



Climate Change and Coastal Disturbances: Impact on the Livelihood of Fisherfolks in Kerala

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Climate Change and Coastal Disturbances: Impact on the Livelihood of Fisherfolks in Kerala Renjitha T, Research Scholar, Department of Commerce Mar Ivanios college (Autonomous), Thiruvananthapuram, Kerala Dr Daisy Samuel, Assistant Professor, Department of Commerce, Mar Ivanios college (Autonomous), Thiruvananthapuram, Kerala Climate Change and Coastal Disturbances: Impact on the Livelihood of Fisherfolks in Kerala Abstract Over the last few years Kerala has been experiencing a series of climate changes. It is a combined result of various geographic factors, population growth, environmental disturbances, urbanisation etc.

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ABSTRACT

Over the last few years Kerala has been experiencing a series of climate changes. It is a combined result of various geographic factors, population growth, environmental disturbances, urbanisation etc. During the last few years Kerala witnessed several disasters and many people have lost their life and livelihood. The climate change and the resulting disasters have mainly affected the fisherfolks living in coastal regions. Even though the fisheries sector in Kerala is performing well it confronts various challenges like financial instability among fisherfolks, socio-economic issues, low fish catch, coastal pollution, over exploitation of marine resources, climate change hazards etc. The fisherfolk community depends on fishing and allied activities for their livelihood. Therefore, a small change in weather conditions drastically affect their livelihood and financial stability. Due to the unfavourable weather conditions the fisherfolks are facing many difficulties and they are struggling to raise their family. This study aims to identify the impact of climate change on fisherfolk's livelihood in Kerala.

KEYWORDS

Climate Change, Fisherfolks, Livelihood.

INTRODUCTION

Kerala state is located on the southwest region of India. It is surrounded by western ghats in the east side and Arabian sea on the west side which makes it a coastal region. Kerala's coastal line has helped the trade between countries. Highly skilled fisherfolks and rich marine resource with a wide range of fishes have made the state a major

fish producer and consumer. Large number of rivers and timely monsoon have made the coastal region a suitable place for the fish growth. The mudbanks occurring after heavy monsoon in this coastal region result in high fish harvest. Fishing plays a significant part of the Kerala's economy and a large number of people depend on this source for their livelihood. Fishing and allied activities is one of the oldest and the most important livelihood for the fisherfolk community in Kerala. Apart from providing an aquatic environment, it has ensured livelihood and financial security to the fishermen. Other than fishing, this sector also includes additional activities like peeling sheds, beach works, small scale fish vending, processing etc. Now, there are 222 fishing villages in the marine region and 113 fisherfolk villages in the inland region, where fishing and allied activities offer livelihood to this fisherfolk families. There are two types of fishermen, they are marine fishermen and inland fishermen. The marine fishermen mostly live in Trivandrum district, then Aleppey followed by Kollam district and then Calicut. Whereas the inland fishermen are mostly located in Ernakulam district followed by

The life of a fisherfolk is usually around the coastal area and even during major occasions like marriage or festival the community is depended on the coastal resource. Fisherfolk's livelihood is depended on the climatic conditions which are determined by the monsoon. But now in Kerala, during the last few years the weather conditions were rough and the patterns of monsoon were changing. Marine scientists stated that there are a number of environmental factors linked to the climate change like global warming, rising sea level, rapid warming of the oceans, and cyclones. This changes also affect the marine resources and leads to the reduction of plankton which is a food for the fish and it decreases fish production. During the heavy monsoon and rough weather, the strong waves rush towards the coast and it severely affect the fishermen and it disrupt their livelihood. The high waves sweep the entire coastal area and the fisherfolks are forced to shift from their native place. The economic activity of fisherfolks in Kerala is largely depended on its environmental conditions. So, in such a state, climate change is a crucial challenge for the fisherfolk's livelihood activities and can cause economic, social and financial problems to them.

Objective

To study the impact of climate change on fisherfolk's livelihood.

Climate Change

Climate Change means periodic modification of Earth's climate brought about as a result of changes in the atmosphere as well as interactions between the atmosphere and various other geologic, chemical, biological, and geographic factors within the Earth system. All these factors change through time. Some factors, such as the distribution of heat within the oceans, atmospheric chemistry, and surface vegetation, change at very short timescales. Others, such as the position of continents and the location and height of mountain ranges, change over very long timescales. Therefore, climate, which results from the physical properties and motion of the atmosphere, varies at every conceivable timescale².

Climate change in Kerala

Kerala is currently facing threat from catastrophic weather conditions. The severity of change in climatic conditions were grasped by the general public only when the calamities arrived at their doorstep. Climate change is inevitable but the increasing frequency and yearly occurring events increases its severity and causes concern. For the last few years Kerala has been facing temperature rise, irregular heavy monsoon, landslides, floods, high waves etc. The recently occurred life threatening disasters interrupted human life and many have lost their life. In 2017 Ockhi hit Kerala's coastal regions and after that in 2018 and 2019 severe flood drastically affected Kerala. Geographic peculiarities, change

in land usage, sensitive terrain, infrastructural developments, urbanisation, illegal constructions, waste disposal, population etc are considered as some of the main reasons behind climate change in Kerala.

Impact of climate change on fisherfolk's livelihood

1. The fisherfolk villages are usually living in poverty and climate change even worse their condition. Climate change affects their income stability as majority of the fisherfolk's earning is depended on marine resources and financial instability affects their family life.
2. Nowadays commercially important fishes are rare in Kerala's coast especially sardine which is considered as one of the main fish in Kerala. The annual study report of the Central Marine Fisheries Research Institute says that the sardine catch was just 44,320 tonnes in 2019, and the yield dropped to one-third of that in 2020. It was 4 lakh tonnes in 2012. It affects the financial stability of fishermen because earlier sardines were available at low rate and was consumed by all. But now due to its decreasing availability it has become comparatively costly. Now the fishermen return with empty boats which also increase their expense. During the last few years due to rough climatic conditions the number of fishing days in Kerala has come down drastically. According to the annual marine fish landing estimates, Kerala had a 56 per cent drop in the number of fishing days in 2020 compared with the previous decade³. Last year due to heavy monsoon and cyclones, the number of fishing days had reduced considerably. Covid lockdown and climate change has increased fisherfolk's woes.
3. Climate change and increased fishing causes more pressure on aquatic resource. Pollution in the sea and other environment unfriendly fishing methods also affect fish growth. This creates livelihood challenge for the fisherfolk as sometimes they get only few fish and the fishing net gets filled with plastic waste and sometimes, they return with empty boats.
4. During heavy monsoon the fishermen are forced to work because of their financial needs. They launch their boats and venture into the sea by breaking the huge tides. This activity sometimes led to the loss of their life.
5. Ockhi had killed 143 fisherfolks from Kerala state. Later found 52 bodies of fishermen and remaining 91 fishermen who went missing during the cyclone were declared dead. Cyclone Ockhi severely affected the survived fishermen's life because the injuries after the Ockhi left some of them paralysed and handicapped. The Government offered monetary support to the owners of damaged boats and to relatives of the deceased fishermen and for the treatment of injured fishermen. But fishermen community claimed that the offered amount was insufficient.
6. During each disaster many fisherfolks lost their houses and sudden sea erosion destroyed their houses and their families were relocated to temporary camps. Their children's education is also affected by this relocation.
7. The fishermen usually buy boats by borrowing money from private moneylenders. When the rough weather makes damage to their boats, they are unable to go for their work for many days and this will put them in debt trap. So, the smaller number of equipment, boats, rising fuel price and lack of proper improvement in fishing methods pushed their families into debt and poverty.
8. Climate change and poverty increased health issues and diseases. After sea erosion and monsoon season the health and hygiene becomes a serious issue, this also affects their life.
9. In the last few years many fishing villages in Kerala have seen no socio-economic progress due to climate changes. Many fishermen and women fish vendors have quit their job out of fear and many have taken long break from the work. This negatively affected the economies of fishing industry.

Government support to fisherfolk community

The Government should create awareness among fisherfolks regarding adaptation strategies about climate change. A closely connected fisherfolk community should circulate the Government warnings and risk related information. The Government should provide timely warning to the community after erratic climate events and the Government should provide adequate compensation for their losses. The Government's precautions as a part of the disaster management are also affecting their lives. They are not giving compensation for the days they have lost as a part of disaster precaution. The Government should compensate the fishermen with free ration for their loss of working days. Fishermen usually take loan for buying and repairing their boats and they have demanded that the Government should write off all these loans to help the fisherfolks. Subsidies and financial aids through banks, post office schemes, etc can be provided by the Government to ensure the financial security of poor fisherfolk's lives.

Majority of the fisherfolk villages have no proper drinking water facility or sewage lines. Apart from basic infrastructural facilities the Government should also give due importance to social aspects such as health and education of the children, skills development and training etc. To make the coastal region plastic free the Kerala Government initiated Suchitwa Sagaram Sundara Theeram project. It is a 3 phased project where the first stage is to create awareness among public regarding the harmful effects of waste disposal in coastal regions. The second and the last stage is concentrated on the removal of waste. And to create awareness among fisherfolks regarding the demerits of plastic waste they are planning to place awareness hoardings at various coastal regions, port, fish markets, harbours, fisherfolks villages and at fish landing centres. The Government of Kerala has launched a programme called Parivarthanam, to enhance socio economic conditions of the fishing community. This programme is for youngsters in the coastal areas and it aims at improving their livelihood skills. Fishermen complain that the Government makes various announcements and projects but none of them were properly implemented to protect the coastal villages.

CONCLUSION

The fisherfolk community is facing constant threat of climate change. Climate disruptions have become a usual affair in the coastal region. In the last few years, Kerala's many coastal regions have been swept away by sea erosion. But still Kerala Government is not prepared enough to handle the situation. During the heavy flood in 2018 the fisherfolk community rescued many people and then these fishermen were praised all over the country through various medias. But their miseries were untold and their battles in life remained the same. The beneficiaries of Kerala's coastal resource are not just fisherfolks but also a large number of people like boat owners, fish sellers, drivers and ice breakers are also included. It is a huge economy, so climate change in Kerala affects the state's economy. Therefore, the Government should take necessary measures and should properly implement them to reduce the negative impact of climate changes and to protect the life of fisherfolk community.

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