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Impact of cropping land use change on the food security of the people of Kashmir: A Review

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Abstract

Changes in land usage are important to the issue of food security. Food safety has dictated mankind's history. Over the next four decades, the world population will rise to approximately 9 billion. In the 21st century, the demand for food and feed is expected to treble, further increasing the strain on land, water and nutrients. The interconnections between food security and land use are of major concern to politics, science and society as a whole, both today and for the next several decades. During the last ten years, significant LULC changes were experienced in the research region owing to fast urban expansion, poorly planned infrastructure development and horticultural behavior which have negatively impacted food security. The temporal Landsat satellite data collected by Thematic Mapper (TM) was used for the LULC change detection study. The classification method supervised by Maximum Likelihood (MLH) was used for the classification of the field, while Post Classification Comparison (PCC) was used for analyzing LULC changes.

Key words: Cropping, land, food, security, Kashmir, Agriculture, etc

Introduction

Production of agriculture has always been at the whim of unpredictable weather, but the constantly changing climate makes agriculture a more fragile business. With changes in precipitation patterns, farmers face double risks from floods and drought. Both extremes may damage crops for food. Flooding cleans rich topsoil on which farmers rely on productivity, while droughts drain it and make it easier to blown or wash it. Greater temperatures raise the water need of crops and make them more more susceptible during dry seasons. The main grain crops in Jammu and Kashmir (J&K) have been cultivated on approximately 250,000 hectares, 210,000 hectares and 110,000 hectares respectively. Basmati rice and rajmash (pulses) are important Jammu cash crops. Food production is highly dependent on local climatic change. Not enough or too much rainfall, a hot period, or a cold stunt at the wrong time may have a major impact on local agricultural yields and animal output, such as floods and storms. Agriculture and its associated sectors provide the cornerstone of the economy, supplying 70%

of the people with economic possibilities and contributing around 27% to the revenue of Jammu and Kashmir.

In India, farm risk is driven by a number of variables, such as climate variability, severe weather, crop management methods, soil fertility condition, etc., which eventually cause uncertainty in grain yields and pricing.

Climate Change is on the way

J&K overcame the global average temperature increase (for the last 100 years). Compared with the worldwide increase from 0.8 to 0.9, the state reported an increase in temperature of 1.2 degrees Celsius. Seasonal air temperatures also indicate an increase in all seasons, which is a reason for worry, according to scientists.

In the 2030s the annual precipitation in the Himalayan area is expected to range from 1268±225.2 to 1604±175.2 mm. Environmentalists / farmers in Kashmir Valley think that an unnatural increase in the temperature of certain of our native plants may be severe, increase sterility and thus decrease total output.

Irrigated output of J&K rice, wheat and mustard may be decreased by 6%, 4%, and 4% correspondingly. Food production deficits in the Kashmir area have reached 40%, while vegetable production and olive production have a deficit of 30% and a deficit of 69%.

Changes in climate lead to extension of the usual range of pests, leading to more crop illnesses and eventually a decrease in the output of food crops.

In recent years, as a result of climate change, rice output has been degraded each year and farmers from various regions of the valley are embracing horticulture.

Indeed, Cashmir, which produced adequate agricultural products such as rice and wheat, is producing today hardly these grains and, if the climatic change continues at the same rate, very soon Cashmir will import all of the food that the inhabitants of Cashmir are consuming out of neighboring states.

In 2016 the United Nations Food and Agriculture Organization (FAO) said that climate change affects almost 80% of the world's poor who rely on agriculture for their livelihoods.

The State Climate Change Action Plan for Jammu and Kashmir, a study produced by the state government's Climate Change Cell, has also cautioned that "Cashmir is leading a unique climate scenario with a rising net temperature."

Climate change has impacted J&K output of the main crops disproportionately. According to the Economics and Statistics Directorate, the Jammou Government and the Kashmir Annual 2013-2014, rice, maize, wheat, barley, pulses and oleaginous grains already began to fall by half. The output shortfall in the Cashmir division is primarily attributable to geographical and climatic circumstances because most areas are monocropped.

Food grain output has more than tripled in the state, with a production of 4,53 lakh million tons between 1950 and 1951. Despite such considerable progress, the state still imports about 40% and 20% of its food and vegetable needs respectively.

The state's cultivation of saffron has a historical history and J&K is the only state in India to grow saffron for commercial reasons. Over the last two decades, saffron output has declined as a result of global climate change.

Impacts

Impacts are usually caused by numerous stresses. Agriculture produces environmental pressure which is both helpful and detrimental, and may have both positive and negative environmental effects. The large diversity in agricultural systems and practices across the globe and the different environmental features imply that the environmental consequences of agriculture are locally and globally based.

FOOD SECURITY

Food security is essentially a situation in which food supply is guaranteed. Food security occurs when all individuals have access to nutritious, safe food at all times in order to satisfy dietary and food preferences for a healthy existence. The food safety in all regions is affected by various variables such as droughts, floods and shortages of fuel. In a region such as Jammu district, the ground is ondulated and the rainfall is extremely erratised and does not provide the necessary requirement. The output of crops in the study area has also been shown to grow, although the acreage under the major food crops has stayed almost steady or slightly increase. It shows that farmers in the study area have exploited arable land extensively for increasing

output using intensive inputs. However, this kind of agriculture leads to land exploitation and will reach its limit in the future. It is essential to have a healthy relationship between food processing, distribution, marketing, social justice, human health, production of food, food consumption and economic vitality for food safety. Jammu must import significant quantities of food products from other areas to meet the needs of growing populations. Because Jammu is not an autonomous district in terms of food security. This is thus one of the most important problems that must be taken into account since we have a large geographical region, yet the land use pattern is not as it should be. We have a large proportion of unclean land therefore we have to utilize it instead of fertile land for infrastructure. As we have previously mentioned, the fertile land in the district is relatively little and infrastructure development in such places is also productive on agriculture. The time is needed to formulate policies that can regulate the land diversion for other uses.

Conclusion

Land use / Country cover study showed large differences at zone level. New land systems which are suited to the local environment and framed within the global socio-ecological system should be developed. Such land systems should clearly account for the function of land governance as the main engine for changing the land system and producing food. This research details the magnitude of the different land use changes in the field of study. The losses in these groups were reflected in increases in other areas of land use. The most notable of these is the growth in the area under horticulture, followed by the construction. The vegetation class of Barren and Sparse/scrub likewise showed minimal growth. Moderately thick forests and water features kept their nature unaltered. Further research must be carried out, however, to ensure that every driver of land use change is identified, which influences a large chain of pressure-state effects and eventually reactions which include top decision-making on land use planning in the ecologically sensitive Kashmir valley.

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