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Seasonal variations in agricultural pattern and role of hill farm women in accordance with climate change

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Abstract
The women in hilly areas play a significant role in farming related activities in different climate variations and contribute in shaping the economy of the country in rural India. It is mainly due to men's migration for more lucrative jobs leaving all responsibilities including agriculture. In agriculture women are employed in those activities which are not mechanized and involve lot of drudgery. A study was conducted in two districts Kangra and Mandi of Himachal Pradesh comprising of 240 respondents. Data were collected using a well structured and pretested interview schedule. In both the districts female farmers had marginal landholdings mostly less than 2 acres. The main participation of women is in sowing, planting, weeding and harvesting in extreme conditions of weather. The irrigation is mainly dependent on rains. Most of the operations done manually or with traditional tools available in the local area. This all contributes to drudgery which interns affects the health of women. Cent per cent of respondents were of the view that there is vast change in temperature in both the winter and summer season with much of fluctuating rain patterns. Due to this respondents perceived that the season of rabi and kharif crops is shifting and shortening leading to less overall production. The information about climate change was acquired by them from mobile phone (74.17%), newspaper (13.33%) and by Radio (12.5%). Thus knowledge and awareness were given to farm women through trainings regarding climate resilience practices and modified improved tools to combat these problems.

Keywords: Farm women, climate change, drudgery, production, extreme

Introduction
Traditional agriculture has been the backbone of economy of Himachal Pradesh. Women work in various sectors of agriculture including production, processing and marketing which makes them vulnerable to different aspect such as work sensitivity leading to physical, mental and social pressure and climatic hazards leading to ill health. The impact of climate change is particularly visible in hilly terrain of Himachal Pradesh. Climate change and variability are likely to aggravate the problem of future food security by putting pressure on agriculture affecting its sustainability.

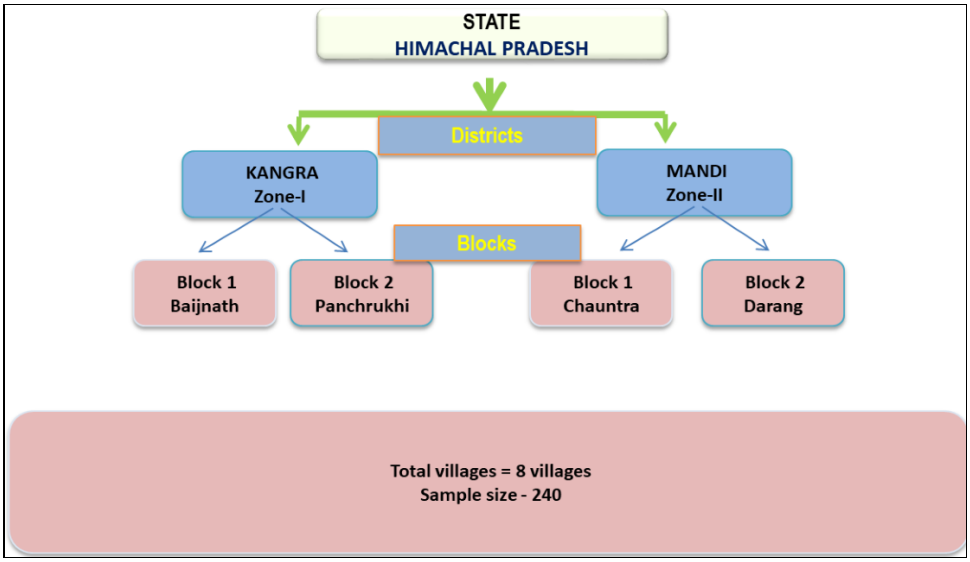
As the state is now vulnerable to disasters like cloud burst, extreme cold waves, varied fluctuating rainfalls rising temperature causing heat waves greatly harms the different agriculture activities. Most of the agricultural activities in the state is performed by women in different vulnerable climatic conditions manually or with traditional tools All this results in less production, drudgery, and leads to various health problems. Women farmers face great challenges such as limited access to new technology, limited resources like irrigation facilities, improved varieties, education and trainings.

The con sequences of climate change like water scarcity. Escalating temperatures shifting weather patterns has an adverse affect on agriculture sector which interns has a great impact on the hill farm women as she bears the responsibility of household, farm and allied activities. The farm women engaged in farming operations for long hours in extreme weather conditions, which results in heat stress or other weather related health issues. On the other hand variable rainfall and prolonged droughts lead to reduced crop yields. Furthermore, according to a study, there has been decrease in surface water resources during the past three decades in Himachal Pradesh (Rana *et al.*) Hilly area all over the world are considered among the most sensitive to climate change. Thus climate vulnerability affects the agricultural patterns, rural life, women farmers and their livelihood, diversification in agriculture and resource management. Due to all these conditions there is a compelling need for concerted efforts to understand the implication of climate change on vulnerable sections of women farmers and develop special strategies for making the fragile ecosystem of hills sustainable on which large number of

people depend. Therefore keeping in view all these aspects it is the need of the hour to study the effects of climate change and to find out the suitable adaptive measures for meeting all challenges. Therefore a study was planned in two districts of Himachal Pradesh with the objective to determine the impact of climate change on agriculture in terms of changes in crop production operations patterns in accordance with the role of hill farm women.

Methodology

A study was carried out in two districts of low and mid hill zone of Himachal Pradesh namely Kangra and Mandi Eight villages from two blocks were selected to make a sample of 240 respondents on the basis of demographic, socio economic and ecological data though secondary data and baseline survey through using well structured and pretested interview schedule.



Sampling plan of the study

Results and Discussion

General information

Majority of the respondents were in the middle age group i.e. Between 36 to 55 years of age. Maximum percentage of the respondents was married (86.25%) as compared to the 0.42 % who was unmarried. The greater part of the population belongs to the general category (57.08 %) living in joint families (51.67 %). The migration of members from the family was for the purpose of study (33.33 %), job (32.5 %) and other reasons (34.16 %). 20.41 percent respondents had good health as compared to 65.84 percent respondents with little sickness.

Respondents from both the districts were having marginal landholdings (97.92 %) and the irrigation is mainly dependent upon the rain. The main sources of irrigation are flooding, rain, *kuhls* (small water channels). Moorti *et al*. (1996) [2] studied the production constraints in hill agriculture with special reference to irrigation in Himachal Pradesh. They found that marginal value productivities of irrigation water were higher as compared to other inputs. Respondents in the study area also states that the irrigation is main constraint in enhancing the production of major crops paddy and wheat. The annual rainfall in Himachal Pradesh can vary from year to year and from region to region within state. The fields were located in the mid hills (62.5 %) and not very far from their dwellings that is less than two kms (82.50%). Cent percent respondents grow both rabi and khariff crops like wheat, maize, paddy, potato, gram, millets and vegetables. The information about climate change was acquired by them from mobile phone (74.17%), newspaper (13.33%) and by Radio (12.5%).

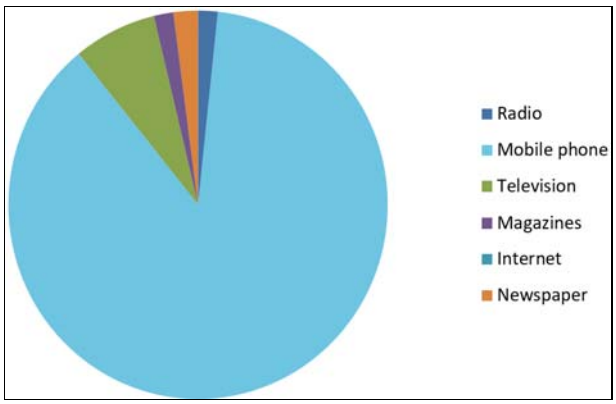


Fig 1: Sources of Information on forecasting about climate change

Perception of respondents about impact of climate change

Cent percent of the respondents are of the view that there is vast change in temperature in both the winter and summer with much of fluctuating rain patterns. Due to the erratic weather conditions the seasons of rabi and kharif crops are also affected. In both the districts there is shifting and shortening of the rabi crop pattern (October to November) and Kharif (June to September) crop due to climate change which leads to decrease in crop yields. Exposure to harsh weather conditions during performing agricultural operations the respondents feel drudgery and health related issues like headache, backache, skin diseases etc. same results were found in a study that mountain women, men, children usually have to contend with harsh environmental conditions, remoteness an d steep slopes. Susanne Wymann von Dach (2002) [5].

According to Fig.1 Respondents perceived decrease in the overall food production (92.50%), drinking water (88.75%) and its resources (100.00 %) due to climate change, on the other hand increase in flowering and fruiting time waterborne diseases (100.00 %) and forest fires (58.75%). The respondents are in view that there is changes in crop ripening, incidence of disease in crops and also increase attack of insect pests, whereas 96 per cent of respondents were of view that there is decrease in yields and use of chemicals. Further all were agreed that there is increasing trend in temperature during summer and winter, rainfall, hailstorms and windstorms. These results are in line with the study of Renu Jethi *et al*. (2013) [4] that consequences of climate change on farm women in hills are more vulnerable in accordance to agricultural operations in terms of drudgery and less production. Heavy rain falls, droughts, extreme temperature conditions compelling women to prioritize family care and alternative income generation methods.

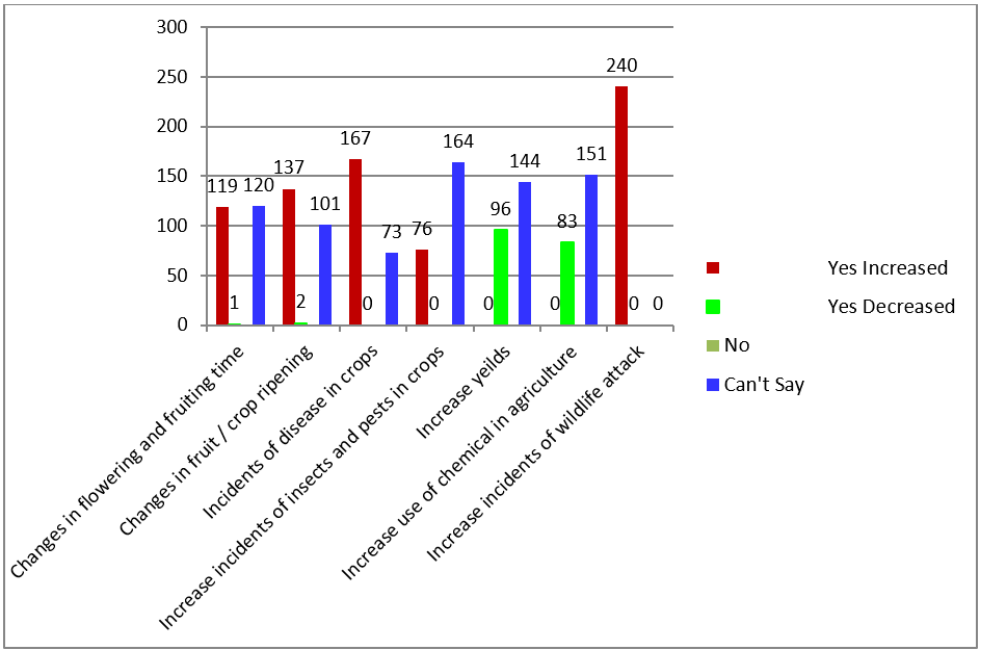


Fig 2: Perception of respondents about impact of climate change

Further it was observed that some of the farmers are shifting to grow vegetables raising nurseries (floriculture), mushroom growing side by side with farming for their livelihood security

Conclusion

Respondents from both the districts were having marginal landholdings that were dependent upon the rain. The annual rainfall in Himachal Pradesh can vary from year to year and from region to region within state. Majority of the respondents are of the view that there is vast change in temperature in both the winter and summer with much of fluctuating rain patterns. Due to the change in temperatures the seasons of rabi and khariff crops are also affected and there is overall impact of climate change on rural life, agriculture activities, women farmers and their livelihood. Critical challenges that agriculture sector would face in the event of climate change are water availability as result of changing rainfall patterns, Increased frequency and intensity of extreme weather events such as droughts, floods and cyclone and these would affect the production levels more than the impact of mean changes in the climate. Therefore the farmers should be encouraged to adopt adaptive strategies including income diversification and cultivating climate resilient crops, other alternatives for income generation through skill based trainings.

References

1. Anand A, Josse O. Celebrating mountain women; moving Mountains, moving women. In journal of Mountain research and development. 2002;22(3):233-235.
2. Moorti *et al*. Report on climate change programme, strategic programmes, large initiatives and coordinated action enabler (SPLICE) Division Department of Science and Technolgy, Ministry of Science and Technology Govt. of India. New Delhi. Edited *by* Akhilesh Gupta and H. Pathak; c1996.
3. Singh RR, Kalia V, Singh S, Randhawa SS, Chauhan R, Katoch A, *et al*. Climate vulnerability assessment of farming systems in Hismanal Pradesh, Indian Himalayas. In journal of Mountain research and development. 2021, 50-60.
4. Jethi R, Chandra N, Kumar M, Roy ML. Consequences of climate change on farm women in hills in Indian Farmers Digest, Directorate of Communication GBPAU& T Pantnagar 2013, 41-43.
5. Dach SWV. Integrated mountain development; A question of gender mainstreaming. In journal of Mountain research and development. 2002;22(3):236-239.