Fox 1999; Hahn, 1997; Gussow and Clancy, 1986; Gussow JD, 1995; Penning, Keulen and Rabbinge, 1995). Choosing seasonal and locally produced vegetarian food products would also help in reducing out food carbon footprint by reducing the energy requirements for transportation of food products over long distances. Along with this the ethical considerations towards factory farmed meat along with the transportation costs towards the environment would also be reduced. Another positive effect would be the growth of the local economy because of the support of people buying local produce.

2,700 million hectares of land currently under pasture and 100 million hectares of land under cultivation could be freed by switching to a diet which is a 100% plant protein based. This free land would be re-grown naturally by vegetation and would absorb a large portion of the atmospheric carbon dioxide (Stehfest, Bouwman, van Vuuren, den Elzen, Eickhout and Kabat, 2008).

There are hundreds of different vegetables in the supermarket shelves today which can be cooked in many different ways for human consumption. Countries like India embrace vegetarianism and it has become a way of life for many people. The vegetarian products are cooked in astounding different varieties to match different tastes of more than a billion people. Vegetarian food products are easier to store and preserve and can also be consumed fresh and raw in many cases. Consuming vegetarian products also helps in maintaining the flora and fauna of the planet along with a balanced natural ecosystem as compared to factory farmed meat consumption. Vegetarianism may lead humans towards a better and healthy lifestyle along with a cleaner and greener planet for us and out future generations to enjoy.

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