

**Assessing climate change vulnerability and adaptation strategies of
socio-ecological systems in the Central Himalaya**

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in partial fulfilment of the requirements for the award of degree of*

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CERTIFICATE


This is to certify that the research work embodied in this thesis entitled '**Assessing climate change vulnerability and adaptation strategies of socio-ecological systems in the Central Himalaya**' is submitted to Jawaharlal Nehru University for the award of the degree of **Doctor of Philosophy**. The work is original and has not been submitted in part or in full for any other degree or diploma to any other University/Institution.

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Dedicated to my mother

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LIST OF ABBREVIATIONS

SES	Socio-ecological System
IHR	Indian Himalayan Region
IPCC	Intergovernmental Panel on Climate Change
STES	Socio-Technical–Ecological System
NTFP	Non-Timber Forest Product
MSL	Meter above Sea Level
FSI	Forest Survey of India
IIRS	Indian Institute of Remote Sensing
NRSC	National Resource Repository Survey
ASTER	Advanced Spaceborne Thermal Emission and Reflection Radiometer
GDEM	Global Digital Elevation Model
MODIS	Moderate Resolution Imaging Spectroradiometer
PDS	Public Distribution System
LULC	Land Use/Land Cover
PCA	Principal Component Analysis
HCA	Hierarchical Cluster Analysis
KMO	Kaiser-Meyer-Olkin
ACU	Adult Cattle Units
LPG	Liquefied Petroleum Gas
SVI	Socio-Ecological Vulnerability Index
EI	Exposure Index
SI	Sensitivity Index
ACI	Adaptive Capacity Index



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The complete thesis can be obtained from Prof P K Joshi (pkjoshi27@hotmail.com or pkjoshi@mail.jnu.ac.in).