

**MULTI-DIMENSIONAL ECOLOGICAL SECURITY ANALYSIS IN THE
NORTH-EASTERN REGION OF INDIA**

Dissertation submitted in the partial fulfilment of the requirements for the
award of the degree of

MASTER OF SCIENCE

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"Look for knowledge not in books but things themselves."

– William Gilbert

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TABLE OF CONTENTS

CERTIFICATE.....	2
ACKNOWLEDGEMENT.....	3
LIST OF ABBREVIATIONS.....	7
LIST OF FIGURES.....	8
LIST OF TABLES.....	9
CHAPTER 1.....	10
INTRODUCTION.....	10
CHAPTER 2.....	18
LITERATURE REVIEW.....	18
2.1 Studies on Ecological Risk.....	18
2.2 Studies on Ecosystem Health.....	19
2.3 Studies on Ecosystem Services.....	20
2.4 Studies on Ecological Security.....	22
2.5 Objectives and Research questions.....	23
CHAPTER 3.....	24
STUDY AREA.....	24
CHAPTER 4.....	26
MATERIALS & METHODS.....	26
4.1 Materials.....	26
4.1.1 Land Use Land Cover data	26
4.1.2 Digital Elevation Model.....	26
4.1.3 Geospatial Interactive Online Visualization and Analysis Infrastructure.....	27
4.1.4 Google Earth Engine.....	27
4.1.5 Miscellaneous Datasets.....	29
4.1.6 ArcGIS.....	30
4.1.7 Integrated Evaluation of Ecosystem Services & Trade-Offs.....	30
4.1.8 Landscape Fragmentation Tool.....	30

4.1.9 FRAGSTATS.....	31
4.1.10 Analytical Hierarchy Process.....	31
4.1.11 RStudio.....	31
4.1.12 IBM SPSS Statistics.....	31
4.1.13 MS Office.....	32
4.2 Methods.....	32
4.2.1 LULC Classification.....	32
4.2.2 Landscape Metrics Analysis.....	33
4.2.3 Ecosystem Services Valuation from InVEST.....	34
4.2.4 Landscape Fragmentation Analysis.....	35
4.2.5 Mapping Ecological Distribution of Ecological Security.....	36
4.2.6 Statistical Analysis.....	41
CHAPTER 5.....	42
RESULTS AND DISCUSSION.....	42
5.1 Spatial Distribution of Ecosystem Health.....	42
5.2 Spatial Distribution of Ecosystem Services.....	44
5.3 Spatial Distribution of Ecological Risk.....	46
5.4 Spatial Distribution of Ecological Security.....	48
5.5 Spatial relationship between components of Ecological Security.....	50
5.6 Comparison of Ecological Security with Ecological Databases.....	51
CHAPTER 6.....	59
CONCLUSION.....	59
REFERENCES.....	61
Annexure 1.....	76

LIST OF ABBREVIATION

AHP	: Analytical Hierarchy Process
AWMPFD	: Area Weighted Mean Patch Fractal Dimension
BR	: Biological Richness
CES	: Cultural Ecosystem Services
CONTAG	: Contagion Index
CONTAGION	: Patch Cohesion Index
DEM	: Digital Elevation Model
DI	: Disturbance Index
DIVISION	: Landscape Division Index
EH	: Ecosystem Health
ER	: Ecological Risk
ES	: Ecological Security
ESs	: Ecosystem Services
GEE	: Google Earth Engine
GIOVANNI	: Geospatial Interactive Online Visualization and Analysis Infrastructure
HAR	: Human Activity Risk
InVEST	: Integrated Valuation of Ecosystem Services and Trade-offs
LFT	: Landscape Fragmentation tool
LPR	: Landscape Pattern Risk
LST	: Land Surface Temperature
LULC	: Land Use/ Land Cover
NASA	: National Aeronautics and Space Administration
NDBI	: Normalized Difference Built-up Index
NDR	: Natural Disaster Risk
NDVI	: Normalized Difference Vegetation Index
NDWI	: Normalized Difference Water Index
NER	: North-eastern Region of India
OSM	: Open Street Map
PA	: Protected Area
PAN	: Protected Area Network
PD	: Patch Density
PES	: Provisioning Ecosystem services
RES	: Regulating Ecosystem Services
SHDI	: Shannon's Diversity Index
SPEI	: Standardised Precipitation Evapotranspiration Index
SPLIT	: Splitting Index
USGS	: United States Geological Survey
WCS	: Wildlife Conservation Society

LIST OF FIGURES

Figure 1:	Study Area: NER of India, LULC map of NER of India	26
Figure 2:	Methodological Framework of Evaluation of Ecological Security for NER of India	38
Figure 3:	Spatial Distribution of EH in NER of India	43
Figure 4:	Spatial Distribution of dimensions of EH in NER of India	44
Figure 5:	Spatial distribution of ESs in NER of India	45
Figure 6:	Spatial Distribution of dimensions of ESs in NER of India	46
Figure 7:	Spatial Distribution of ER in NER of India	47
Figure 8:	Spatial Distribution of dimensions of ER in NER of India	48
Figure 9:	Spatial Distribution of ES in NER of India	50
Figure 10:	Box Plot Analysis of distribution of EH, ESs, ER and ES	52
Figure 11:	Box Plot Analysis of indicators of ER, EH and ESs	52
Figure 12:	The correlation between ES and Fragmentation Index in the NER of India	54
Figure 13:	The correlation between ES and DI in the NER of India	55
Figure 14:	The correlation between ES and DI in the NER of India	57
Figure 15:	Comparative Analysis between Multiple Ecological databases (Fragmentation Index, Disturbance Index and Biodiversity Richness) with Ecological Security in NER of India	57
Figure 16:	Distribution of Ecological Security in PAN	58
Figure 17:	Population Count and Ecological Security Distribution in NER of India	59
Figure 18:	Indicators for NDR,	76
Figure 19:	Indicators of PES	77
Figure 20:	Indicators of HAR	77
Figure 21:	Indicators for Ecosystem Organisation	78
Figure 22:	Indicators for LPR	78

LIST OF TABLES

Table 1	Description of Datasets (Spatial Resolution 0.01°) obtained from NASA GIOVANNI portal	27
Table 2	Description of Datasets obtained from Google Earth Engine	28
Table 3	Description of Datasets obtained from Miscellaneous Sources	29
Table 4	Image Classification details	32
Table 5	Description of landscape metrics used for the study of forest fragmentation	33
Table 6	Description of models run in the InVEST Workbench	34
Table 7	Description of Forest classes as categorised by Landscape Fragmentation tool	36
Table 8	Indicator selection for ER Index	38
Table 9	Indicator selection for EH Index	40
Table 10	Indicator selection for Ecosystem Services Index	42



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Last Page

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