Evaluating The Impacts Of The Community Level Forest Management Policies In The Kavre District, Nepal

Module- Students Research Colloquium

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Presentation Outline

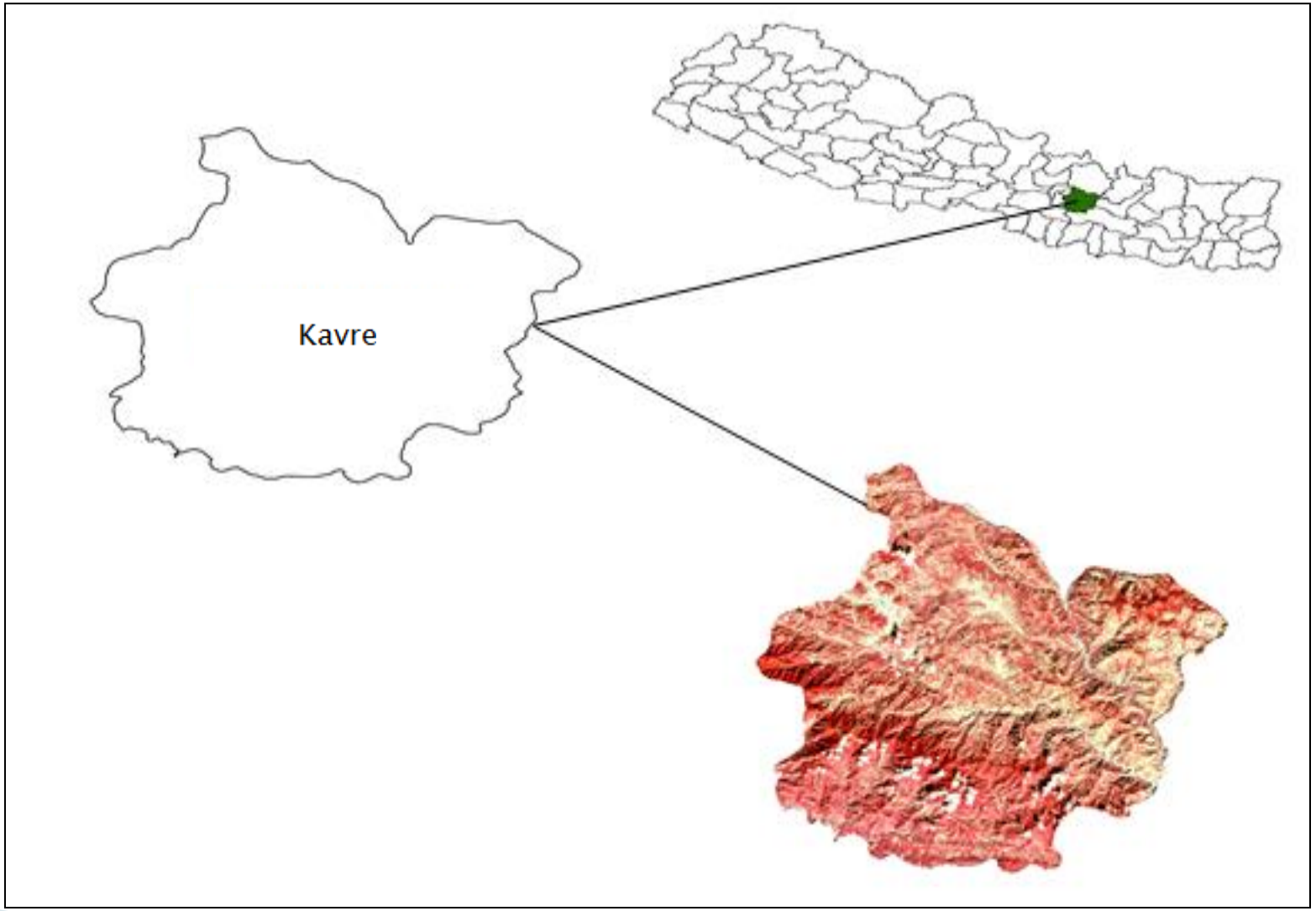
- Introduction
- Research Area
- Research Objectives
- Research Methodology
- Results
- Discussion and Recommendation

Introduction

- Community Forestry is the key for encompasses the forest Conservation Goals In Nepal (kandel et al.,2008)
- Deforestation is the major driving factor of global warming and climate change In Nepal(Elinor ostron, 1990)
- Trend of Community Forestry is Important for developments and poverty reduction.

- According to the forest act 1993, Local community get full control over government Managed forest.
- Similarly, District Forest Office is responsible for handing the National forest to the local community with the 5 years management plan.
- After the Modern forest legislation, GIS and Remote sensing are widely used to analyse the forest Cover trends in nepal(Nagendra et al.,2004)

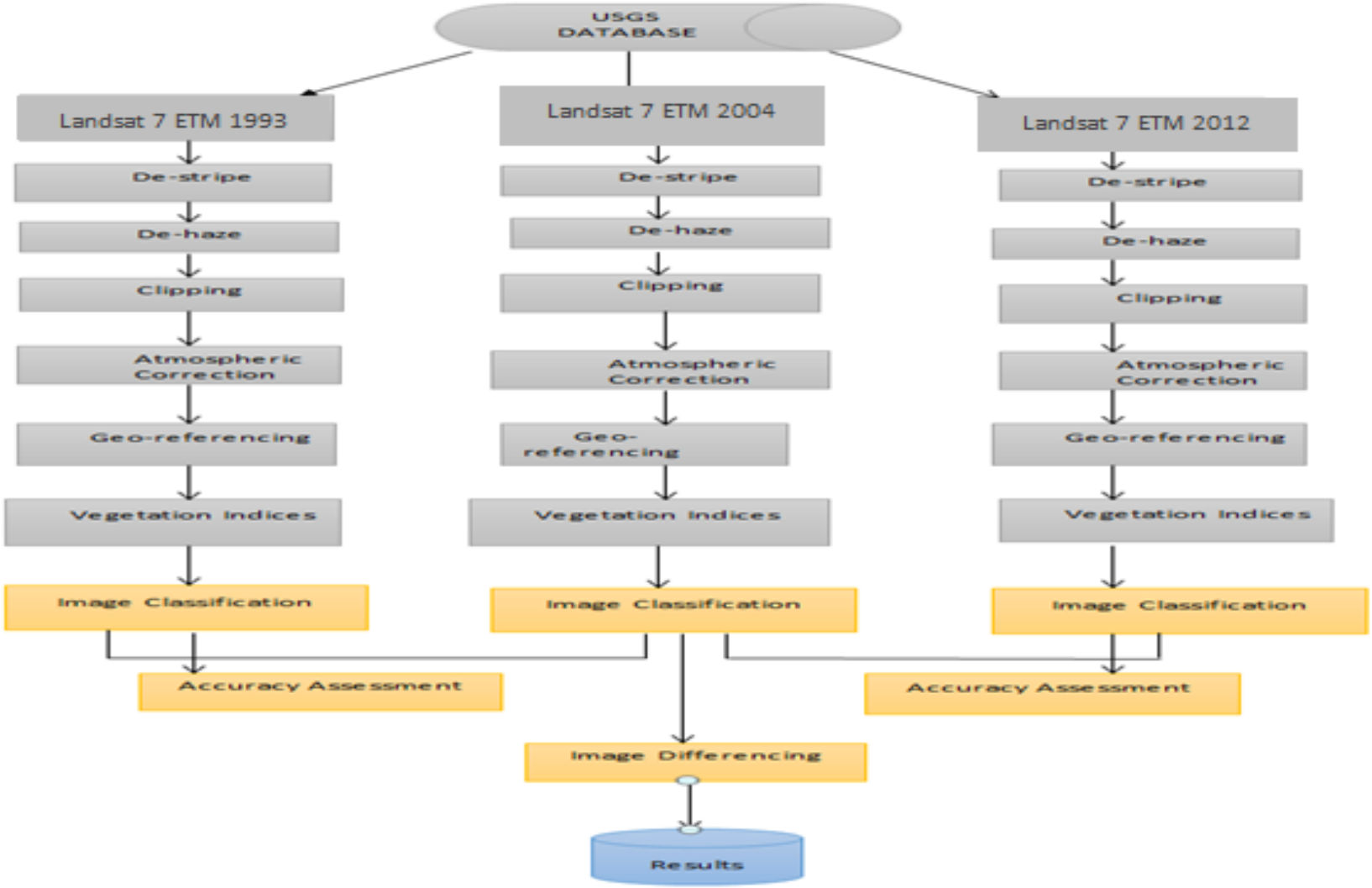
Research Area



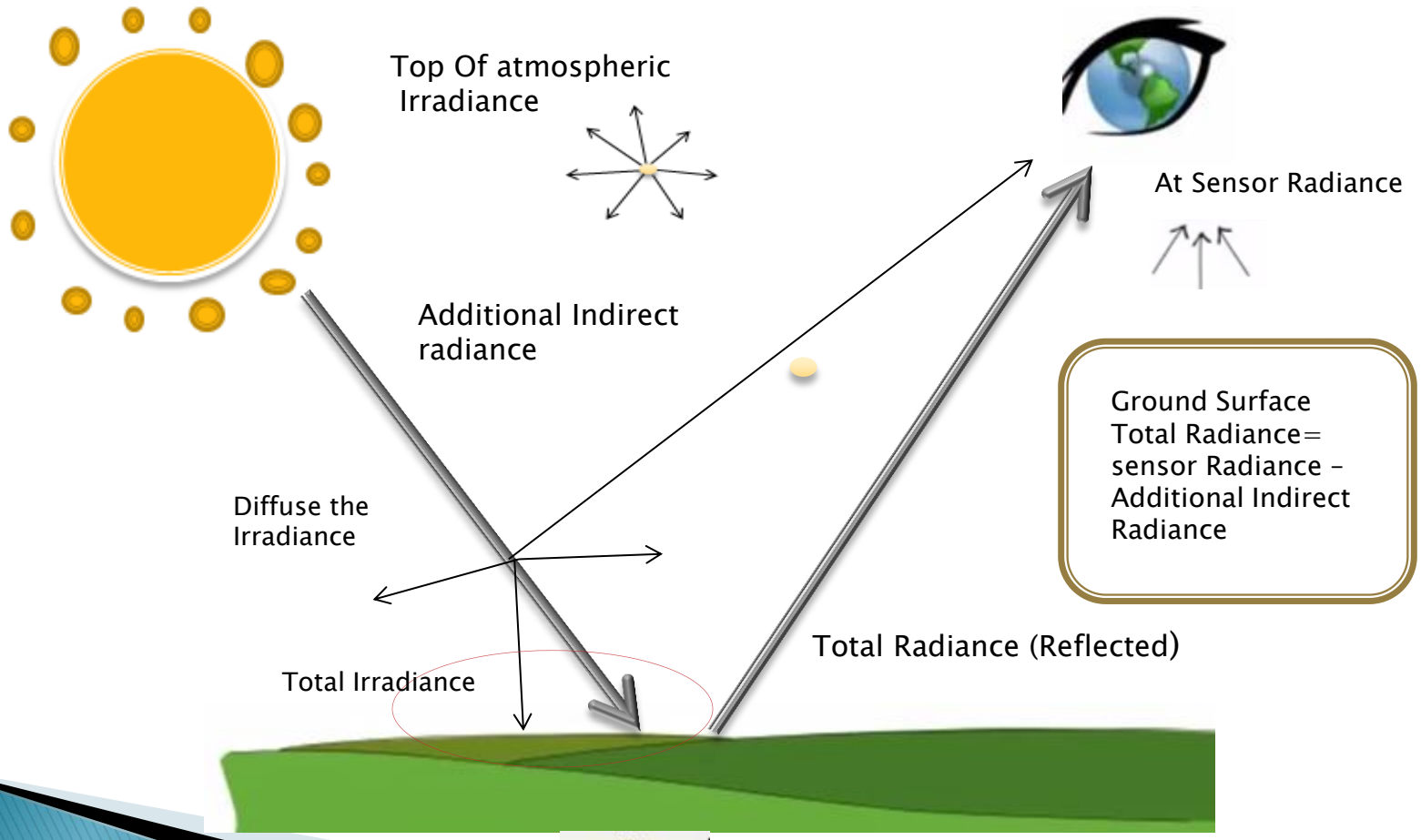
Research Objectives

- Analyzing the Forest Cover Condition Over the period between 1993 and 2012.
- Analyze the success of Community based Forest Management Policies.
- Provide a model for other efforts to conserve the Forest and Natural Resources.
- Suggest the decentralized forest Management Institution.

Research Methodology

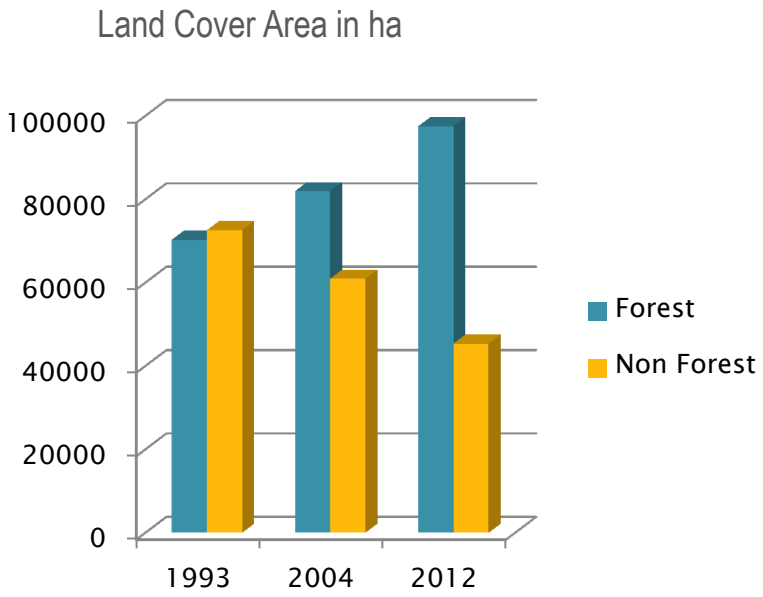


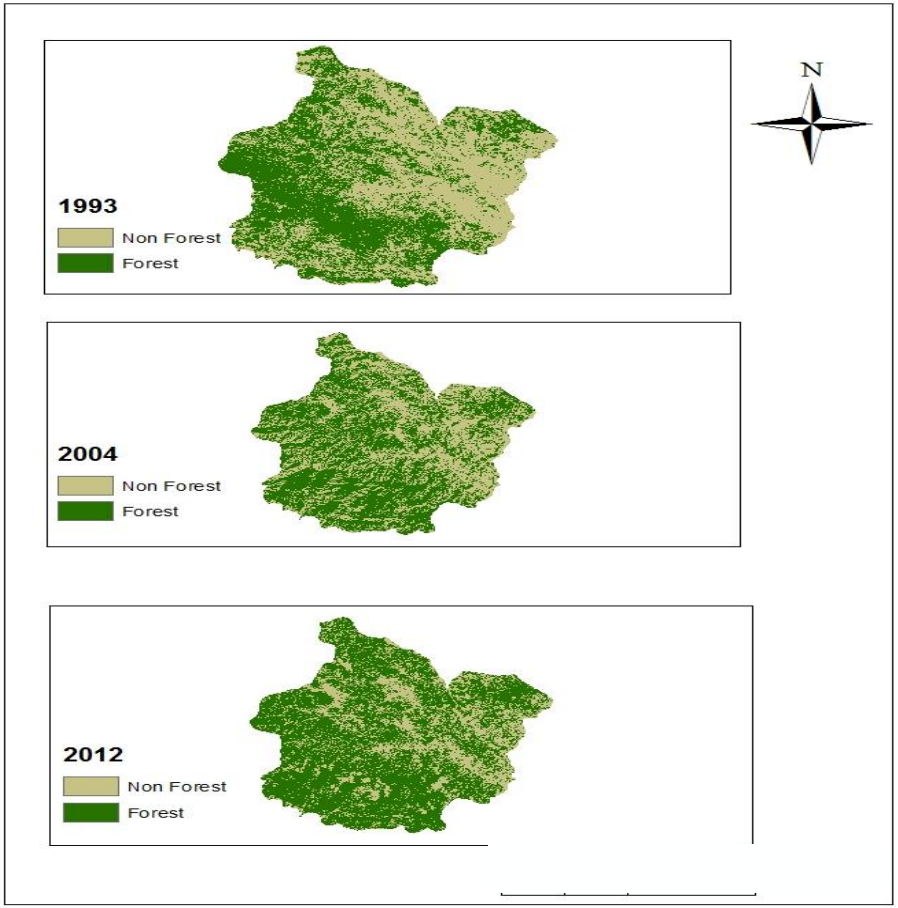
Radiative Transfer



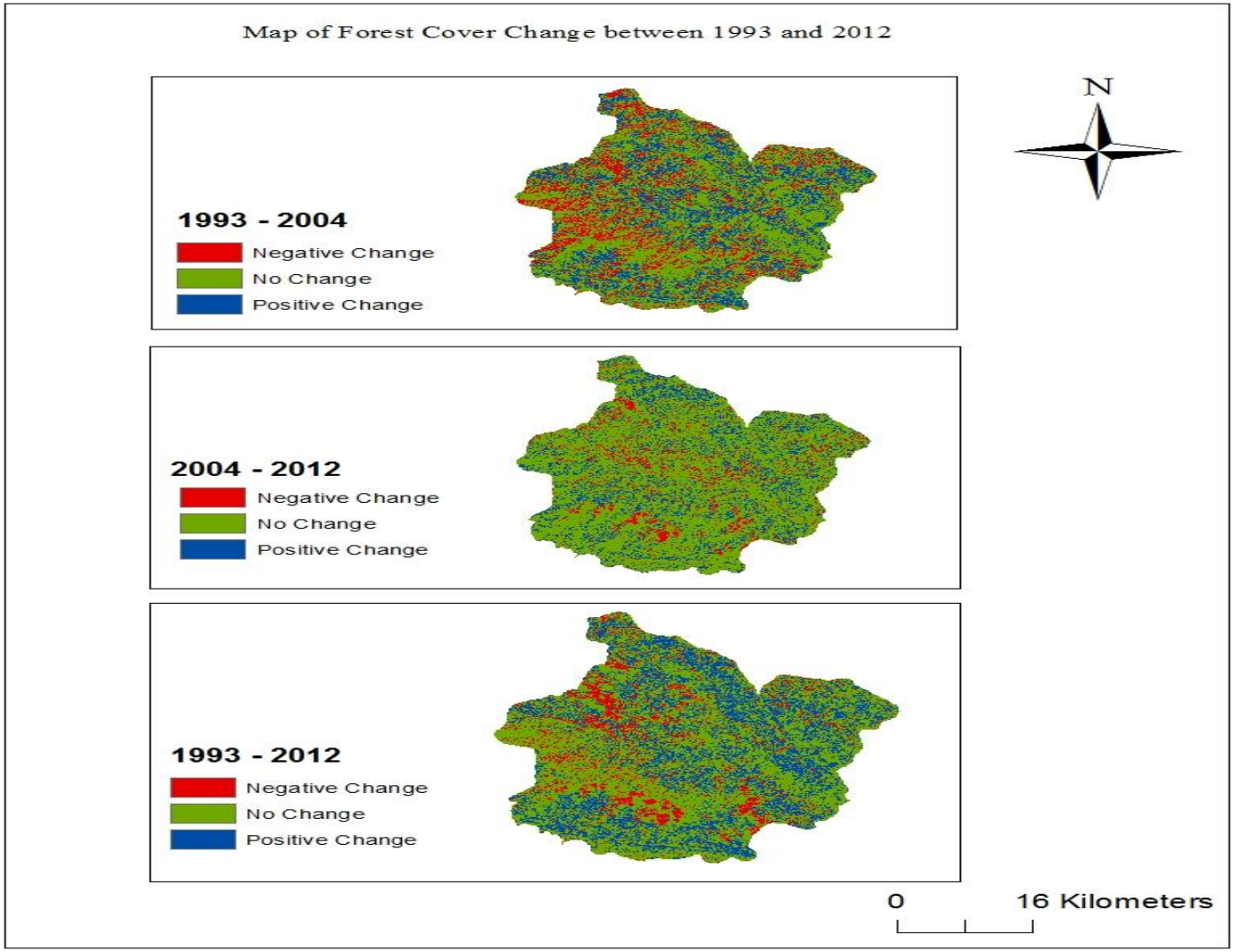
Results

Forest Cover Map



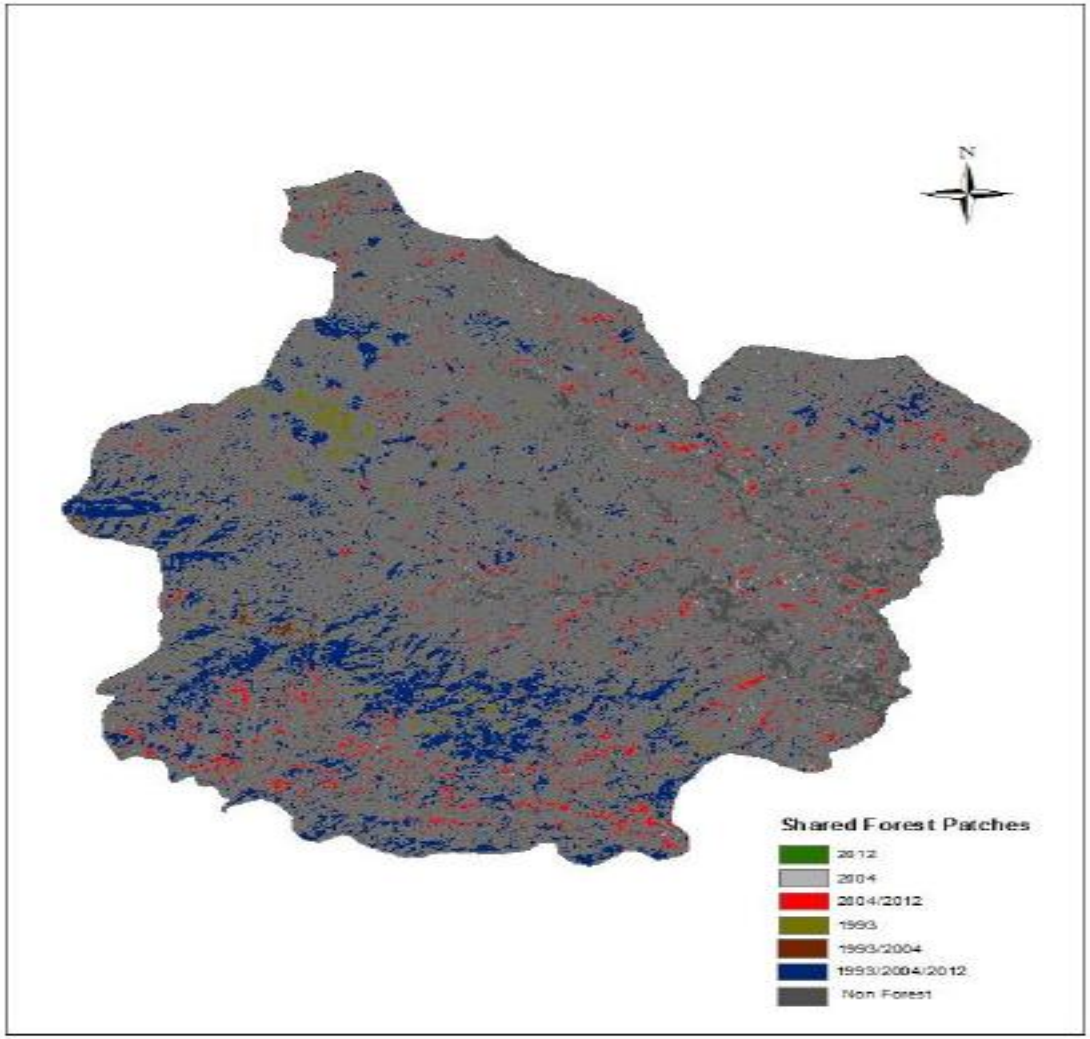


Forest Cover Change Map



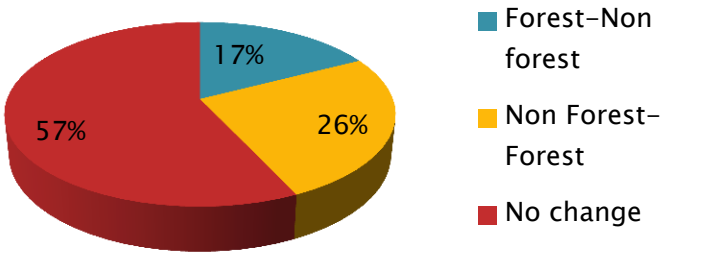
Shared Forest Patches

Map of Shared Forest

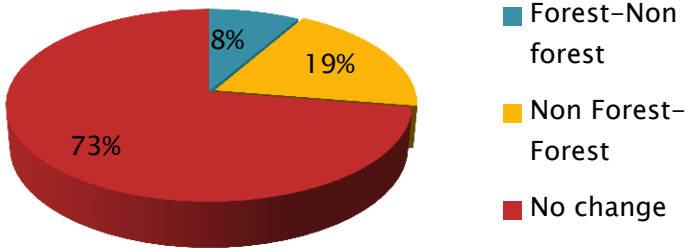


Land Cover Change between 1993 and 2012

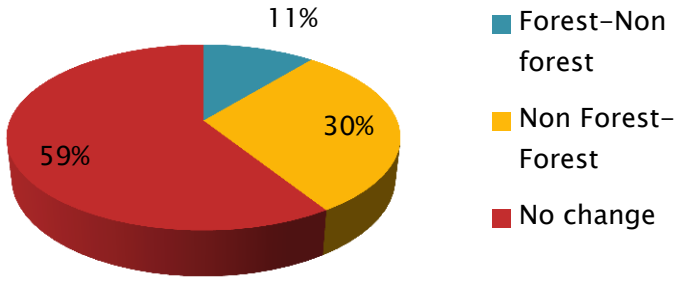
Land Cover Change between 1993 and 2004



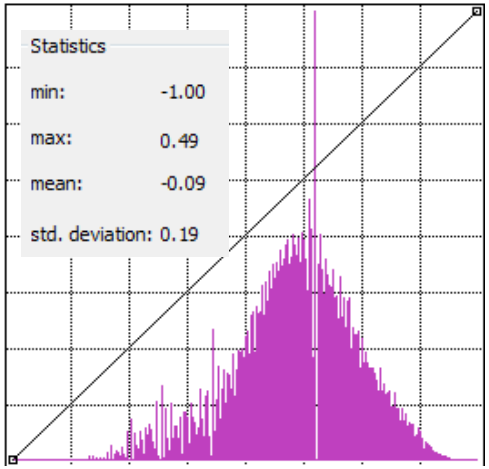
Land Cover Change between 2004 and 2012

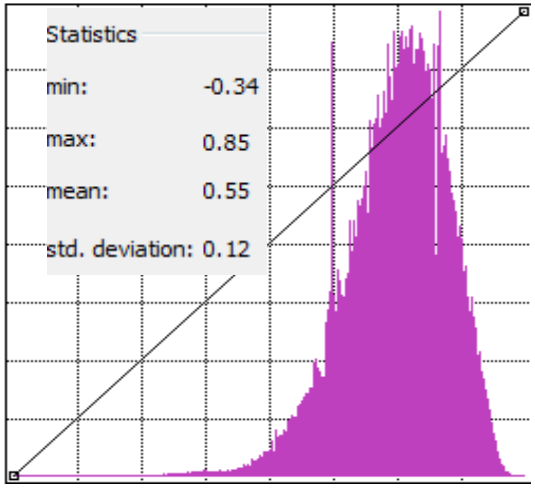


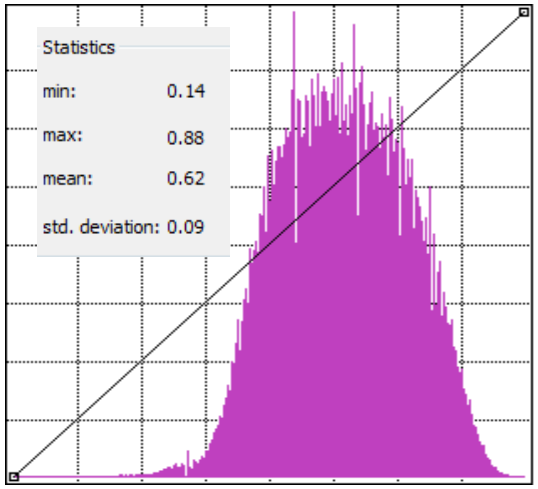
Land Cover Change between 1993 and 2004



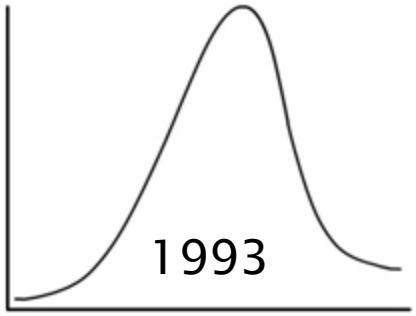
Normality Test

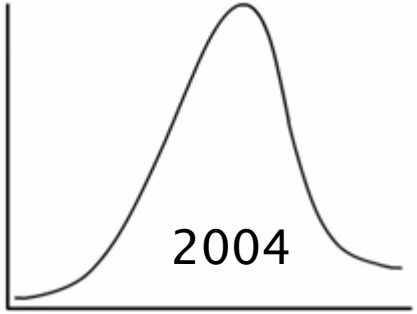


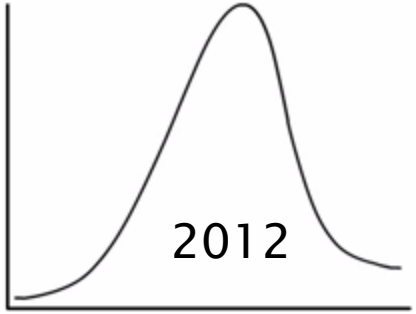




Null Hypothesis (Ho)= NDVI Values of1989, 2012 and 2012 are in Normal Distribution







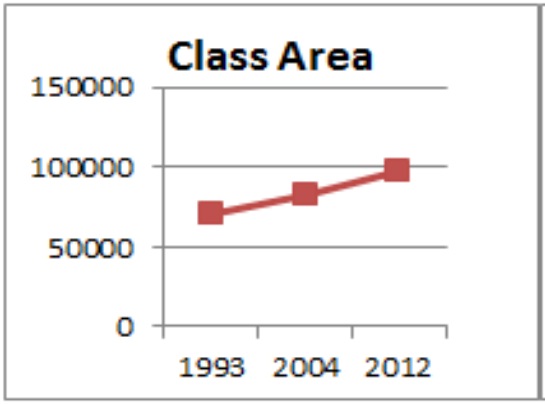
Statistical Analysis

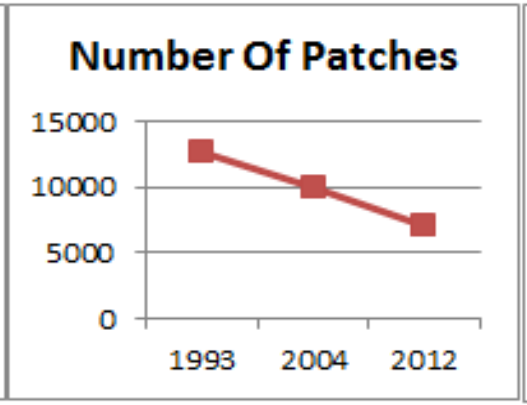
- Numerical Test output:
  - Shapiro-Wilk test P Value: P-value< 0.005 for The individual year 1993,2004 and 2014. (Reject The Null Hypothesis)
  - Alternative Hypothesis: 2 groups Wilcoxon Test

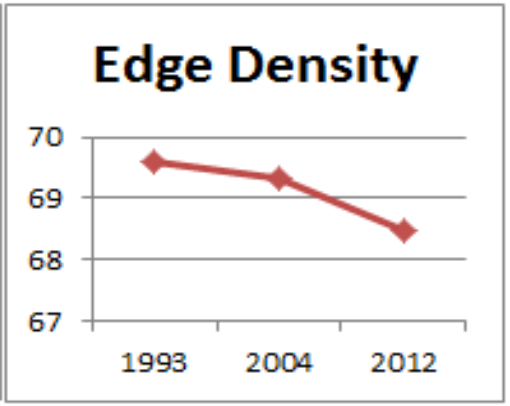
Wilcoxon test Based on the Hypothesis		
1993 & 2004	2004 & 2012	1993 & 2012
P<0.05	P<0.05	P<0.05

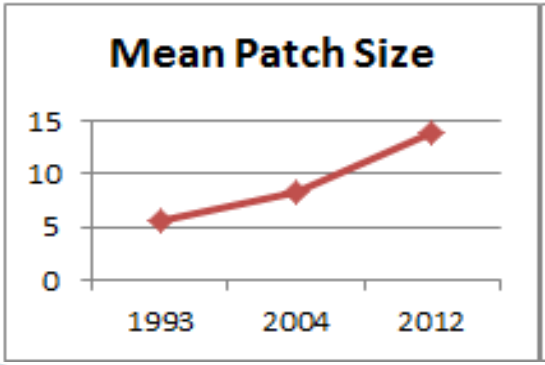
Landscape Metrics

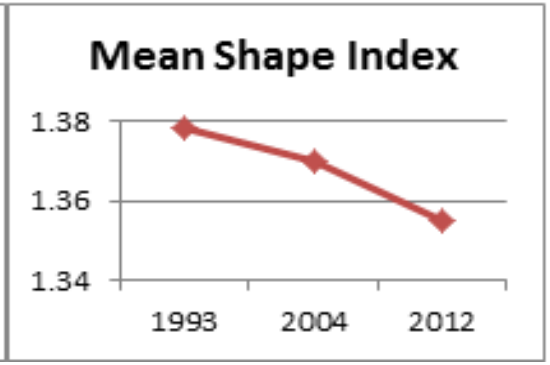
- Useful for determine the Landscape Changes











Accuracy Assessment

		Classified In Landsat Image As:				Number of ground truth points
		2004		2012		
		Forest	Non-Forest	Forest	Non-Forest	
Ground truth points	Forest	26	8	26	6	52
	Non-Forest	7	11	3	17	52
Accurate		37		42		104
Overall Accuracy		72%		82%		
Kappa Coefficient		0.51		0.65		

Discussion

- Importantly these analysis support the subset of the Nepal forest albeit an ecologically and Socially important region.
- Based on the NDVI analysis, It suggest that the forest condition have begun to significant increased.
- Forest cover in Nepal has at 25.4% in 2005 and stayed constant in 2011 (REDD,2004).

- NGO such as WWF and seed tree have helped to provide the alternative benefit for forest user group (energy efficiency technology).
- Help of the community forestry program established the hope for regeneration .
- Decentralized Forest Management Institutions have played an important role for halting and slowing the forest Loss

Limitation

- Accuracy Assessment was not done in 1993 and the google imagery is only the reference Image.
- Only Atmospheric Correction was detect.
- Cross verification was not conduct with other source of data.
- Only one vegetation indices was calculated.

References

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