**SUSTAINABLE CONSUMPTION OF MEAT AND FISH : ITS EFFECT ON THE ENVIRONMENT**

By: -

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 **ABSTRACT**

Humans have exploited the nature in every possible way, we do not think of consequences of our acts. Fishing and consumption of meat are not new but they were not as dangerous back then, lately we have realized that due to the consumption of these we can become prone to chronic diseases, but even today in the 21st century public at large have not realized that our eating habits are actually degrading the condition of our environment. Humans have even exploited the major source of oxygen just for monetary benefits : the oceans, to cope up with the growing demand the livestock and meat industry are destroying hectares of forest annually that are so essential for balancing the overall ecosystem. In the coming decades it is very much possible that people won’t have a place to live, water to drink, rely on artificial methods for oxygen and short of food grains, all this just because of the delectable meat or seafood on our table. This research paper highlights the role of meat and fishery industry in completely destroying the nature and marine ecosystem, also there are various measures mentioned here which can be really helpful in re building the environment, but the bigger question is are we willing to do it.

**KEYWORDS-** Exploit, Chronic diseases, Ecosystem, Environment.

**INTRODUCTION**

The need for sustainable consumption has increased many folds in the recent years. The term ‘sustainable consumption’ refers to consumption of goods and services in such a way that it does not harm the environment in any way, in addition to this, the consumption must ensure that the needs of not only the present but also the future generations are secured and they do not have to quest for other ways or there is no scarcity for the resource[[1]](#footnote-2). We all must have come across slogans or organizations that are there to create awareness regarding the sustainable consumption, but majorly they talk of exhaustible resources like oil, coal, iron, copper, etc. The thing which does not get much coverage is how our eating habits affect the environment and how this can affect the off springs.

If we look with the perspective of a layman, at most one would believe that eating meat or aquatic animals might harm one’s body but how is it creating an effect on the environment. There is a plethora of reasons but the problem is it does not get the coverage it deserves in the media, newspapers, journals etc. It would not be wrong if someone call this untenable practice of consuming food as ‘Slow Poison’, as this is not something whose repercussions will be seen in a short span of time. Like the natural resources it takes years to finally show its effects on the environment and when it does no power in this world can stop the annihilation.

The overall process of this chain that involves production, transportation and leftovers of meat and fish, create a drastic impact on the nature and even lead to emissions of Greenhouse gases[[2]](#footnote-3). We all are aware of what greenhouse gases are and why they are so dangerous, to give an overview these are gases that absorbs the infrared radiation released from the surface of the earth. These infrared rays are invisible to the human eye and have wide variety of uses including the biological. The most common greenhouse gases are Carbon dioxide (CO2), Methane (CH4), when these are released in large amount they create ‘greenhouse effect’ and harm the planet’s atmosphere[[3]](#footnote-4). Many researches have found that meat is the most harmful form of food consumption and if not controlled things will only get worse.

**WHAT EXACTLY IS MEAT?**

The flesh of any animal that is consumed as food is referred to as meat. Today, with the increase in civilization people have also changed their habits eating and today this meat industry is worth billions of dollars. Meat can be broadly classified as ‘Red’ and ‘White’ meat, depends on the level of myoglobin in the muscle fiber. Red meat is the flesh of cow, horse, sheep, while white meat is the flesh of chicken, turkey. However, if we look at the history consuming meat is always considered as staple diet and humans have consumed it throughout the evolution[[4]](#footnote-5). Studies have found the earliest traces of domestication of animals to ‘last glacial period’ i.e. around 10,000 BCE, before that hunting used to be the only source but then systematic production and breeding of animals began. Sheep, cattle, dogs, horses etc. all were consumed as a routine diet and at times even for the cultural purposes, the great greek philosopher Aristotle also supported this practice and he believed that animals are not equal to humans and they exist for the purpose of serving the humans.

**BENEFITS OF CONSUMING MEAT**

 For the time being if we neglect the abundance of harm it has caused to the environment, there are actually many nutritional benefits associated with it[[5]](#footnote-6) :

* All types of meat are rich in ‘protein’. Consuming sufficient amount of protein is very essential for the well being, protein maintains the overall health of the body as it builds muscles, repairs tissues and strengthens the immune system. Also, meat is considered as the best source of protein because it contains all the essential amino acids.
* It is also rich in iron, zinc, selenium thiamine, riboflavin, niacin and many other nutrients. Iron plays an important role in our body as it further generates hemoglobin which acts as the carrier of oxygen to different parts of the body[[6]](#footnote-7).
* Meat also has ample of necessary vitamins. Vitamins A, B, D, play a major role in maintaining eyesight, teeth, bones and even central vascular system which further promotes the mental health of an individual.

**SEAFOOD**

After some researches and studies it is found that, when some people did not have enough food around 40,000 years ago they started consuming aquatic animals to meet their demands[[7]](#footnote-8), since then the practice of harvesting, processing, and consuming is popular. These researches have also shown that the river ‘nile’ used to be full of aquatic animals and these in turn were the major source of food in and near Egypt. Now almost all the countries in the world have a well developed market of seafood and the practice of fish farming and aquaculture is quite prevalent. The most widely served seafood are ‘shrimp’ and ‘fish’, densely populated countries like China consume them in their daily staple diet, also there is a wide variety of fish in the market.

**BENEFITS OF CONSUMING FISH**

In this section also first we are going to look at the benefits of consuming fish :

* It fills our body with many rich in quality nutrients like proteins, vitamins, minerals and iodine. Most importantly it is the best source of Omega-3, which is very much necessary for the functioning of brain and further reduces many health risks.
* During a study in the US it was shown that people who had balanced amount of fish intake are less prone to heart diseases and strokes, than to the one’s who do not consume.
* It is also proven that because of rich in nutrients and Omega-3, it plays a vital role in treating depression, improving brain health and lowers the risk on vision impairment[[8]](#footnote-9).

**HOW IS MEAT HARMFUL TO THE ENVIRONMENT?**

To maintain the meat supply chain there is abundant manpower employed, as mentioned earlier today this industry is worth billions of dollars and is the daily source of earning for crore around the world. Initially when scientists showed concerns regarding the effects of meat production on the environment they were not paid much heed, now the time has come that it is now an arduous task to control this multi billion dollar industry and this data was put forward by UN’s Food and Agriculture Organization (FAO). In fact the livestock sector has become one of the leading contributors to the degrading environmental balance[[9]](#footnote-10).Some scientists are planning to introduce a diet plan which would easily allow meat and dairy products to feed around 10 billion people till 2050, but is this ‘a pipe dream’?[[10]](#footnote-11) It requires a careful study to understand this concept.

* First let us look at how is it contributing in polluting the water, with the increase in the demand for livestock products globally the damage is just going to increase. Most of the water that is used for the livestock purposes is very difficult to rejuvenate[[11]](#footnote-12), the water which gets back to the environment in the form of liquid manure and slurry as in the water a large quantity of heavy metals, pathogens, oxygen reducing substances, antibiotics are present. Also studies have shown that chicken, goat, beef, consume a considerable large amount of water per kg if compared to what vegetables and fruits consume and this figure is around 29% of the total freshwater that is available to us. The major percentage of that figure is used for production, drinking and cleaning the farms and slaughter houses[[12]](#footnote-13). Often this toxic water is released into water bodies and this harms the water quality and aquatic species. Livestock is the main contributor to the degrading nature of biodiversity in the South China sea, as it is the main inland source of phosphorus and nitrogen which contaminates the water.
* Another thing which is drastically getting affected is ‘land’, livestock is the largest user of Land resource, all the animals which are included in livestock are major consumers of feed crops. Feed crops include grass, roots, tubers, grains etc. they are used to feed them[[13]](#footnote-14). A shocking study reveals that ever year about 18 million hectares of forest is lost because of livestock industry, as in large scale the process of leveling land and deforestation is done to provide support to the industry. The land degradation is not only affecting us but also to the other land species who are getting extinct at a much faster pace[[14]](#footnote-15), even overgrazing is also associated with degradation of soil as they erase much needed nutrients necessary for the enrichment of soil. If we combine the overall process of meat production right from building space for them, around 70% (some sources say it is around 80%) of the total agricultural land that is available to us goes to them. With the growing demand of beef in the western countries things are just going to get even worse, for the simple reason that cattle consume a much greater amount of water and feed crops than any of them.
* The next thing is quite difficult to absorb, and that is the meat which is in our plate is actually responsible for climate change and global warming that we are experiencing lately. The animal agriculture is directly responsible for the emission of greenhouse gases much more than the overall transportation system globally[[15]](#footnote-16). Scientists believe that if we start shifting to plant based diet then we can, to some extent, mitigate this problem. The livestock industry is responsible for a considerable amount of greenhouse gas emissions. In countries like New Zealand where livestock industry is one of the major contributors to the economy, is responsible for nearly half of the greenhouse gas emissions there. Conversion of natural habitat for the industry is further responsible for carbon pollution, it is also proven that when manure decomposes it releases ammonia, carbon dioxide, and methane[[16]](#footnote-17). We all know how much is Amazon forest important for the wellness of the planet, it is not only rich in biodiversity but also the largest tropical rainforest. In the recent years the Amazon forest fires have increased by 80% and major reason is climate change caused through this industry, it is estimated that annually 10,000 square miles of the Amazon forest land is cleared just for the purposes of livestock[[17]](#footnote-18). If this industry is still not controlled then we will face a major change in our environment in the near future, and this human race will not be able to resist that.

**IMPACT OF FISHING INDUSTRY ON THE ENVIRONMENT**

The fishing industry has been on a rise in the recent decades, the industry is growing at a rate of 6% annually and soon may outgrow other food industries, but all this is coming at a huge cost. In a study it was published that by 2048 there will be no seafood in this world, what does this mean? It means that soon there will be no aquatic life[[18]](#footnote-19). The major reason is overfishing and advent modern methods of fishing are giving a major blow. With the growing population and also because of rich nutritional benefits more people are now shifting towards this. Earlier it was believed that this industry is in a sustainable state but this thing is in a question. When we talk of fishing industry it refers to the overall chain, which includes catching, processing, and selling. Like the meat industry even this provides employment to crore around the world, but now some serious steps are to be taken for saving the marine life and the environment. Some major effects are necessary to be highlighted.

* The very first major problem is overfishing, because of which many species are on the verge of extinction. Overfishing refers to a state when the population of fish becomes dangerously low, also results in resource depletion and at times unsustainable size of the population. The best example is ‘Atlantic cod’ which was widely available in the 17th century in the Atlantic ocean, but with the growing demand of now it is believed that we have already lost around 99% of Atlantic cod[[19]](#footnote-20). Overfishing also disturbs the sea ecosystem and according to an estimate over 70% of the species of fish have almost depleted. The concept of aqua farming is largely responsible for overfishing; it is a method which provides the necessary habitat for the production of fish for commercial purposes. Many of the fish that are produced here are predators that means for survival they need to consume smaller fishes and to meet this demand billions of fish are caught[[20]](#footnote-21). Another practice which is responsible is dragging, through which species from the bottom of the seabed can be extracted and this also damages the coral species, coral is very much essential for the maintenance of ocean ecosystem. Along with it the dragging process also brings sediments with it and through the ocean currents it gets transferred to far reaching places and when it accumulates in large quantity, it creates water murky and blocks the sunlight because of which there is lack of oxygen underwater.
* Apart from overfishing the techniques and methods that are used for fishing and feeding them to meet the overgrowing demand is also damaging the environment. With the advent of this aquaculture or aqua farming millions of fish are fed together and to protect them from diseases and parasites large amount of chemicals and pesticides are readily released into water, which horrifically damages the marine ecosystem[[21]](#footnote-22). In some places though it is banned but there are many countries which follow the dreadful ‘blast’ and ‘cyanide’ fishing practices. Blast fishing technique refers to a practice where fishermen use explosives to kill a large quantity of fish in a short span of time and Cyanide is even more harmful as here the poison is sprinkled throughout the coral reefs and then fresh water is used to cleanse the stunt fish. Shark finning is another such type of method, as these days many food lovers have developed their liking towards the fins of sharks and its demand has rocketed, the fishermen remove them and dispose the rest of the shark back into the water. Though the shark is still alive but won’t be for long, there are chances that it will be consumed by other predators and or die of suffocation, around 73 million sharks are already killed for the human appetite and there is no ambiguity that this will disturb the entire ocean ecosystem[[22]](#footnote-23). Moreover when they practice such heavy fish producing techniques many non- target species also get caught and we refer to it as By catch, the most prone to it are turtles and it is well known that they are already endangered[[23]](#footnote-24).
* These are not the only problems the fishing industry is largely responsible for the deteriorating quality of water. To heighten the production of fish many chemicals are released in the water bodies and they are rich in carbon, nitrogen, phosphorus, suspended soils and among many other things which are obviously not suitable for the quality of water[[24]](#footnote-25). Another major problem associated with it is ‘eutrophication’, as these chemicals are filled with minerals and nutrients they in turn lead to excessive algae production, and this chokes the oxygen of the water body which is not only harmful for aquatic one’s but also for humans as algal blooms make the water unsafe for human use[[25]](#footnote-26). From authorities to fishermen no one is taking this issue on a serious note, there is also lack of funding to control this. Aquaculture makes it difficult to replenish and even harms other aquatic mammals like penguins. Not to forget that oceans are source of 50% of the oxygen on this planet and we cannot afford to disturb the aqua ecosystem.

**HARMFUL EFFECTS OF MEAT ON OUR BODY**

Earlier we have discussed about the nutritional values and health benefits associated with the meat, but there is a much more deeper negative impact also. It has become much necessary to understand as the meat production has grown by 5x since the 1960’s and with this pace it is just going to surge[[26]](#footnote-27).

* The very first risk associated with it is the risk of developing cancer, particularly colon, rectum and breast that too by 18%[[27]](#footnote-28). This risk was also posed by the World Health Organization (WHO) and they concluded red meat is far more dangerous than white. There are many reasons to support this theory, the very first being it is bereft of fiber and other essentials that can protect against it, moreover it is laden with animal proteins, saturated fat, and carcinogenic compounds, all of them contribute to the risk.
* The most discussed one is the risk of having ‘heart diseases’. Since they all contain high levels of cholesterol, saturated fat, trimethylamine N-oxide (TMAO) and many a times causes blockage in the blood vessels which further leads to stroke and failures[[28]](#footnote-29).
* Many researches have proven that it is not advisable to consume meat if one desires to stay fit, for the simple reason that meat is digested later than plant based food and this excessive protein gets accumulated as fat. This condition of excessive body weight is called obesity and it is inimical to health[[29]](#footnote-30).
* Risk of having type 2 diabetes is also in the list, it is a condition where body does not produce enough insulin or resists the insulin. Consumption of red meat is far more dangerous for this condition, as it contains high level of sodium in it which is responsible for increasing the blood pressure and also builds insulin resistance in the body[[30]](#footnote-31).

Also this point is worth noting that around 70% of the total antibiotics produced are used in livestock sector, which means with the increase in human population and our dependence on meat soon there will be a shortage of antibiotics for humans.

**HEALTH RISKS ASSOCIATED WITH FISH**

One might argue that when we compare fish with meat it apparent that, though it is harmful for the ecosystem but they at least fish’s don’t harm the body instead they supply with many essential nutrients for the body, but is it really true?

* The very first health risk associated with it is the existence of mercury in abundance, majorly because of pollution in the water. Mercury is highly toxic and has the ability to completely damage the central nervous system and might cause depression, Alzheimer's and risk of heart attack[[31]](#footnote-32).
* The major reason which is widely advertised is fish’s have omega3 and it’s good for heart, but it is not actually helping us. Substantial portion of the fat in fish is saturated and gives rise to more cholesterol, which further blocks the arteries and increases risk of heart failure[[32]](#footnote-33).
* There are a lot of industries and factories that discharge their toxic effluents, without treatment, into the water bodies and one such is Polychlorinated biphenyls (PCBs), which get deposited at the bottom of lakes, rivers, and oceans. The various aquatic species that live and eat there accumulates in their tissues. This when exposed to a human body can cause skin diseases like acne and rashes, and at times damages the liver[[33]](#footnote-34).
* Another problem which was recently highlighted is that the various types of fish’s are mislabeled. That means we are not getting what we are paying for, maybe you are expecting some high quality fish but there are high chances that the shopkeeper will supply you with the inferior one, and no need to mention that it won’t be good for your health[[34]](#footnote-35).

**RELATION WITH SPIRITUALITY**

There is a strong connection of food with the spirituality or religion and the production of meat and fish is also effected with various religious ceremonies. Its intensity depends on the extent of one’s belief. There are religions which strongly condemn the eating of non-veg food like Jainism, they follow a rigorous diet in which underground vegetables such potato, onion are also forbidden as they want to prevent the plant from getting uprooted and killing microorganisms and insects. While if we’ll shift our focus towards ‘Durga puja’ a widely celebrated festival in the state, a 5- day festival where thousands pay homage to the Hindu goddess Durga. During this time streets are filled with joyous crowd and people from every religion living there celebrate with equal fervor[[35]](#footnote-36). This festival is widely celebrated in Bengal, Odisha, Bihar, and Assam, it coincides with Navratri where people restrain from consuming non- veg items but here it is not the same. There is a ritual of sacrificing goat and Buffalo to mark the defeat of Mahishasura. Also during this time the sale and consumption of fish and meat actually go up, besides this also generally people in Bengal, Andhra Pradesh have a routine habit of eating fish and meat.

In Judaism too there is a different culture of celebrating new year in the 7th month of Hebrew calendar, goes by the name ‘Rosh Hashanah’. During this time too sacrifice of animal particularly fish and meat for charity is quite prevalent, and people prefer to eat them to as a part of their customary tradition[[36]](#footnote-37).

Then another in the list is ‘Bakra Eid’, this is also a pious festival celebrated by Muslims around the world having a historical relevancy of sacrificing an animal. The animal so sacrificed is divided into three parts, first one for friends and relatives, second one for the poor, and the third one for themselves. In India mostly the sacrificed animal is goat[[37]](#footnote-38).

However, these are just a few examples there are many more religions or festival celebrated by a particular religion which have some significance with eating meat and fish. People are very stubborn when it comes to religion and no one wants to really talk about the effects of these traditions on the environment. It is true that these festivals may not contribute majorly in the overall production in a year but it surely gives a push to it.

**MARINE LAW**

The Marie or Fisheries Law is something which is rarely taught at law schools around the globe. The reason may be we have still not realized that how much more we are about to endanger the environment. India first realized in the 1970’s that their fisheries sector is really in crisis and soon there will be even less fish’s available, the reason for this was in 1953 the government introduced Indo- Norwegian project. The aim of this project was to mechanize the technique of fishing to increase the production, during 1970’s a rift began between traditional fishermen who use old techniques with the one’s that use mechanized and modern[[38]](#footnote-39). The government then in 1978 set up ‘Majumdar Committee’ to look into the rights of small fishermen and biodiversity, however the suggestions of the committee were not passed in the Parliament. Then again in 2009 one such bill was introduced, Traditional Marine and Coastal Fisher folk (Recognition of Rights) it mainly aims to protect the rights of fishermen, but also has some remarks on conservation of Biodiversity and distance limit upto which fishing can be practiced[[39]](#footnote-40). The implementation of this act is unknown as today India is also one of the leading producers of Seafood and the system of aquaculture is on the rise.

**LAWS ON MEAT**

There are laws formulated to protect the rights of animals and functioning of slaughterhouses. Meat Food Products Order, 1973, is one such law it articulates on manner of producing meat, disposing corpses, maintenance of hygiene in and around the slaughterhouse and various such issues[[40]](#footnote-41). Under various sections of Prevention of cruelty to animals act, IPC, Wildlife Protection act, the rights of animals and punishments on violating such rights are discussed. Moreover, recently in 2017 the Supreme Court ordered all the States and Union territories to look over and close all the illegal slaughterhouses, in an estimate there are around 30,000 such slaughterhouses. Some states like UP, MP, Chhattisgarh, have started the crackdown but many states showed no progress, the court ordered this because of the heinous conditions and the horrific treatment of animals was in question[[41]](#footnote-42). Such laws are important but the bigger question is still overlooked by the authorities, that how to protect the environment from this ever growing industry.

**BIGGEST CONSUMER OF MEAT**

Since decades the United States of America is leading the chart of the largest consumers of meat. The reason for this can be traced back to the 19th century. The immigrants during that time found amazing to visit the country as they can easily get the meat and at a lesser price than what was prevailing in Europe. With grazing lands close to the cities, availability of animals, and the rising demand made the dwellers to increase the production of meat and soon this industry became flourishing[[42]](#footnote-43). Even after being the leaders of production in meat, the country still imports tones of meat to meet the demand of its citizens, in 2016 the country produced around 41 million metric tons of meat[[43]](#footnote-44), we cannot even imagine the amount of destruction alone this superpower is doing to the environment.

**BIGGEST CONSUMER OF FISH**

China is the leader in the fishing industry, it is not only the biggest producer but also the biggest exporter of the fish in the world, and in fact more 1/3rd of the world’s total fish production is done in china. However, they were not always like this propelled by the rapidly increasing domestic demand for the fish’s in 1970’s both the people and government saw the opportunity[[44]](#footnote-45). At that time they had not much production capacity as only 26% is produced through aquaculture and rest by inland and marine catch, but in 2013 the figure had reversed roughly around 74% of the production was through aquaculture. To become the global leader they did every possible way to increase the production, frequently china violates the international guidelines and practice fishing in Exclusive Economic Zones of other countries as well particularly in the South China sea. China has badly damaged its marine ecosystem but all they care about is profit generation and they even import fish’s in large quantity. In 2017 china produced 69.96 million tones of fish and mainly through aquaculture, we already know what impact the aquaculture put on the marine ecosystem.

Now it is quite apparent that the countries which are economic superpowers and roughly controls the world, are themselves the biggest contributors to the fateful condition of the environment.

**HOW TO CUT DOWN MEAT PRODUCTION**

Till now it has become very much clear how necessary and urgent it is to at least try to reduce the production of meat, it is much evident that soon deforestation, emission of greenhouse gases, global warming, and pollution of water will just increase. It is not necessary that authorities should take the initiative, even we can help saving the environment.

* The very first and the easiest thing which can be done is going ‘vegan’, many celebrities have recently turned vegan, but what exactly it is. Vegan refers to a practice where a person refrains from eating anything that can be linked to animals, it even discourages the use of dairy products. It can be extremely difficult for the one’s who just love to eat it, they can start by consuming it 1-2 times a week or 500gms of meat can be enough initially and increase the consumption of beans, pulses, seeds, nuts or simply plant based diet. The basic purpose of mass production of meat is to satisfy the booming demand and if we can control that then for obvious reasons. In a study by Oxford University it was concluded that dietary greenhouse gas emissions among meat eaters were roughly around 54% more than vegetarians and 102% more than vegans[[45]](#footnote-46).
* By imparting more knowledge on animal welfare and their rights, we can prioritize the concept of animal welfare. A significant percentage of animals that humans consume come from industrial farms, and conditions there are just horrific, they are caged, their wings and tails are being removed, sometimes the process of castration is done even without administering anesthesia, many animals die of suffocation and there are many such things which are simply violation of animal rights. God has not given us right to exploit the animals in such a way[[46]](#footnote-47). Then we can communicate with others and let them know about welfare and rights, and what impact does this industry causing on environment.
* Another step which can be taken should come from authorities, as this involves taxation. This step can be taken by the governments but for sure it won’t be liked by the citizens, as this can be counted as a harsh measure. After the increase on the already existing rate of taxes, the meat would become more costlier than ever and its consumption will by default crumple down because then only the people with high income or of elite class could afford it.
* The next measure recently got a lot of media coverage and people termed it as future meat. This future meat is a lab grown synthetic or cultured or clean meat, it is grown by using the animal cells instead of using the entire animal. The reason it is labeled as future meat because by 2050 there will be much more people on earth and the demand for meat will just double, and if we kept on producing through traditional means then there won’t be enough water or land on this planet that could provide livelihood. This lab grown has multiple benefits like it has more proteins and has polyunsaturated fatty acids which would not impact our body. Moreover, the cultured meat generates 96% less greenhouse gases as compared to the traditional method, so it can save the animals environment, and our body all at the same time[[47]](#footnote-48).

Adoption of these measure should be taken with keeping in mind that millions of families are dependent on this sector. We need to make a gradual shift towards these, also this lab grown meat is much costlier than what we pay now and with the technological advancements its price will be controlled.

**HOW TO CONTROL THE PRODUCTION OF FISH**

There is no point in ignoring the situation of 70% of the planet, the water. Researchers have accepted that the commercial fishing is creating more impact on contamination of oceans than any other means, from providing drinking water to maintaining the climatic conditions they play a major role and is of urgent need to draw out plans for its conservation[[48]](#footnote-49).

* The first thing which can be done is same as above i.e. turning vegan and that would but natural bring down the scale of production. It has already been mentioned that the trend of fishing has reversed and now fishing has grown into a full commercial industry, where techniques that completely undermine the life in water are used for monetary benefits. As mentioned earlier it will be a slow but effective change, people should be encouraged for going vegan beginning with cutting down the consumption of fish or any seafood and then gradually avoiding it completely.
* This method is very much effective and researchers have shown great interest in implementing it. We are talking about the practice of sustainable fishing through people can continue the consumption and at the same time creating a much lesser impact on the environment. It is a method in which fishing is done for specific species and only during certain times in a year, thus it allows fish’s to replenish themselves. Further some areas are also exempted for fishing like corals and more emphasis is given on traditional methods of fishing[[49]](#footnote-50). This practice is still continued by the ‘tangbanua’ community of Philippines, if this method will get accepted at large then with addition of some modern technology great results can be achieved.
* This method is already in use but it needs some betterment to show better results, as it has some drawbacks but still the benefit is far more. This method is building of ‘Marine parks’, these are much helpful against overfishing, spillovers and overall manages the marine ecosystem. Here, these parks regulate activities of fishing and the allow them in a specified area, then there are no- take marine parks which completely bans the fishing activities. At times catch quotas are also introduced, that means the authorities there fix the quantity of fish’s that can be caught, they also discourage the use of harmful fish gears and in a nutshell it can be said that it improves the habitat[[50]](#footnote-51).

People will gradually start accepting these measures but it is sure it will take years, till then the best thing which we can do is going vegan or consuming in less quantity than the current. Nature should never be taken for granted.

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