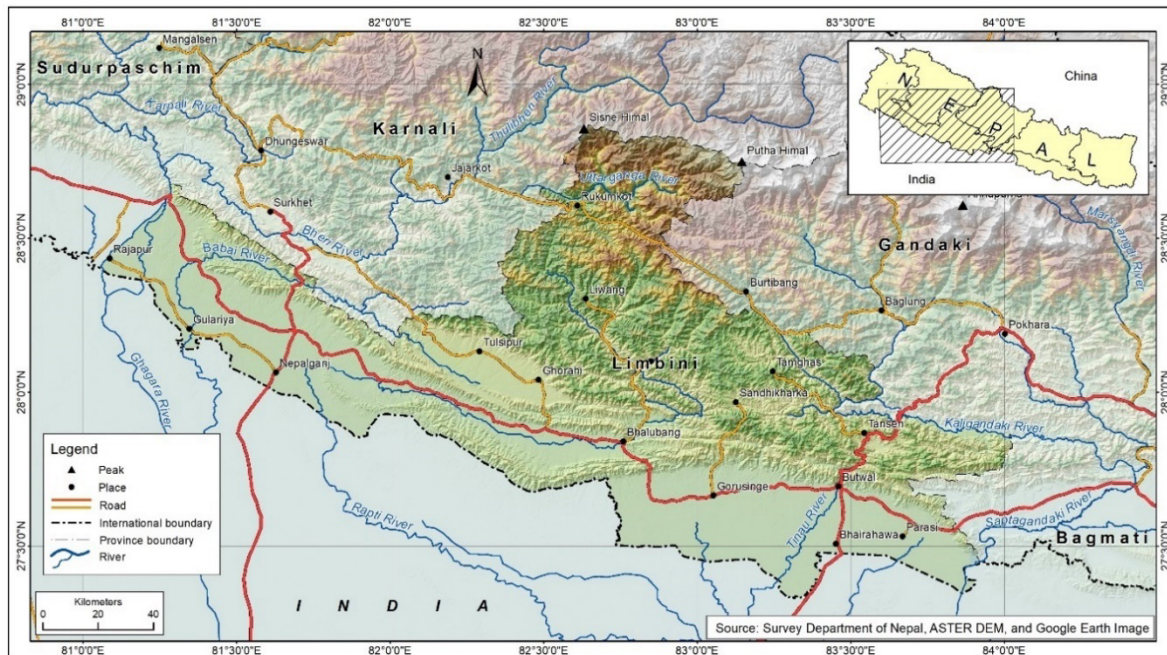




Final Report

RESOURCE MAPPING AND GROWTH DIAGNOSTIC STUDY OF LUMBINI PROVINCE



July, 2024

Message

The development of any province depends on the resource availability and proper utilization. Findings of the resources stock-taking are equally important as the utilization of those resources. The Lumbini Province has ample resources, but utilization is still to be forthcoming. Many attempts have been made to utilize the resources for the overall upliftment of the province and this is a continuous process.

This study has tried to determine the total value of resources and their strategic utilization. An inventory of the resources in Lumbini Province, including land, water, industry, tourism, and human resources, is included in the report. The primary obstacles to the province's economic development are also examined in the report. We understand that evidence-based policies promote equitable, resilient, and sustainable economic growth in the province, and the results of this study will inform the policy dialogue that the provincial government must have.

The provincial government is committed to gradually implement the findings and recommended strategies mentioned in this report in the year to come. This study report is one of the important assets to the provincial government in general, and the Provincial Planning Commission in particular. This study will be an important milestone for preparing periodic plans, MTEF, and initiating the Project Bank” in the province leading to achieving the SDGs in the future.

I thank the Provincial Planning Commission members for their outstanding suggestions and directions to the study team. I also thank the line ministry officials, and secretaries for their invaluable contributions to meetings during the study process. My deep appreciation goes to the District Coordination Committee members, mayors, deputy mayors, chairpersons, deputy chairs, and senior representatives from the private sector during consultation meetings and site visits of the consultant team.

My profound gratitude goes to the Asian Development Bank for providing technical assistance in the "Resource Mapping and Growth Diagnostic Study in Lumbini Province."

I express my gratitude to Scholar Nepal and its specialists, particularly Dr. Mukunda P. Paudyal, Resource Economist/ Team Leader, and his team members for their invaluable support in setting up meetings and preparing the study report.

Jokha Bahadur Mahara
The Chief Minister
Government of Lumbini, Nepal

Foreword

I am pleased to have the study report on **Resource Mapping and Growth Diagnostic in Lumbini Province**. This study includes a detailed mapping of the natural, financial, and economic resources of the province of Lumbini and an assessment of the key barriers impeding the province's economic growth. This study, I believe, will be helpful in the formulation of practical policy decision-making and unleash potential growth in the province.

I express my deep appreciation goes to honorable members of Lumbini PPC (Er. Jiwan Aryal, Mr. Bhuvan Chaudhary, and MS Nooma Sharma), secretary of PPC Mr. Khim B. Kunwar, secretaries of the line ministries, and officials of ministries who participated in various consultation sessions during the study. I am equally grateful to the previous team of honorable vice chair and members for the initiatives of the study. Similarly, I am grateful for the suggestions offered by members of District Coordination Committees, mayors, deputy mayors, chairpersons, deputy chairs, members of the Federation of Nepalese Chambers of Commerce & Industry (FNCCI) in Lumbini, and representatives of local levels who shared their insightful ideas during meetings, led by the consultant team.

I thank the Asian Development Bank for extending technical support to prepare the "Resource Mapping and Growth Diagnostic Study" of Lumbini Province. This study report is going to be a valuable property to the PPC.

Finally, I would like to thank Scholar Nepal and its experts Dr. Mukunda P. Paudyal, Resource Economist and Team Leader, Mr. Narayan Kumar BC, Fiscal and Public Finance Expert, Mr. Rajib Gautam, Legal Expert, Dr. Chhabi Lal Chidi, GIS Expert, Sobita Pariyar, GESI Expert MS. Nirmala Adhikari, and Mr. Narendra Bikram KC (MD, Scholar Nepal), for their invaluable assistance in organizing consultations and developing the report.

The Lumbini Provincial Government, I believe, can utilize the strategies mentioned in the study report in preparing strategic plans, bankable project pipelines, and MTEF in the coming years.

Vice Chairman
Saroj Khanal
Provincial Planning Commission (PPC), Lumbini Province, Nepal

Contents

Executive Summary	1
PART A: RESOURCE MAPPING	6
CHAPTER I: BACKGROUND.....	6
1.1. Context of Federalism in Nepal.....	6
1.2. Introduction to the Lumbini Province	6
1.2.1. Geography.....	6
1.2.2. Climatic Condition.....	8
1.2.3. Confluence of History, Culture, and Heritage	9
1.2.4. Demographics	10
1.2.5. Key Economic Parameters.....	10
1.2.6. Geology.....	11
1.2.7. Urbanization.....	12
SECTION 2: SCOPE OF STUDY	13
2.1. Stocktaking of Resources and Analysis.....	13
2.2. Resource Mapping Areas	13
SECTION 3: METHODOLOGY	14
3.1. Concept of Resource Mapping.....	14
3.2. Objective of Resource Mapping.....	14
3.3. Review of Constitutional Mandates and Legal Review.....	14
3.4. Review of Periodic Plan	15
3.5. Review of Unbundling Report	15
3.6. Review and Analysis of Resource Maps	15
3.7. FGD, KII, and Field Survey	16
3.8. Secondary Sources.....	17
SECTION 4: LEGAL AND INSTITUTIONAL ANALYSIS.....	18
4.1. Constitutional/Legal Mandates Regarding Functions and Funds	18
4.2. Provincial Mandates and Laws Related to Economic Growth	21

4.3.	Local Level Laws	23
4.4.	Legal Provision Related to Economic Growth	24
4.5.	Institutional Framework	27
4.5.1.	National Coordination Council	27
4.5.2.	National Natural Resource and Fiscal Commission	27
SECTION 5: RESOURCE MAPPING		28
5.1	Natural Resources	28
5.1.1.	Forest Resource	28
5.1.2.	Forest Products: Potential Resource Value	30
5.1.3.	Water Bodies	31
5.1.4.	Peaks of Lumbini Province	33
5.1.5.	Herbal Plants	34
5.1.6.	Wildlife	34
5.1.7.	Indexing of Resource	35
5.2	Agriculture and Livestock Resources	36
5.2.1.	Major Cereal Crops	36
5.2.2.	Cash Crops	39
5.2.3.	Major Spice Crops	40
5.2.4.	Major Pulses	43
5.2.5.	Major Fruits	45
5.2.6.	Potential of Vegetables in the Lumbini Province	53
5.2.7.	Major Vegetables	53
5.2.8.	Potential of Vegetables in the Lumbini Province	55
5.2.9.	Livestock Products and Fisheries	55
5.2.10.	Fishery Products	59
5.2.11.	Agriculture Products: Monetary Value	59
5.2.12.	Livestock Products: Monetary Value	60
5.3.	Mines and Mineral	63
5.3.1.	Geology and Mineral	63
5.3.2.	Distribution of Mines and Mineral	63
5.3.3.	Mines and Mineral Products: Potential Resource Value	66
5.4.	Physical Infrastructures and Assets	66

5.4.1.	Transport Network.....	66
5.4.2.	Irrigation System	68
5.4.3.	Energy Related Infrastructure	68
5.5.	Social Infrastructures/Assets	70
5.5.1.	Water Supply Networks.....	70
5.5.2.	Sewerage and Drainage Network	70
5.5.3.	Health Facilities.....	70
5.5.4.	Education Facilities.....	70
5.6.	Commercial Infrastructures/Assets/Resources.....	71
5.6.1.	Industries.....	71
5.6.2.	Banks and Financial Institutions	72
5.6.3.	Special Economic Zone	72
5.7.	Heritage Sites and Places of Natural Beauty in Lumbini Province.....	72
5.7.1.	Heritage Sites	72
5.7.2.	Key Tourist Sites and Tourism.....	74
5.7.3.	Expansion of Hospitality Infrastructures.....	74
5.7.4.	Tourism Products: Potential Resource Value.....	75
5.8.	Economic Corridors and Market Centers.....	79
5.8.1.	List of Provincial Economic Projects (Strategic)	79
5.8.2.	National and Provincial Pride Projects in Lumbini	80
5.8.3.	Key Infrastructure Assets: Potential Resource Value.....	81
5.9.	Financial Resources : Status of Lumbini Province	83
5.9.1.	Own Source Revenue (OSR).....	83
5.9.2.	Intergovernmental Fiscal Transfer (IGFT)	84
5.9.3.	Total Revenue.....	84
5.9.4.	Total Budget and Expenditure	85
5.9.5.	Efficiency of Expenditure	87
5.9.	Potential of Financial Resources Mobilization.....	88
5.10.1.	Fiscal Federalism.....	88
5.10.2.	Revenue Assignment.....	88
5.10.3.	Expenditure Assignment	90

5.10.4.	Intergovernmental Fiscal Transfer (IGFT)	91
5.10.5.	Mobilization of Natural Resources	93
5.10.6.	Borrowing	94
5.11.	Human Resources of the Province	95
6.	STRATEGIES FOR UNLOCKING THE RESOURCES	97
6.1.1.	Releasing Forest Resources.....	97
6.1.2.	Commercialization of Livestock	97
6.1.3.	Adapting Climate Smart Agriculture (CSA).....	98
6.1.4.	Financing Businesses	99
6.1.5.	Development of Local and Regional Economic Development (LRED) Plan...99	
6.1.6.	Promoting Tourism	99
6.1.7.	Promoting Agriculture and Forest-Based Manufacturing Industries.....	100
6.1.8.	Enhancing Provincial Financial Resources	102
6.1.9.	Management of Large Assets	102
6.1.10.	Horticulture and Commercial Farming of Herbal Products	103
	Part B: GROWTH DIAGNOSTICS	104
	SECTION 1: GROWTH DIAGNOSTIC FRAMEWORK	104
1.1.	Economic Growth Diagnostic Concept.....	104
1.2.	Objective of Growth Diagnostic Study.....	104
1.3.	Scope of Economic Growth Diagnostic.....	104
1.4.	Methodology of Growth Diagnostics	105
1.4.1.	Spatial Data	105
1.4.2.	FGD and KII	105
1.4.3.	NSO Data.....	105
1.4.4.	Consultations/Workshop/Meetings.....	106
1.4.5.	Hausmann, Rodrik and Velasco-HRV (2005) Framework	106
	SECTION 2: REVIEW OF LITERATURE	108
2.1.	Literature Review: Global Context	108
2.2.	Literature Review: National Context.....	108
	SECTION 3: GROWTH DIAGNOSTICS AND COMPONENTS	110
3.1.	National Economy in Nutshell	110
3.1.1.	Growth Trend of National Economy	110

3.1.2.	External Trade Scenario	110
3.1.3.	Sources of Growth in Nepal.....	111
3.2.	Potential of Growth in the Lumbini Province	112
3.2.4.1.	Primary Sector of Economic Growth Source	113
3.2.4.2.	Secondary Economic Growth Source	113
3.2.4.3.	Involvement in Retail and Wholesale Business.....	114
3.2.4.4.	Tertiary Sector of Economic Growth Source.....	115
3.2.4.1.	Access to Finance in the Lumbini Province	115
3.2.4.2.	Investment and Cost of Finance	116
3.2.4.3.	State of Cooperatives in The Lumbini Province	117
3.2.4.4.	Issues of Poverty and Inclusion	119
3.2.4.5.	Poverty Profile of Nepal and Lumbini Province.....	119
3.2.4.6.	The Poverty Incidence of Lumbini Province.....	120
3.2.4.7.	Food Expenditure of Lumbini Province	120
3.2.4.8.	Mean Annual Per Capita Expenditure of Lumbini Province	121
3.2.4.9.	Cost of Basic Needs of Lumbini Province	121
3.2.4.10.	Logistic Performance Index (Cost of Being Landlocked)	121
3.2.4.11.	Human Development Index	122
3.2.4.12.	Fiscal Responsibility and Discipline	123
3.2.4.13.	Capacity Utilization of Selected Industries in Lumbini Province	123
3.2.4.14.	State of Housing in the Lumbini Province	124
3.2.4.15.	Access to Safe Drinking Water	124
3.2.4.16.	The Business Climate Index (BCI) of Lumbini	125
3.3.	Sources of Growth in Lumbini Province	126
3.4.	Review of Growth Policy.....	128
3.5.	GESI Contributing to Economic Growth of the Lumbini Province	130
3.5.1.	GESI Analysis	130
3.5.2.	GESI Demographics Summary	132
3.5.3.	Power dynamics of Nepali society	134
3.5.4.	Major Issues and Challenges of GESI.....	134
3.5.5.	Involvement of Males and Females in Trade Establishments.....	134
3.5.6.	Gender-wise Ownership of Trade Establishments	134

3.5.7.	Gender Responsive Budgeting in the Lumbini Province	135
3.6.	The Growth Constraints Identified	136
3.6.1.	Political Instability	136
3.6.2.	Policy Uncertainty and Legal Deficiency	136
3.6.3.	Road and Transport Network	136
3.6.4.	Electricity Supply.....	137
3.6.5.	Lower Level of Investment	137
3.6.6.	Inadequate Returns and Private Appropriability	138
3.6.7.	Lack of Access to Appropriate Technology	138
3.6.8.	Challenging Terrain and Topography	138
3.6.9.	Low Human Capital	139
3.6.10.	Lack of Access to Basic Primary Infrastructure.....	139
3.6.11.	Market Imperfection	140
3.6.12.	Insufficient Local Finance and Poor Intermediation.....	140
3.6.13.	Coordination Gap	141
3.6.14.	Human Resources Limitations in the Provincial Government.....	141
3.6.15.	Unregulated Open Border	141
3.6.16.	Youth Migration.....	142
3.6.17.	Development as Fatalism	142
3.6.18.	Disaster as a constraint	142
	SECTION 4: STRATEGIC RECOMMENDATIONS FOR UNLEASHING GROWTH	144
4.1.	Promotion of Green and Resilient Agriculture.....	144
4.2.	Development of Project Bank and Project Pipeline.....	145
4.3.	Promotion of Eco-Tourism.....	146
4.4.	Commercial Use of Forest Product.....	146
4.5	SMEs and Processing Industries	147
4.5.	Strengthening Institutions and Bureaucracy	147
4.7	Protection of Indigenous Technology and Resources	148
4.6.	Accommodate Local and Follow Circuits Approach for Economic Linkages	148
4.7.	Disaster Resistant Infrastructure and Early Warning System (EWS)	148

4.8.	Protection of Traditional Water Sources	149
4.9.	Addressing Human and Animal Conflict	150
4.10.	Open Border: Boon or Bane	150
4.11.	Changing in the Mindset.....	150
4.12.	Mainstreaming GESI	150
ANNEX 1: Laws Enacted by The Lumbini Province		154

Tables

Table 1:	Temperature and Precipitation in the Lumbini Province.....	9
Table 2:	Population Distribution.....	10
Table 3:	Existing Provincial Legal Provision	21
Table 4:	Existing Local Legal Provision	23
Table 5:	Provincial Level Legal Gaps in Areas of Economic Growth	24
Table 6:	Forest Area by Districts.....	28
Table 7:	Forest Products: Potential Resource Value	31
Table 8:	Water Surface Area of the Lumbini Province	32
Table 9:	Description of the Highest Peaks of the Lumbini Province	34
Table 10:	Aggregate Major Cereal Crops.....	37
Table 11:	Paddy by Seasons and Districts, Fiscal Year 2078/79 (2021/22)	38
Table 12:	Maize and Wheat By Districts, Fiscal Year 2078/79 (2021/22).....	38
Table 13:	Millet-Barley-Buckwheat by Districts, Fiscal Year 2078/79 (2021/22).....	39
Table 14:	Cash Crops by Districts, Fiscal Year 2078/79 (2021/22)	39
Table 15:	Cotton: Area and Production by Districts, Fiscal Year 2078/79 (2021/22)	40
Table 16:	Coffee: Area, Production, and Yield by Districts, FY 2078/79 (2021/22)	40
Table 17:	Major Spice Crops by Districts, Fiscal Year 2078/79 (2021/22).....	42
Table 18:	Pulses by Types and Districts, Fiscal Year 2078/79 (2021/22).....	43
Table 19:	Pulses by Types and Districts, Fiscal Year 2078/79 (2021/22).....	44
Table 20:	Pulse Types by Districts, Fiscal Year 2078/79 (2021/22)	45
Table 21:	Citrus Fruits: Area, Productive Area, Production and Yield, FY 2021/22.....	46
Table 22:	Citrus Fruits: Area, Productive Area, Production and Yield, FY 2021/22.....	47
Table 23:	Winter Fruits: Area, Productive Area, Production and Yield, FY 2021/22.....	47
Table 24:	Winter Fruits: Area, Productive Area, Production and Yield, FY 2021/22.....	49
Table 25:	Winter Fruits: Area, Productive Area, Production and Yield, FY 2021/22.....	50
Table 26:	Summer Fruits: Area, Productive Area, Production and Yield, FY 2021/22.....	51
Table 27:	Summer Fruits: Area, Productive Area, Production and Yield, FY 2021/22.....	52
Table 28:	Summer Fruits: Area, Productive Area, Production and Yield, FY 2021/22.....	53
Table 29:	Vegetables: Area, Productive Area, Production and Yield, FY 2021/22	53
Table 30:	Milking Population and its Production by District FY 2021/22.....	56
Table 31:	Milking Population and its Production by District FY 2021/22.....	56
Table 32:	Meat Production by Districts, Fiscal Year 2021/22.....	57
Table 33:	Egg Production by Districts, Fiscal Year 2021/22	58
Table 34:	Wool Production by Districts, FY 2021/22 (Kg)	58
Table 35:	Fish Production by Water Surface Area and Districts, FY 2021/22	59

Table 36: Agriculture Products and Value (2021/22)	60
Table 37: Livestock Products and Production Value (2021/22)	61
Table 38: No. of Explored Minefields/Blocks in the Lumbini Province	65
Table 39: Mines and Mineral: Potential Resource Value	66
Table 40: Tourism Products: Potential Resource Value	76
Table 41: National Pride Projects in the Lumbini Province	81
Table 42: Total Revenue of The Lumbini Province in the Last Five Years	85
Table 43: Capital Expenditure by Sectors	86
Table 44: Ministry-wise Expenditure Breakdown	87
Table 45: Scenario of OSR (Conservative Approach)	89
Table 46: Scenario of OSR (Progressive Approach)	90
Table 47 Functional Classification Budget Allocation and Expenditure (%)	91
Table 48: Scenario of IGFT	93
Table 49: Scenario of Domestic Borrowing	94
Table 50: Literacy Rate	95
Table 51: Labor Force in the Lumbini Province	96
Table 52: Absentees Population (occasionally residing abroad)	96
Table 53: GDP Growth Trend	110
Table 54: Nepal Trade Statistics	110
Table 55: Sources of Growth in Nepal	111
Table 56: Number of Registered/Unregistered Establishments	114
Table 57: Climate Change sensitive-budgetary allocations (%)	115
Table 58: Banks and FIs in the Lumbini Province	116
Table 59: Types of Cooperatives in Lumbini Province	117
Table 60: Poverty Profile	120
Table 61: The Poverty Incidence: Across Analytical Domain Disaggregation	120
Table 62: Average Food Expenditure Share in Total Expenditure	120
Table 63: Mean Annual Per Capita Expenditure (NRS) (in expenditure quintiles)	121
Table 64: Cost of Basic Needs (NPR)	121
Table 65: Logistic Performance Index (LPI)	122
Table 66: HDI Scenario	122
Table 67: Capacity Utilization of Selected Industries	123
Table 68: Source of Growth in Lumbini Province	126
Table 69: Ranking of the Top Five Sources of Growth	128
Table 70: Involvement of Male and Female Trade Establishment	134
Table 71: Gender-wise Ownership of Trade Establishments	135
Table 72: Gender-responsive Budgetary Allocations	135
Table 73: Climate Change sensitive-budgetary allocations (%)	135
Table 74: Loss Caused by Disaster in the Lumbini Province(2079)	143
Table 75: Binding and Nonbinding Constraints of Economic Growth	143

Figures

Figure 1. Location Map of the Lumbini Province.....	7
Figure 2. Physiographic Map of the Lumbini Province	8
Figure 3. Climatic Regions in the Lumbini Province	9
Figure 4. State of Population Distribution and Density in the Lumbini Province.....	10
Figure 5. Geology of the Lumbini Province.....	11
Figure 6. Provincial Resource Mapping Using Remote Sensing and GIS Analysis	16
Figure 7. Status of Land Use in the Lumbini Province.....	28
Figure 8. Import and Export of Wood Products	29
Figure 9. Protected Areas in the Lumbini Province.....	30
Figure 10. Water Resources.....	32
Figure 11. Irrigation Canals and Cultivated Areas in the Lumbini Province	33
Figure 12. Beautiful Peaks in the Lumbini Province	33
Figure 13. Production of Major Cereal Crops in the Lumbini Province.....	36
Figure 14. Production of Major Spices in the Lumbini Province.....	43
Figure 15. Land Capability Map of the Lumbini Province	48
Figure 16. Vegetable Production in the Lumbini Province	55
Figure 17. Status of Cattle in the Lumbini Province.....	57
Figure 18. Minerals in Lumbini	64
Figure 19. Transport Network in the Lumbini Province	67
Figure 20. Road Density in the Lumbini Province	68
Figure 21. Location of National and Provincial Pride Project.....	69
Figure 22. Health Facilities in the Lumbini Province.....	71
Figure 23. Heritage Resource in the Lumbini Province	73
Figure 24. Touristic Places in the Lumbini Province.....	74
Figure 25. Expansion of Tourist Class Hotels in the Lumbini Province.....	75
Figure 26. Tourism Growth in the Lumbini Province	76
Figure 27. Economic Corridors and Market Centers in the Lumbini Province	79
Figure 28. OSR Growth Trend of Last Five Years.....	83
Figure 29. IGFT Trend of Last Five Years	84
Figure 30. Budget and Expenditure Scenario of the Last Five Years	86
Figure 31. Economically Active Population	95
Figure 32. HRV Growth Diagnostic Framework	107
Figure 33. Persons Involved in Trade	115
Figure 34. Deposits& Investments made by BFIs in the Lumbini Province	117
Figure 35. Deposits & Investments made by Cooperatives in the Lumbini Province	118
Figure 36. State of Housing	124
Figure 37. Access to Drinking Water	125
Figure 38. Business Climate Index of Lumbini	126
Figure 39. Inclusion in Politics and Civil Service	133
Figure 40. GESI Status: Politics and Civil Service.....	133

Acronyms

ADB	Asian Development Bank
AIB	Asian Infrastructure Investment Bank
BCI	Business Climate Index
BFI	Banks and Financial Institutions
CCI	Chamber of Commerce and Industries
CDIA	City Development Initiative for Asia
DPR	Detailed Project Report
EAP	Environmental Action Plan
ESF	Environmental and Social Framework
FGD	Focus Group Discussion
FS	Feasibility Study
GCF	Global Climate Fund
GDP	Gross Domestic Product
GESI	Gender and Social Inclusion
GIS	Geographical Information System
GLOF	Glacial Lake Outburst Flood
GoN	Government of Nepal
GRID	Green Resilient and Inclusive Development
IGFA	Intergovernmental Fiscal Arrangement Act
KII	Key Informant Interviews
KPI	Key Performance Indicators
LAPA	Local Adaptation Programme of Action
LDC	Least Developed Country
LDT	Lumbini Development Trust
LED	Local Economic Development
LRED	Local and Regional Economic Development
MTEF	Mid-Term Expenditure Framework
NRRFC	National Natural Resource and Fiscal Commission
NPC	National Planning Commission
NRB	Nepal Rastra Bank (Central Bank of Nepal)
OAGN	Office of Auditor General, Nepal
OECD	Organization for Economic Co-operation and Development
OSR	Own Source Revenue
PCN	Project Concept Note
PP	Periodic Plan
PPBMIS	Provincial Project Bank Management Information System
PPC	Provincial Planning Commission
PPP	Public-Private Partnership
SDGs	Sustainable Development Goals
SEZ	Special Economic Zone
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNGA	United Nations General Assembly
VAT	Value Added Tax
WB	World Bank

Executive Summary

1. The study "Resource Mapping and Growth Diagnostic in Lumbini Province" maps out the province's natural, financial, and economic resources in detail and assesses province's economic growth opportunities. The study based on observation and analysis provides strategic recommendations to unleash the potential resources and achieve a higher economic growth trajectory by removing the binding constraints impeding the economic growth of Lumbini Province. This report contains two parts namely, a) Resource Mapping, and b) Growth Diagnostic study.

a) Resource Mapping

2. The first part of the report is about resource mapping that covers the stock-taking of natural resources available in the province. It also includes the estimation of their monetary values as well. Strategic social assets include the stocktaking of health, education, and water resources which are the software parts of the resources.
3. The inventory and analysis of important resources, both financial and non-financial, are included in the resource mapping part. The main areas covered in the resource mapping of Lumbini Province are a) natural resources (water, land, forest, historical sites, tourism attractions); b) economic resources (important cereals, fruits, livestock, manufacturing, tourism); and c) financial resources (own source revenues, central transfers, revenue sharing). The study has extensively utilized GIS for mapping resources to show spatial distribution of resources in different districts of the province.
4. The forest, minerals and mines, water, and scenic areas are mapped and analyzed under the natural resources. Under economic resources, the inventory of agriculture, industries, infrastructure assets, heritage, and banking and financial institutions (BFIs) are covered. Furthermore, the study has addressed financial resources, specifically own source revenue (OSR), borrowing space, and inter-governmental fiscal transfer (IGFT). Total revenue mobilized from the tourism sector was NPR 2,490.37 million in the fiscal year 2022/23. In the medium term (3-5 years), the tourism sector can mobilize more than NPR 14,809 million annually (Table 10).
5. The forest resource has huge potential in Lumbini, and this product will have a market value of over NPR 756.734 million annually. If the policy for promoting Nepali wood for furniture and construction is implemented the forest resource value may go to NPR 14,008.399 million annually. The value of the forest resource could reach NPR 14,008.399 million per year if the policy encouraging the use of Nepali wood for buildings and furniture is implemented. If the three tiers of government promulge the policy and strategy for promoting Nepali wood for furniture and construction is implemented. In that case, the potential forest resource value would be NPR 14,008.39 million annually, if the policy and strategies that incentivize the use of Nepali wood for buildings and furniture are promulgated and implemented.
6. Land use of the province showed that it has five category-uses: forest (45%), agriculture (29%), housing (14%), grassland (5%), barren vegetation (5%), water bodies (1%) and others (1%). The forest is an important resource of Lumbini Province. The total revenue from the forest products is estimated annually at NPR 797 million. Of this total revenue, revenue collected by the forest user group (FUG) is estimated to be Rs 340 million, revenue for the federal government to be Rs 230 million, revenue to the provincial government is estimated to be 124 million, and value-added tax to be Rs. 102 million.
7. The primary agricultural product in Lumbini Province is cereal crops. Growing cereal crops on those underutilized lands could yield 687,459 metric tons of value annually, for NPR.

21,775 million. It is expected that Lumbini Province will produce goods worth NPR 141,771 million on 119,996 hectares in 2021/2022. It will be possible to expand the command area, enhance crop diversity and productivity, lessen conflicts involving water, and eventually improve livelihood and food security in the province through improved irrigation made possible by these significant projects. The value of livestock products is currently around NPR 114,646 million annually. This production has the potential to grow NPR 162,715 million annually.

8. There are about 2.5 billion metric tons of cement-grade limestone reserves in Lumbini. More than a dozen cement factories are located in the province. Five billion metric tons of dolomite can be mined and sold. A superior magnetite reserve of about 180 million metric tons is another important reserve in the province.
9. The number of visitors is steadily rising annually. A total of 903,868 visitors, of which 649,063 Nepalese, 230,863 Indians, and 23,942 other foreign nationals visited Lumbini in 2022.
10. Mines and mineral deposits are important resources of the province. The province has 25 minefields, of which non-metallic is five, metallic is 15, fuels four, and decorative is one. The study has discovered agriculture and livestock resources, physical infrastructures, social infrastructures, commercial infrastructures, and human resources. It has also stock taken national and provincial pride projects of the province. If the policy for promoting Nepali wood for furniture and construction is implemented the forest resources value may go up to NPR. 14,008.39 million annually.
11. In fiscal year 2018/19, Lumbini Province mobilized total of NPR 24,558.79 million that includes OSR, IGFT, revenue sharing, domestic borrowing, and balance forward amount. In fiscal year 2023/2024, it aimed to mobilize NPR 40,479.70 million and later it was revised to NPR 33,605 million.
12. The sacred birthplace of Lord Buddha, Lumbini, is also a World Heritage Site and saw a rise in tourists of more than 77 percent in 2022 compared to the previous year. The revenue potential from the tourism sector is NPR 2,490.37 million in fiscal year 2022/23. However, the total revenue from tourism was only about NPR 71.83 million. In the medium term, the tourism business sector has the potential to mobilize more than NPR 14,809.51 million annually. The average stay of tourists is only 1.88 days and the national average stay of 13.1 days (2022). If Lumbini's local and provincial governments promote other noteworthy tourist destinations and attractive packages the average number of stays could be increased to the national average. Within the Greater Lumbini Area, 235 heritage sites have undergone GIS mapping, highlighting the necessity of working with site managers and local authorities. Lumbini province's economy could benefit greatly from its tourism potential and historical significance by enhancing the potential of Lumbini heritage sites.

b) Growth Diagnostics

13. The second part of the study covers the analysis of the growth potential of the provincial economy and describes the main roadblocks and obstacles that hold back the potential economic growth. Additionally, the report furnishes strategic recommendations for removing these obstacles. The study has adopted the growth diagnostic approach prescribed by the HRV Framework (2005). The growth diagnostic approach gives more weight to the possibility that the determinants of growth are complements rather than substitutes. This framework helps policymakers identify appropriate reforms and economic policies to relieve binding constraints to stimulate economic development and unleash growth potential.
14. In the HRV framework, the concept of shadow price is used to determine whether the constraint is **binding or non-binding**. But this requires robust quantitative analysis requiring long data series. Due to the lack of data availability, the study has adopted a mixed approach – both quantitative and qualitative approach based on focus group discussions (FDGs) and Key Informant Interviews (KII).

15. The study has estimated the sources of growth using historical statistics published by the National Statistical Office (NSO), Federal Ministry of Finance, and Provincial Ministry of Finance.
16. The study revealed that the agriculture sector (including forestry and fishing) is the dominating source of economic growth in the province. It contributes to as high as 28 percent of economic growth. Hence, to drive economic growth in the days to come, more focus should be placed on these sectors.
17. The next leading contributory sectors are education (12.35%), financial and insurance activities (10.79%), wholesale and retail trade (7%), and construction (6.08%). Public administration and compulsory social security contribute 12.51 percent to growth while the manufacturing sector contributes only 3.54 percent. Sadly, it was discovered that mining and quarrying contribute only 1.14 percent to economic growth though the province is well known for its extractive type of industry potential. The contribution, by an empirical study, showed that it is hopelessly low.
18. Of the other contributing sectors to economic growth, transport and storage contribute 3.38 percent; health and social work contribute 3.77 percent; and the information and communication sectors contribute 2.79 percent to economic growth. Strangely, the contribution of water supply, sewerage, and waste management contributes only 0.39 percent to growth. More focus should be directed toward this end in the days to come.
19. The category-wise decomposition revealed that the primary sector contributes 28 percent, while the secondary sector contributes 14 percent to economic growth. The tertiary sector contributes the rest, namely, 58 percent to economic growth in the province. The sectoral decomposition also indicated that the economic activities are still in the rudimentary phases of development, despite having enough plain land, industry potential, and religious/touristic important places.
20. While comparing the sources of growth of two neighboring provinces (one east and one west), it turned out that the most contributing sector to growth in all the provinces was the primary sector, 28.14 percent in Lumbini, 19.59 percent in Gandaki, and 27.28 percent in Karnali. The second most contributing factor to the source of growth in Lumbini Province was Public Administration, defense, and Compulsory Social Security (12.51%), while in the other two neighboring provinces, it was 19.45 of electricity, gas, steam, and air conditioning supply in Gandaki Province; and Education (26.53%) in Karnali Province. Education was the third largest contributing source of growth (12.35%) to Lumbini Province whereas it was public administration and compulsory social security (12.20%) to Gandaki and Education (17.60%) to Karnali Province. The Construction sector had a similar level of contribution to growth in all three provinces. The estimation showed sizable variations abound in the sources of growth in the neighboring provinces.
21. The diagnostic study, based on the FDGs and KII among others, discovered the following scenarios:
 - a. Political instability is a constraint, and it is a **binding one**. Political instability has disrupted economic performance at provincial level.
 - b. Policy implementation uncertainty is a **constraint**, and it is a **binding one**. Policies are formulated, but implementation is rather poor.
 - c. Legal unpredictability/deficiency is a **binding** constraint. Unpredictability is a concern for private sector. Unpredictability has been frequently experienced in the case of taxes, excise duties and customs duties. Absence of rules and regulations are **critical constraints**. In particular, the laws related to the Federal Civil Service Act and the Federal Nepal Police Act are critical constraints and have impacted the performance.

- d. The road and transport networks in the province are constraints but are not binding. The road network is not that bad in terms of density, but it has not used to integrate/interlink the local economic activities.
 - e. The inadequate electricity supply is a **constraint**, but this is not critically **binding**. In the past, it used to be a binding constraint.
 - f. The low level of private investments and entrepreneurship are **binding constraints** and have impacted the provincial economy. The volume of investment is rather low in the province.
 - g. Inadequate return to investment, and inadequate private appropriability of the returns, are also **binding constraints**.
 - h. Lack of investment in complementary factors of production (that is, human capital or physical infrastructure) is a constraint, but it is **not critically binding**.
 - i. Lack of access to appropriate technology, especially in the uplands and highlands of the province, is a **binding constraint**.
 - j. Challenging geography, an adverse geographical situation for economic growth in the high hills and mountains, is a constraint, but it is **not binding**.
 - k. The low-quality human capital (that is, populace lacking exposure, skills, training and education, or lack of literacy and numeracy), is a **constraint**. The increasing trend of outmigration by quality human resources (i.e., educated, youth and healthy/wealthy people) is a **constraint** to economic growth.
 - l. Provincial government is facing human resource problem in its bureaucracy. Recruiting and retaining appropriately qualified staff have been a constraint, but they are **not binding** ones.
 - m. Lack of access to primary infrastructures (strategic economic assets, such as roads, railroads, airports, seaports, bridges, telecommunications facilities, water supply facilities, cold storages, electricity, solid waste management facilities, and other utilities) is a constraint, but it is not the **binding** one.
 - n. Lack of local finance (due to the low availability of loanable funds through domestic financial markets/low domestic savings) is a constraint and it is a **binding one**. Inefficient intermediation by financial institutions and banks is a constraint, but it is **not a binding** one.
 - o. Coordination deficiency between central and provincial as well as intra-provincial level is a constraint, and it is **binding**. The Act to address coordination is rarely implemented.
 - p. Open South border that allows unchecked imports from India, is a **binding** constraint.
 - q. Lack of integrating gender and other excluded groups (gender inequality and social exclusion- GISE) in the mainstream growth campaign has been a **binding constraint**. The GESI policy should be sincerely adopted.
22. The study has recommended several key policy options to efficiently utilize the available resources and propel economic growth. The promotion of green and resilient agriculture; development of project banks; promotion of PPP programs and civil society engagement; promotion of eco-tourism, commercial use of forests; strengthening institutions and bureaucracy; building close coordination between the three tiers of government; protection of indigenous technology, and gender inclusion are notable ones. The climate smart agriculture (CSA) helps produce local production resiliently. As the topmost growth contributory sector is agriculture, forestry, and fishing, the promotion of this sector is strategically important. Development of project banks helps maintain risk-return trade-off, hence avoids duplication of investment and misutilization of scarce resources. PPP modality, which allows for risk-return sharing between the parties involved, helps create local ownerships, make available of capital for investment, and build confidence in

development. Tourism is a viable sector, but contribution at the present is very low. Efforts directed to promote eco-tourism helps create local employment and generate income, at the same time maintaining environmental balance. More efficient bureaucracy, well versed with the information technology, help produce better results at the same reducing recurring costs. Better coordination helps reduce indirect costs and facilitates better decisions. GESI ensures better participation and local ownership in development.

23. The next policy recommendation is the Lumbini Development Fund (LDF) to accommodate local economic activities and adhere to the circuits approach for spiritual/religious tourism. It can lengthen the tourist-stay and has greater spillover effects on the local economic activities.
24. In addition, other policy options put forwarded are building disaster-resistant infrastructures, their regular repair and maintenance, and installing early warning systems (EWS); protecting traditional water sources; properly addressing human-animal conflicts; and most importantly, changing the mindset of the people towards development. As the province is prone to disaster (both plain and hilly region differently), disaster-resistant approach should be in-built in project development and regular repair and maintenance. Protecting traditional water sources ensures ecological balance and ease rural livelihoods at a cheaper cost. Effort to change the mindset of local people for their own fate awakens them the need for engagement and sustainability.

PART A: RESOURCE MAPPING

CHAPTER I: BACKGROUND

1.1. Context of Federalism in Nepal

1.1.1. Evolving Federalism

25. Nepal's transition to a federal state structure established a just and cohesive political system and ended a prolonged internal conflict. The 2015 Constitution reorganizes the nation's overall governance structure by establishing the federal, provincial, and local levels of government. A major combination of cooperative federalism and fiscal decentralization is the aim of the Constitution. Its schedules list related to the concurrent and level-specific tasks that need to be completed. The creation and application of federalism through legislation have advanced dramatically, even though some aspects are still being worked on.

1.1.2. Fiscal Federalism in Nutshell

26. In Nepal, considerable progress is being made on the four primary components of fiscal decentralization namely (i) assignment of expenditure functions, and the budgeting process; (ii) revenue mobilization; (iii) intergovernmental transfers; and (iv) subnational borrowing. Fiscal decentralization is a key component of the government's agenda to give Nepal's subnational governments (SNGs) - the provinces and local levels - more power and duty for their actions.
27. In terms of the provinces' overall budget for fiscal year 2023/2024, it was about NPR 270 billion. Grants account for about 39% of the provincial budget, with cash balance, internal revenue, and revenue sharing (VAT and excise duty) coming in second and third. Within the budget, internal revenue accounts for sixteen percent. Grants and revenue sharing are two types of fiscal transfers that account for the majority of the provincial budget (65 percent). The combined budget of the seven provinces from fiscal year 2017/18 to fiscal year 2023–24 was NPR 1,586 billion, which is only NPR 165 billion less than the federal government's budget for fiscal year 2023/24 due to the provinces' extremely limited financial resources¹. This shows that provincial government needs mobilize own source revenues rather than depending much on federal transfers.

1.2. Introduction to the Lumbini Province

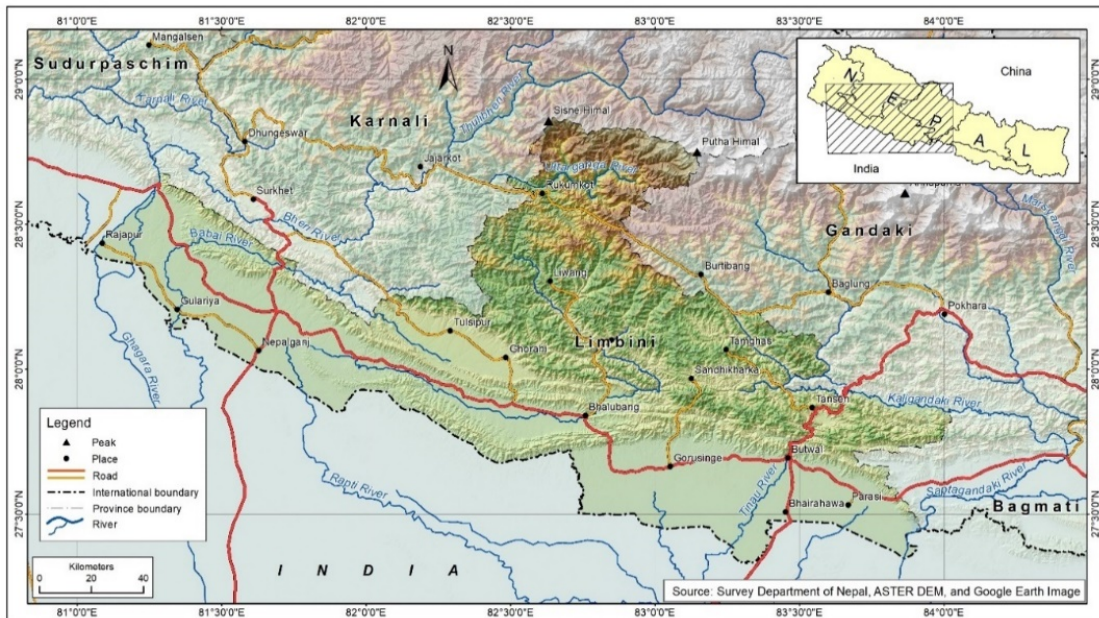
1.2.1. Geography

28. The Lumbini Province is situated at 27°20' to 29° 0' latitude and 81°21' to 84° 02' longitude. The province has 12 districts namely Rukum (East), Rolpa, Nawalparasi (West), Rupendehi, Palpa, Kapilbastu, Gulmi, Arghaknanchi, Pyuthan, Dang, Banke, and Bardia. Of the 12 districts, six are in the Terai region, five in the mountain region, and one (Rukum-East) in the Himalayan region. As per the new provision, there are 109 local governments composed of 4 sub-metropolitan cities, 32 municipalities, and 73 rural municipalities with 983 wards.
29. The total area of the province is 22,228 sq KM. This is the third-largest province in terms of geography. The area of the province occupies 15.1 percent of the total area of the country. About 54 percent of the area belongs to Terai and inner Terai region while the rest belongs to the hill, mountain, and Himalayan range. The highest peak of the province is Putha Himal, which is 7246 M. tall. The next highest peak is Sisne Himal, which is located in the Rukum district. Of the total area, about 3.1 percent of the land is in the high

¹ Khim Lal Devkota. [Provincial budgets suffer federal neglect \(kathmandupost.com\)](https://kathmandupost.com)

- Himalayan range, 9.1 percent in high hills, 32.2 percent in mid-hills, 27.9 percent in the Siwalik Mountain range, and the rest 27.6 is in the plain Terai region.
30. In terms of altitude, it ranges from 500 M to higher than 4000 M. About 43 percent of the land is below 500 M. About 20 percent of the land ranges from 500 to 1000 meters high, and 24 percent of land is in the range of 1000-2000 meters high. In addition, 7.4 percent of the land lies in the ranges of 2000 to 3000 while 3.0 percent of the land falls in the range higher than 3000-4000. The rest 1.9 percent of the land falls at the range of greater than 4000 M. Of the 12 districts, Dang is the largest district in terms of landmass. It occupies 17.2 percent of the land of the province. Banke and Rolpa are the second biggest districts of the province. Nawalparasi (West), a plain area bordering India, is the smallest district in terms of area.²

Figure 1. Location Map of the Lumbini Province

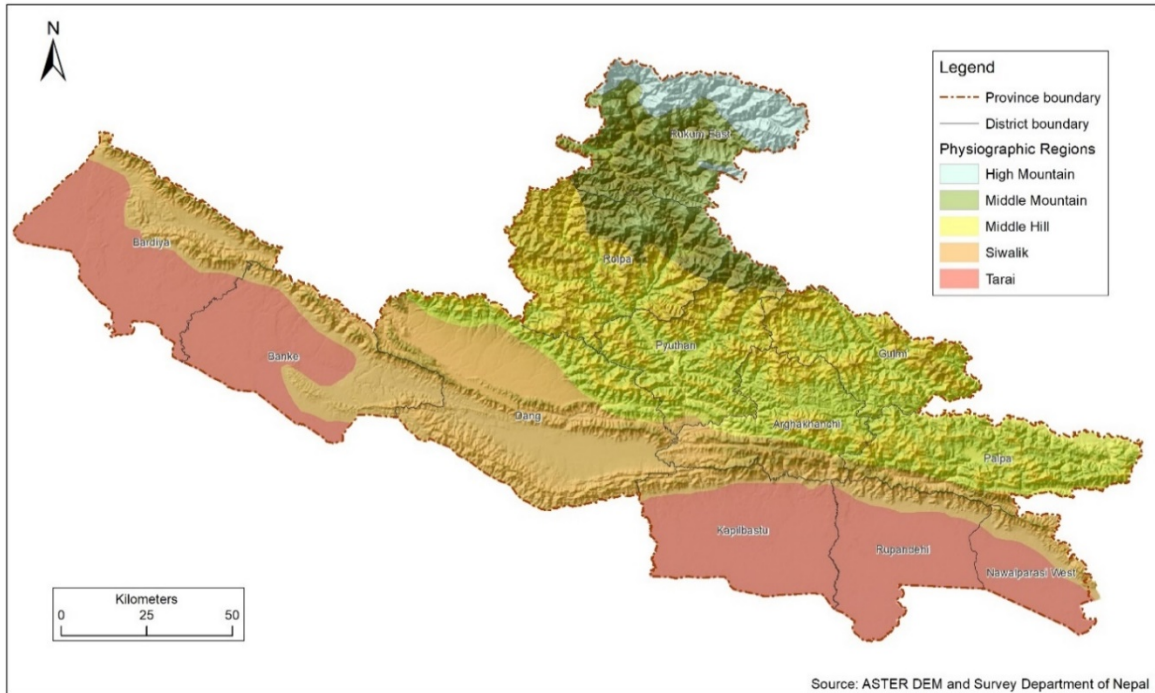


31. The Lumbini Province is the third largest province in terms of both population and area. It is about 300 kilometers broad from east to west and 150 kilometers wide from north to south at its widest point. In addition to being the site of the Lumbini World Heritage Site, Lumbini is well-known for being the birthplace of Gautama Buddha, the founder of Buddhism. To the north, it has borders with the provinces of Gandaki and Karnali. It has a western boundary with the Sudurpashchim Province. The Indian states of Uttar Pradesh and Bihar share its southern boundaries. The provincial capital of the Lumbini Province, Deukhuri, is situated not far from the geographic center of the province.
32. Geographically, the province has borders with the provinces of Gandaki to the east and north, Karnali to the north and west, Sudurpaschim to the west, and India to the south. The province is divided into three natural regions: the Terai, the Hills, and the Mountains, which make up 27.6 percent, 69.3 percent, and 3.1 percent of the total size of 22,288 square kilometers (8,605.44 sq. mi). The area of the Lumbini Province is 15.1 percent of the country. At its widest point, the province stretches 150 km (93 mi) north to south and around 300 km (186 mi) east to west. Its boundary with the states of Bihar and Uttar Pradesh in India is 413.14 km (256 mi). Geographically, the province has borders with the provinces of Gandaki to the east and north, Karnali to the north and west, Sudurpaschim

² [The Lumbini Province- Nepal Outlook | Believe in Data](#)

to the west, and India to the south. The province is divided into three natural regions: the Terai, the Hills, and the Mountains, which make up 27.6 percent, 69.3 percent, and 3.1 percent of the total.

Figure 2. Physiographic Map of the Lumbini Province



33. Gautama Buddha, the founder of Buddhism, was born in the Rupandehi district's sacred pilgrimage site, Lumbini, from which the province gets its name. On October 6, 2020, the Provincial Assembly named Deukhuri the provincial capital and chose the Lumbini Province as the new permanent name, replacing its original designation of Province. In terms of ecology, the province is composed of plain Terai (27.6 percent), hills (69.3 percent), and mountains (3.1 percent).
34. The Dang Deukhuri District contains the 10 km-distance Dang and Deukhuri valleys. The Dang Valley is sandwiched between the Churia Range to the south and the Mahabharat Range to the north. Within a limited drainage basin of less than 3,000 km² (1,200 sq mi), it produces a plain of around 1,000 km² (390 sq mi). It's one of the biggest valleys in the Inner Terai, drained by the Babai River. Sivalik Hills encircle the Deukhuri Valley, which is southeast of the Dang Valley and stretches around 60 km (37 mi) in a WNW-ESE direction with a maximum width of 20 km (12 mi). Within a drainage basin that covers 6,100 km³ (2,400 sq mi), it generates a plain that is around 600 km³ (230 sq mi). West Rapti River empties into the valley. Dang Valley is one of Nepal's biggest Inner Terai valleys. The Deukhuri and Dang valleys are 300 and 700 meters above sea level, respectively.

1.2.2. Climatic Condition

35. The climate in the Lumbini Province is humid subtropical with four distinct seasons. January and February are the winter months, followed by the summer (March to May) and the monsoon season (June to September). Pleasant daytime temperatures that sporadically fall below freezing characterize the sunny and mild winter weather. The average temperature in January is around 15 °C (59 °F). The province's northern areas, however, may experience snowfall and colder weather. The month of March brings with it

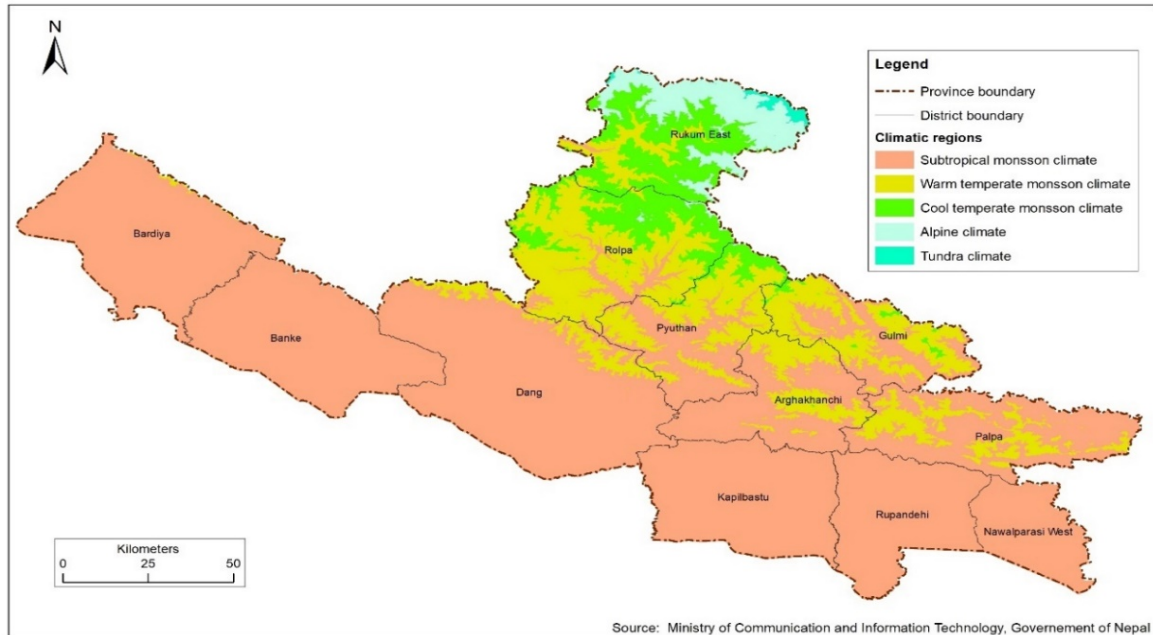
a noticeable increase in temperature and eventual heatwave. The southern plains frequently have highs of above 40 °C (104 °F) from April to June, when the heat is unpleasant. In June, the summer monsoon comes and brings with it thunderstorms and torrential rainfall. Even if the highest temperature in July and August is just 32 °C (90 °F), the heat is uncomfortable due to rising humidity. A substantial amount of precipitation (>300 millimeters) falls in July and August, with some places near the base of the mountains receiving as much as 600 millimeters.

Table 1: Temperature and Precipitation in the Lumbini Province

Average Temperatures and Precipitation of Selected Locations in Lumbini					
Location	August (°F)	August (°C)	January (°F)	January (°C)	Annual Precipitation (mm/in)
Butwal	79	26.1	55.6	13.1	1827.2/71.9
Gulariya	84.4	29.1	59.4	15.2	1503.7/59.2
Nepalgunj	84.4	29.1	59.5	15.3	1302.1/51.3
Siddharthanagar	79.7	29	55.4	15.9	1762.7/69.4
Sitganga	75.6	24.2	51.8	11	1633.2/64.3
Tansen	76.8	24.9	53.4	11.9	1949.3/76.7
Tulsipur	79.7	26.5	55.4	13	1495.4/58.9

Source: Department of Hydrology and Meteorology

Figure 3. Climatic Regions in the Lumbini Province



Source: Ministry of Communication and Information Technology, Government of Nepal

1.2.3. Confluence of History, Culture, and Heritage

36. Buddha's birthplace, Lumbini, is a popular tourist attraction and a significant Buddhist pilgrimage site on a global scale. Other heritage sites such as Devdaha, Tilaurakot, Jitgadhi, and several other heritage sites can offer heritage value to the visitors. The rich culture of Muslim, Tharu, Magar, Awadh, and other communities can offer homestay packages.

1.2.4. Demographics

37. As per the 2021 census, the Lumbini Province's total population is 5,122,078 (17.56 percent of the national population). Among this population, 47.92 percent are males (with a total of 2,454,408 individuals), and 52.08 percent are females (with a total of 2,667,670 individuals). The province has an average annual population growth rate of 1.24 percent, and the density of the population is 230 persons per square km. About 65.8 percent of the population is an under-economically active group.

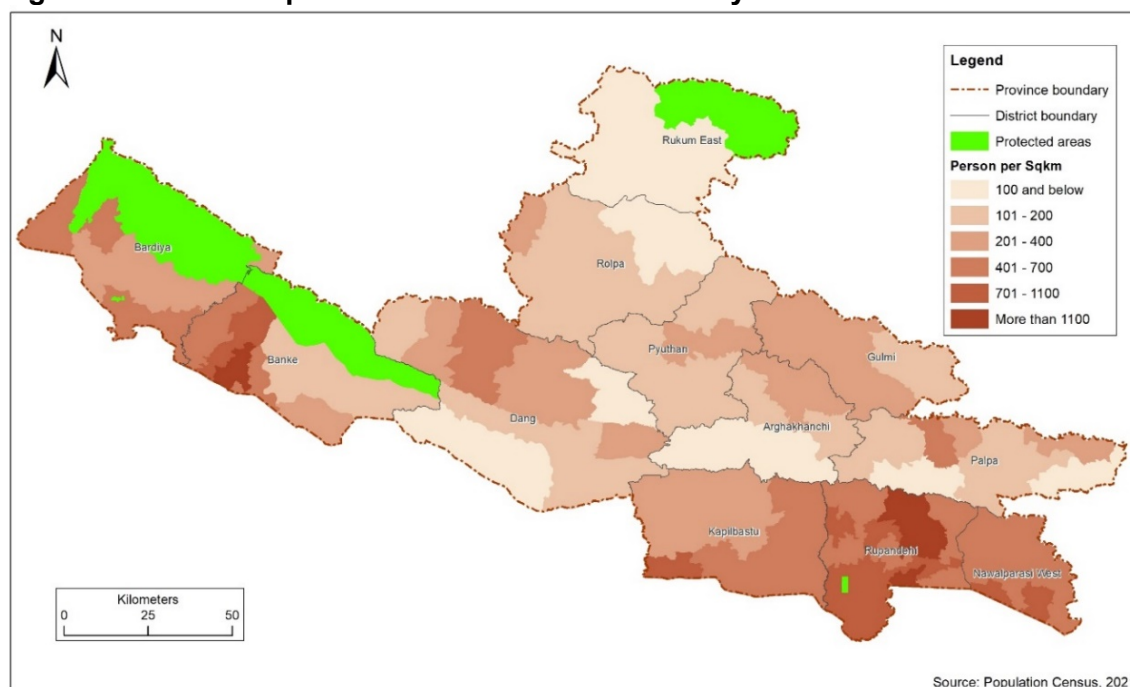
Table 2: Population Distribution

Area	Population	Gender Ratio		Household	Annual Growth Rate	Population Density
	(%)	Male	Female	Size		
Nepal	100	48.87	51.13	4.37	0.92	198
Himal	6.08	49.31	50.69	4.33	-0.05	34
Mountain	40.31	48.63	51.37	3.99	0.3	192
Terai	53.61	49.01	50.99	4.73	1.54	460
Lumbini Province	17.56	47.92	52.08	4.49	1.24	230

Source: NSO 2023/24

38. About 76.2 percent of people are literate (male 83.6 percent and female 69.4 percent). Total households are 1,141,902 with a 4.49 average HH size.

Figure 4. State of Population Distribution and Density in the Lumbini Province



1.2.5. Key Economic Parameters

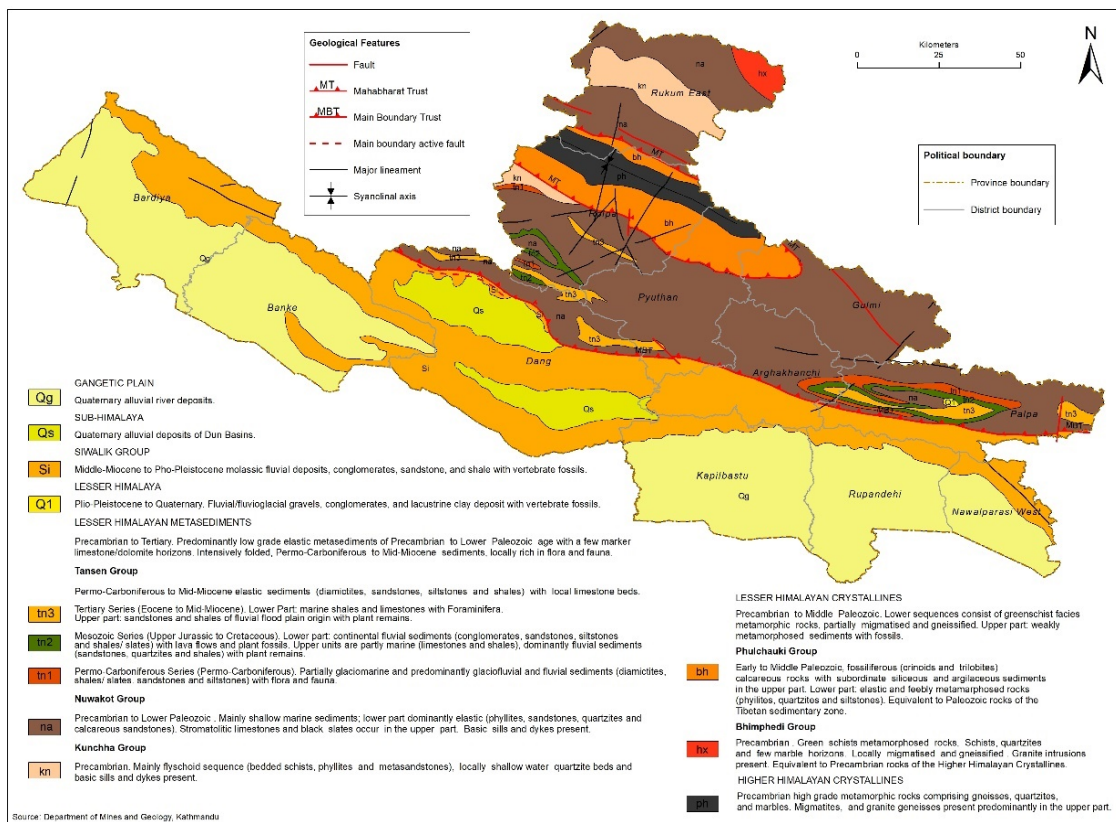
39. It is the second fastest-growing province in Nepal after Bagmati Province and is the third out of the seven provinces in terms of its contribution to the National GDP (14 percent as

of 2021)³. In the upcoming years, the Lumbini Province is likely to play a significant role in Nepal's economic development. The forthcoming fiscal year 2023–2024 is predicted to have 3.3 percent economic growth in Lumbini Province. Major cities in the province include Butwal and Siddharthanagar in the Rupandehi district, Nepalgunj in the Banke district, Tansen in the Palpa district, and Ghorahi and Tulsipur in the Dang district. With its rich cultural and historical heritage, the Lumbini Province attracts pilgrims and tourists from all over the world who come to see its breathtaking scenery and sanctified locations.

1.2.6. Geology

40. The geological makeup of the Lumbini Province is varied, and shaped by both natural and ancient tectonic forces. The Mahabharat Range, which rises from an elevation of 600 meters in the Babai Valley to 700 meters at its foothills, delineates the northern boundary of the Lumbini Province. The lush plains of the Lumbini Province are distinguished by alluvial slopes, which were created over millennia by the deposition of sediment from rivers. Local communities and agriculture are supported by these areas. The Province is located in the Himalayan seismic zone, where the terrain is still being shaped by the ongoing collision of the Eurasian and Indian tectonic plates. Fault lines and earthquakes are frequent occurrences. Mineral deposits in the Lumbini Province include iron, limestone, and other precious materials. These geological features are actively surveyed and studied by the Department of Mines and Geology.

Figure 5. Geology of the Lumbini Province



³ Remote Sensing | Free Full-Text | Forest Cover and Sustainable Development in the Lumbini Province, Nepal: Past, Present and Future (mdpi.com)

1.2.7. Urbanization

41. The province of Lumbini is located in an area vulnerable to natural calamities. Seasonal floods are caused by rivers overflowing and heavy monsoon rains in the province. Particularly the Rapti River presents a serious risk of flooding. Rainfall, seismic activity, and soil erosion can all cause landslides in the Lumbini Province's hilly terrain. These occurrences have the potential to damage property and interfere with traffic routes.
42. Disasters like floods, landslides, fires, thunderstorms, droughts, and even heavy rainfall that occasionally destroys crops disproportionately affect Lumbini Province. The main way that the impact is seen on both public and private properties is in the damage that landslides and floods cause, but the loss of productive land is also noticeable everywhere. As a result, this province has created and released a Strategic Plan of Action for carrying out Disaster Risk and Reduction initiatives between 2022 and 2030. This action plan document provides information on likely disasters and a strategy for reducing and managing any risks that may arise from them over the coming years. Promoting sustainable land use methods, bolstering infrastructure, and teaching locals about disaster response and mitigation techniques are some of the initiatives being undertaken.

SECTION 2: SCOPE OF STUDY

2.1. Stocktaking of Resources and Analysis

43. The resource mapping was accomplished by: a) gathering data from published and unpublished sources regarding the frontier level of resources available in the province; and b) identifying current and potential resources that could be raised, and c) quantifying potential resource monetization.

2.2. Resource Mapping Areas

44. The areas covered by the resource mapping of the Lumbini Province are as follows:
 - i. **Natural Resource:**
Forest Resource, Water Bodies, Peaks of Lumbini Province, Herbal, Plants, Wildlife, Indexing of Resource, and Forest Products: Potential Resource Value.
 - ii. **Agriculture and Livestock Resources:**
Major Cereal Crops, Cash Crops, Major Spice Crops, Major Pulses, Major Fruits, Major Vegetables, Livestock Products and Fisheries, Fishery Products, Agriculture Products: Monetary Value, and Livestock Products: Monetary Value).
 - iii. **Mines and Mineral Resources:**
Geology and Mineral, Distribution of Mines and Mineral, Mines and Mineral Products, and Potential Resource Value.
 - iv. **Physical Infrastructures and Assets:**
Transport Network, Irrigation System, Energy Related Infrastructure, Social Infrastructures/Assets, Water Supply Networks, Sewerage and Drainage Network, Health Facilities, and Education Facilities.
 - v. **Commercial Infrastructures/Assets/Resources:**
Industries, Banks and Financial Institutions, Special Economic Zone, Heritage Sites and Places of Natural Beauty in Lumbini Province, Heritage Sites, Key Tourist Sites and Tourism, Expansion of Hospitality Infrastructures, and Tourism Products: Potential Resource Value.
 - vi. **Economic Corridors and Market Centers:**
Provincial Economic Projects (Strategic), National and Provincial Pride Projects in Lumbini, Key Infrastructure Assets: Potential Resource Value, Financial Resources : Status of Lumbini Province.
 - vii. **Financial Resources:**
Own Source Revenue (OSR), Intergovernmental Fiscal Transfer (IGFT), Revenue Sharing, Royalty, and Borrowing

SECTION 3: METHODOLOGY

3.1. Concept of Resource Mapping

45. Resource mapping is a process for gathering and charting information regarding the availability, distribution, use, and accessibility of resources within the cultural and economic domain of a province or specific community. Rather than exact measurements, a resource map represents people's perceptions of their natural resources as they exist.
46. Using three distinct methods—a) resource mapping with a GIS, b) interacting with provincial and local officials, and c) retrieving and evaluating secondary data—the consultant team mapped the province of Lumbini's resources. Both a) financial and b) non-financial resources have been the primary subjects of the study.
47. The following topics were the focus of the growth resource mapping study: a) economic and financial resources; b) government performance and success; and c) accumulation of collective knowledge. The growth diagnostic investigation also made use of the data obtained under resource mapping based on FGDs and KII, field visits, and secondary data.

3.2. Objective of Resource Mapping

48. The output of the resource mapping study will yield evidence that will be advantageous to the province of Lumbini for planning interventions for economic growth. Resource mapping will lay the groundwork for developing project pipelines connected to the province's long-term strategic plan. The Lumbini Province can locate, identify, and classify resources using a resource mapping exercise. It can also ascertain the relative value of each resource for planning, monitoring, and evaluation purposes. "Resource maps help to create a common understanding amongst the stakeholders, and create a baseline for monitoring and evaluation."
49. The key objectives of the study are to conduct a mapping of resources available in the province and suggest strategic action for unleashing the potential. The specific objectives of the study are to i) create a foundation, evidence, and backup data for increasing its chances for resource mobilization, ii) explore areas for enhancing the provincial own source revenue (OSR), and iii) promote self-reliance or lessen dependency on the inter-government fiscal transfer (IGFT).

3.3. Review of Constitutional Mandates and Legal Review

50. The province can locate, identify, and classify resources using the mandate of the Constitution of Nepal, which came into effect on September 20, 2015, and outlines several fundamental subjects related to Nepal's national interest. The constitution emphasizes Nepal's independence and sovereignty. Ensuring the integrity of Nepal's territory is a fundamental concern. The protection of Nepali nationality is a priority. The constitution recognizes the importance of autonomy for various regions and communities within Nepal. Upholding the self-respect of Nepali citizens is a constitutional mandate. Protecting the rights and interests of the Nepali people is fundamental. Safeguarding Nepal's boundaries is a critical aspect of national interest. *"Now, therefore, to fulfill the aspirations for perpetual peace, good governance, development, and prosperity through the medium of the federal democratic republican system of governance, hereby promulgate this Constitution through the Constituent Assembly."*⁴

⁴ Preamble of Constitution of Nepal 2015.

51. *The constitution of Nepal, under the use of power (article 59.4) mentions “ (4) The federation, province, and the local level entity shall have to decide for equitable distribution of the benefits from the development of natural resources. A certain portion of such benefit, royalty, services, or objects, shall have to be distributed in areas affected by projects and to the local communities as provided for by law.*
52. The legal review covered key areas like a) assessing the legal, regulatory, and institutional requirements to harness revenue potential, b) presenting the principles for harnessing revenue potential (e.g. balancing the need for a sound regulatory regime to promote a competitive business environment), c) provide a roadmap for how the internal preparation should plan harness the revenue potential in the short-term, medium-term and long-term.

3.4. Review of Periodic Plan

53. The Lumbini Province Planning Commission has approved six overarching strategies, 204 thematic strategies, and 828 strategic activities (baseline paper of periodic plan (FY 2024/25-2028/29). According to the Planning Commission, new opportunities in agriculture, industry, tourism, and the green economy will be investigated along with increased employment and entrepreneurship through long-term thinking of economic development, good governance, and development. Its goal is to guarantee universal access to high-quality education and healthcare in The Lumbini Province to develop healthy and productive human capital.
54. The province of Lumbini has a human development index of 0.610, a gross domestic product growth rate of 7.2 percent, a child mortality rate of 22 per thousand, and an absolute poverty rate of 18.20 percent. Per capita, income is 1512 US dollars (periodic plan of Lumbini).

3.5. Review of Unbundling Report

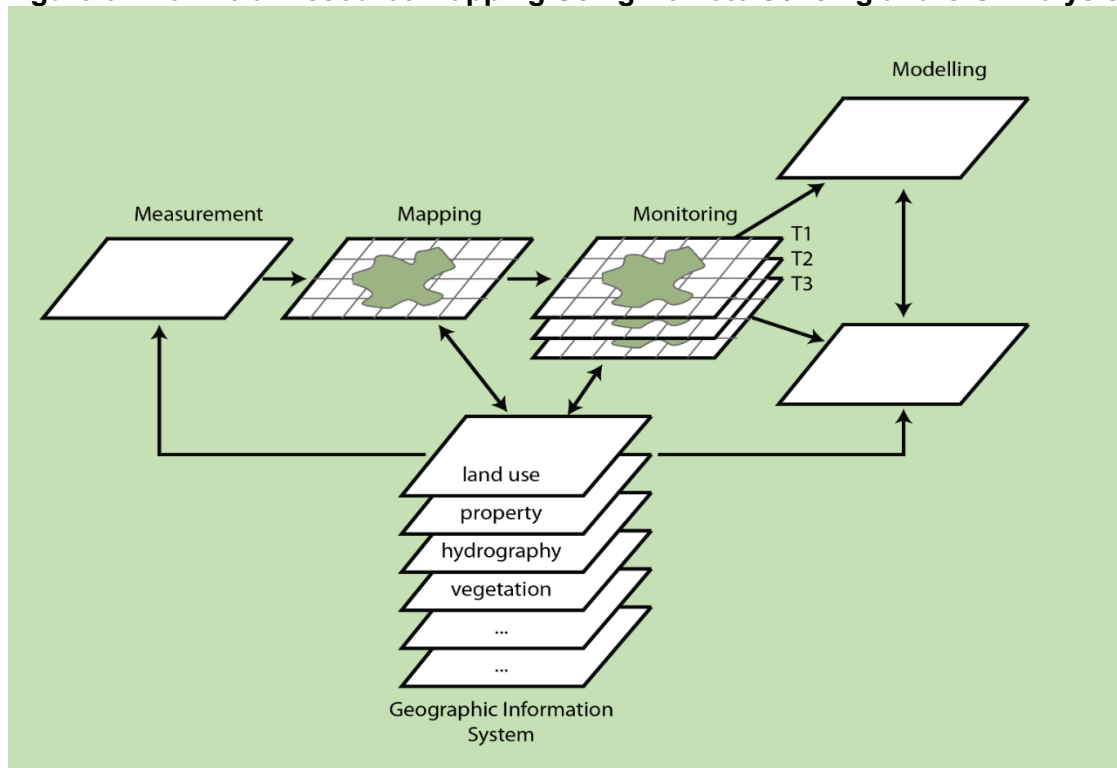
55. The constitution outlines the exclusive and concurrent powers of the federal units. A 2017 unbundling process identified 1,795 tasks that all three levels of government are required to complete. These roles were further clarified by several laws, including the Local Government Operation Law, the Inter-Governmental Fiscal Arrangement Law, and the Employee Adjustment Law. Specifically, the report made it clear that in 2023 the committee gave local governments 360 functions and provincial governments 565 functions.

3.6. Review and Analysis of Resource Maps

56. There are several approaches to resource mapping for governments. The analysis and compilation of infographics for the database, GIS, and analysis of statistics gathered from different sources were done using both quantitative and qualitative methods. Here the team used resource mapping methods as follows:
 - i. GIS technology combines geographic data with other types of information to create detailed maps. Maps are used to illustrate and assess resources, such as land use, regions used for agriculture and cattle, different types of soil, water supplies, mineral deposits, and infrastructure.
 - ii. Satellite imaging and remote sensing: Satellite imagery and aerial photography are two common remote sensing techniques used to collect data on vegetation, water bodies, geological features, and land cover. When detecting and evaluating natural resources and environmental changes, this GIS data is useful.
 - iii. Surveys and Field Assessments: To get precise data regarding resources like agriculture, forestry, fisheries, and minerals, as well as human resources like population demographics, educational attainment, and skill sets, field surveys and assessments were carried out.

- iv. **Census Data and Statistical Analysis:** Census data provides demographic information, economic indicators, and social characteristics of a population. Statistical analysis helps in understanding population distributions, workforce capabilities, and economic trends.
- v. **Policy Analysis and Planning:** Analyzing existing policies, and legal and institutional structures and creating new strategies based on resource mapping data assists in effective resource management, sustainable development, and short-term and long-term planning.
- vi. **Resource Inventories and Database Development:** Creating detailed inventories and databases that compile information on various resources within the province helps in better management and planning. This can include information on natural resources, infrastructure, industries, human resources, etc.

Figure 6. Provincial Resource Mapping Using Remote Sensing and GIS Analysis



Source: Maniram S. Mahat, 2021. Technical Notes on GIS-based Municipal Base Maps, Resource Maps, and Profile

3.7. FGD, KII, and Field Survey

- 57. More than fifty participants took part in the focus group discussions (FGDs) including PCC members, officials from all provincial ministries, non-governmental organizations, business groups, cooperative members, representatives from district coordination committees, and local-level political leaders. During an interactive discussion session, participatory resource mapping was employed to enable local and provincial government officials to contribute their knowledge and perspectives regarding the social, cultural, and physical contexts in which they reside. The consultants' team visited all 12 districts of the province while collecting statistics on resource potentials and growth hurdles. Local mayors and municipal chairpersons were invited by District Development Coordination

Committees in their respective districts to share their ideas, experiences, and thoughts on resources and growth at a meeting with the consultant team.

3.8. Secondary Sources

58. The major foundation for the study is the secondary data sources, as per the agreement reached in the inception report between the Lumbini Province and ADB. Data from different government agencies, federal, provincial, local levels, and non-government agencies were utilized. The resource mapping is based on the collection and review of data received from secondary sources. Reviewed constitutional mandates (Schedule 6), unbundling report of GoN, periodic plan of the Lumbini Province, satellite maps and base maps prepared by the Department of Survey (GoN), study reports related to land use, research papers, documentation of heritage and monuments, thematic maps (land use maps, soil maps, mineral and natural resource maps, cultural maps), profiles of sub-national levels, master plans, Fiscal Accountability Act and Rules, Sustainable Development Goals (SDG), business climate index (BCI), and RIAPS of selected local levels of the Lumbini Province were reviewed. Various reports published by different international organizations were also used for growth diagnostic analysis.

Box 1: Resource and Asset Mapping for the Province of the Lumbini

A: Resource Mapping:

Taking stock of different resources that are located and available in the province is the basic concept of resource mapping. Natural resources (land, water), infrastructure (roads, utilities), human capital (skills, education), and social assets (community organizations) are examples of these resources. The objective of the resource mapping study is to assist the provincial government in recognizing its current resources and capabilities. It offers a framework for well-informed planning, development, and decision-making.

Resource mapping focuses on understanding resource abundance and distribution rather than monetizing value per se. However, the potential monetary value of selected resources is worked out in this study.

B. Asset Mapping:

Specifically identifying, characterizing, and frequently visualizing geographically the assets that are currently present in the province is known as asset mapping. The purpose of asset mapping is to list the assets and strengths of a community. Instead of concentrating on a neighborhood's shortcomings, it highlights its strengths. Asset mapping studies the provincial government with the ability to identify and capitalize on the strengths of its assets using financing tools such as public-private partnerships. This study tries to list out key assets of the province like national pride projects and provincial pride projects under asset mapping.

Resource mapping provides a more thorough overview of the province's major resources, while asset mapping focuses on the advantages of the major resources constructed in the province. To put it briefly, both resource-mapping and asset-mapping activities generate proof for strategic planning (periodic plan, MTEF, etc.) and build bankable project pipelines through Lumbini Province.

SECTION 4: LEGAL AND INSTITUTIONAL ANALYSIS

4.1. Constitutional/Legal Mandates Regarding Functions and Funds

59. Lumbini's economic growth is also influenced by legal framework. The Constitution of Nepal stipulates that the exclusive power of the provincial government include all together 21, of which many are related to economic development and growth. The exclusive powers given to the provinces that are related to economic growth and development are operation of banks and financial institutions in accordance with the policies of Nepal Rastra Bank, cooperative institutions, foreign grants and assistance with the consent of the center; provincial level electricity, irrigation and water supply services, navigation; provincial universities, higher education, libraries, museums; health services; intra-provincial trade; provincial highways; management of lands, land records; exploration and management of mines: physical management and other necessary matters of provincial governmental offices; protection of languages, cultures, fine arts; use of forests, water management and protection of environment; agriculture and livestock development, factories, industrialization, trade business, transportation; to name a few. In the same vein, there are 25 concurrent powers to be exercised with the federal government that are also related to economic growth and development.
60. Besides, there are 15 concurrent powers to be exercised by the provincial government in collaboration with the federal government and local levels. Thus, all three tiers of the government have to concurrently discharge the functions related to cooperatives, education, health, agriculture, irrigation, mines, minerals, disaster management, environment protection, forest use, archeology, motor vehicle permits etc, as per the schedule nine of the constitution. These functions are related to economic growth of the province. The Local Level Government (Operation) Act, 2074, which is meant for the operation of local level, is against the spirit of constitutional mandates given to provincial government. The federal government has enacted this Act which is unnecessary intervention to the Local Government. This type of Act should be enacted by the Provincial Parliament, not by the federal parliament. These show that provincial government has a tremendous role in economic growth and development. However, there is a gap in policy consistency and policy priority. The quality of laws is another issue, and it is necessary to revise all laws by an expert team for betterment. The formulation of act under the concurrent powers of the schedule of the constitution is still remained undone.
61. Revenue power of the province is one of the newest features of the Constitution of Nepal. As per the Clause (3) of the Inter-governmental Fiscal Arrangement Act, the province has power to levy and collect taxes (on house and land registration fee, motor vehicle tax, entertainment tax, advertisement tax, and agricultural income tax). Similarly, the province can levy non-tax revenues like service charge/fee, tourism fee, and penalty and fines. Schedule 4 of the same Act mentions that the royalty (on mountaineering, electricity, forest, mines, and minerals, and water and other natural resources) will be shared on the ratio of 50:25:25 between federal government, provincial government and local levels, respectively.
62. It appears that the provincial government has been given many functions that are related to economic growth. However, compared to the functions assigned, fewer revenue raising power is given. On the prospects of house and land registration revenue, it functionally depends on the transactions of land and building purchase/sales and ownership transfer. When land transactions are low, the revenue potential is naturally low. In the case of motor vehicle taxes, levying higher taxes in relation to other neighboring provinces may motivate vehicle owners to avoid taxes by shifting (moving out) to other provinces. Entertainment and advertisement taxes are normally low, when province has fewer/limited urban areas. The prospect of income tax on agricultural taxes, it is very unlikely to implement given the

subsistence agricultural context of the province, where lands are scattered into several plots, with many landholders having smaller plots. Such phenomena do not permit economies of scale in agricultural production. The marginal lands of the mountains and uplands are not fit for larger agriculture production. All these limit the prospects the tax revenues from agriculture income.

63. The dominant growth driver of the province is agriculture, fishing and forestry (the primary sector), which contributes 28 percent (60 percent of the population is involved in this primary sector) to economic growth. This is still the area to be focused if growth and employment have to increase simultaneously. Increasing agricultural production and productivity and utilizing the forest resources commercially can be further drivers of growth in the province. Climate smart agriculture (CSA) could be the newer area to focus. There is a greater prospect to utilize forest products commercially. However, the legal provisions are contradictory. The federal government has taken over forest related functions by formulating federal law, though constitutionally it belongs to the province. This is to be corrected.
64. The construction can be newer areas of growth in the province, which is now contributing to almost 7 percent to economic growth (where 9.44 percent of the population are involved). PPP modality can be introduced to expand this sector. The Education Sector can be the third areas of growth. Collaboration with the civil society could be the option for further strengthening. It is now contributing to 12.35 percent to growth. Currently, the tourism sector is contributing to economic growth nominally. Although the province is well-known for religious and spiritual tourism, the contribution is rather low (tourism contribution is accounted on accommodation and food service activities that contributes to 1.23 percent). Diversification to tourism products and broadening the tourist spots are urgently required. Transport and storage sectors contributes to 3.38 percent to provincial growth, indicating the fact that it still requires additional attention. Health sector and social activities contributes 3.77 percent to annual economic growth. The broadening and widening of this sector can propel the growth prospects in the province.
65. The financial and insurance activities contribute to the extent of 10.79 percent to the source of growth. However, the people's involvement in this sector is only 0.73 percent. The Real Estate sector contributes 2.58 percent to growth and people involved in this sector is only 0.07 percent. It indicates two things- Banks, Insurance and Real Estate activities (the FIRE subsector) disproportionately earn profit, given the low real sector growth. Secondly, it is urban centric and has very little spillover effect on inclusive growth in the province. Banks and insurance are centrally managed and operated, and local branch managers have very little discretionary power to explore the productive areas including in agriculture and forestry. Added, banks are more collateral oriented and general ask for fixed assets as collateral for extending loan and advances. Smaller farmers, therefore, are naturally denied of the bank loans for productive activities. Many insurance companies are owned by the bank owners. So, the insurance companies also exhibit the same orientation as the banks do. Real Estate sector is urban centric and informal. Formalizing Real Estate Sector is a key challenge even in the federal level. Once, formalized it can contribute to growth potential.
66. The Intergovernmental Fiscal Arrangement Act, 2017 mandates province to levy and collect tax and non-tax revenue. The major sources of tax revenues are house and land registration, fees, motor vehicle tax, entertainment tax, advertisement tax, income tax on agricultural income whereas non-tax revenues range from service charges, fees, tourism fees to penalty and fines.
67. The Intergovernmental Fiscal Arrangement Act also has the provision of raising internal loans with the prior approval of the federal government. The province can borrow loans in pursuant to this clause. Moreover, deficit budgeting can also be exercised by the province

- with a clear pay-back basis. Similarly, foreign loans and assistance can be utilized with the prior approval of the central government. Despite the legal arrangements, the province has not borrowed any loans, internal or external.
68. The provision of royalty from natural resources is shared on the ratio of 50:25:25 between federal, provincial and local levels. The possibility of raising further revenue can be explored through the change of this ratio. For example, the ratio of royalty from forests and tourism can be shared on some different proportions, allowing province more share. Traffic penalties are not collected by the province. This can be allocated to the province. Revenues from mining and quarrying are collected by the local levels but are not shared properly due to legal complications. The Local Government (Operation) Act, which is unclear in relation to revenue sharing between province and local levels, can be made clearer for increasing provincial revenues.
 69. In the average of the last five fiscal year from 2018-19 to 2022-23, the Lumbini Province has collected total revenue NPR 3,516.13 million. Of which from property registration tax NPR. 1,045.35 million, vehicle tax and fees NPR 1,724.96 million, service charges, fee & fines NPR. 474.9 million. The Federal Government itself can lend and on-lend to the province upon request.
 70. The policies of the provincial government are found overambitious and unimplementable. Many policies are simply the photocopy of the federal government policy. Policy formulation for the sake of formulation has been a fashion by the provincial government. The primary reason for this is that higher level bureaucrats from the central government, who are deputed to the provincial ministry generally for a year, have the orientation of federal mentality. They prepare draft policy proposal based on their previous orientation and experience. The second factor is that provincial political leaders, who are generally the lower-level political cadres of the respective party, want to imitate the federal style and attitude. Political party's manifestos also contribute to help replicate the central policies. Many policies, thus, become far away from the provincial ground reality, creating wide hiatus between policy announcement and implementation.
 71. Many agencies and institutions of the provincial government are merely the replication of the federal government. The provincial government has created commissions, bodies, councils, group of advisors, and committees as has done by the central government, totally forgetting cost implications, and operational mandates. The trend of appointing advisors and so-called experts for political management is widespread. Truly, the mistletoe organizations (off-line organizations) and indiscriminate appointments have become the resting place for party cadre management. These duplicating agencies do nothing but invite political intervention and create overlapping. The logistics they have used are found to be mostly meant for parochial party activities. The number of line ministries themselves are found to be increased, as per the political divisions, innate political interests, intra-party negotiations and settlements, rather than the real necessity of provincial mandates. Such arbitrary increase of the numbers of line ministries has not only increased the burden of recurring costs, but also created endless confusion and repetition. Besides, there are many federal institutions working side by side. The cost cutting measures are rarely implemented.
 72. The provincial government has to discharge twin functions- service delivery and development work at the same time. The capacity of the provincial bureaucrats needs to be enhanced, updated and improved in terms of training and exposure. All the vacant positions should be fulfilled as soon as possible. An organization and management study (O&M survey) should be immediately conducted to ascertain the number and quality of provincial employees in the light of service delivery and constitution mandates of development activities that is required to be carried out. Most the employees have been found to be of having traditional mindset (technically speaking, ages-old Weberian

Bureaucracy of ‘government-employment’, which connotes a secured job, permanent, routine work, non-productive, and change resistant) and necessitate their re-modeling as development workers and change agents in the modern context.

73. The recruitment system itself should be re-oriented and revisited. Mere administrative clerks are no longer the requirement of the provincial government. As per the constitutional mandates, the provincial government needs newer type of technical employees like engineers and experts in specific functional areas (like agriculture, forestry, industries, tourism, hydro, and mines,), economists, statisticians, IT experts, system designers, programmers and contract managers, project managers, planners, GIS experts and so on. Business innovation and creative ideas are not apparent at the province. Creativity and local resource mobilization efforts need to be emphasized.
74. In principle, the provincial government stays closer to the people than the federal government. The provincial government should know what the provincial necessity is and what are the people’s expectations better than the federal government. Provincial government is more of implementing apparatus than policy making layer under the current federal structure in Nepal. Therefore, it is development-delivering agency of the political system.
75. There are ample prospects of working together with private sector in the province. Basically, the projects under the PPP framework can be considered to this end. Projects related to agriculture (farming and animal husbandry, put together) production, processing, transporting, storing, and marketing are some of the areas where private can be invited. Commercial use of forest products can be another area for co-working and co-creating. Health and education are areas where cooperation with civil society is appropriate. In sum, hard-ware type of projects can be partnered with the private sector while the soft-wares type of projects is appropriate to work with civil society in close consultation, collaboration, cooperation and co-sharing.

4.2. Provincial Mandates and Laws Related to Economic Growth

76. According to Constitution of Nepal, the exclusive powers mentioned schedule 6 regarding cooperatives, agriculture, livestock, mines, and minerals are as follows:

Table 3: Existing Provincial Legal Provision

S. N.	Existing Provision
1	Cooperatives: Schedule 6 (2)
1.1	Ensuring policy, acts, standards, implementation, and regulations of the province are in place.
1.2	Ensuring provincial approval, operation, and regulation for provincial cooperatives, federation of cooperatives, and cooperatives banks.
1.3	Preparing provincial standards and regulations for saving and loan administration of cooperatives.
1.4	Establishing coordination and cooperation among federal thematic agencies and provincial organizations.
1.5	Establishing coordination and cooperation among organizations at the province and local levels.
1.6	Maintaining provincial statistics and conducting studies at the provincial level regarding cooperatives.
1.7	Developing capacity in the cooperative sector.

S. N.	Existing Provision
1.8	Working on the promotion of the cooperative sector and its operation.
2.	Agriculture and Livestock: Schedule 6 (20)
2.1	Preparing provincial policy, acts, standards, plans, operational plans, and regulations related to agriculture and livestock in the province.
2.2	Control pests in agriculture, diseases, and epidemic livestock.
2.3	Promoting and developing industries and businesses based on agriculture and livestock.
2.4	Mechanization in agriculture and livestock farming along with expansion of improved equipment and technology.
2.5	Registration, renewal, annulment (termination), and regulation as per the spirit of national policy and standards of para- veterinaries .
2.6	Managing and regulating the Laboratory for diagnosis of animal diseases and crop diseases.
2.7	Determining and regulating the quality of agricultural produce, livestock, livestock products, and animal products.
2.8	Affiliation, standardization, quality determination, and certification of agricultural goods, services, and technologies.
2.9	Seed and breed quality determination and regulation.
2.10	Provincial policies, laws, and regulations on Kharka and pastureland.
2.11	Provincial Food Security, Food Rights and Food Sovereignty.
2.12	Provincial Statistics System on Agriculture, Study, Research, Resource Conservation, Development and Expansion and Collective Farming System.
2.13	Conducting study/research about the development and promotion of agriculture, livestock, and food technology.
2.14	Provision and regulation of supply of agricultural fertilizers, seeds, and pesticides.
2.15	Provincial Laboratory Development and Management of Agriculture, Livestock and Food.
2.16	Agriculture promotion, farmer training, capacity building, and empowerment.
2.17	Implementation of minimum support price for agricultural produce.
2.18	Planning and Implementation of Agriculture and Livestock Insurance.
2.19	Agricultural market and infrastructure development and operation.
2.20	Development and Management of Agricultural Farm Centers.
3.	Mines and Minerals: Schedule 6 (17) and Schedule 7 (15)
3.1	Provincial policies, laws, standards, planning, implementation, and regulation relating to the exploration of mines and minerals.
3.2	Survey, exploration, excavation, and management of mines and minerals other than ordinary construction-oriented mines and minerals within the purview of the federal government.

S. N.	Existing Provision
3.3	Registration, permission, renewal, cancellation, and regulation of mines and mines other than ordinary construction-oriented mines and minerals within the purview of the Association.
3.4	Collection and recording of mining and mineral products.
3.5	Geological Studies and Research and Maps.
3.6	Establishment and operation of a provincial laboratory related to mining and mineral research and quarrying.
3.7	Implementation of physical infrastructure development plan related to industry and minerals.

77. The above laws are directly and indirectly related to resource mobilization of the Lumbini Province. The unbundling report's recommendations can be used by three levels of government to streamline their laws on infrastructure, industries, cooperatives, agriculture, and natural resources (minerals, water, and forests) (2028 and 2023). The Lumbini Province can adhere to these unbundling reports to guarantee that provincial laws are suitably pertinent for resource mobilization.
78. Article 197 of the Constitution of Nepal states "The legislative powers of the Province Assembly shall be as contained in the list of Schedule-6, Schedule -7, and Schedule-9". For the implementation of the constitution, by using constitutional power, the Lumbini Province has enacted the Acts (**Annex 1**).
79. Several factors, including a lack of personnel, regulations, guidelines for cooperation, and inconsistencies between federal and provincial laws, contribute to the poor implementation of the province's various laws. There is a gap in policy consistency, policy priority, and resource mobilization influence of interest groups. The quality of laws is another issue, and necessary to revise all laws by an expert team for betterment. The formulation of Acts under the concurrent powers of the schedule of the constitution remained.

4.3. Local Level Laws

80. The Constitution of Nepal schedule 8 also covers the following exclusive powers related to the cooperatives, agriculture, and livestock. The cooperative, agriculture and live stock sub sectors are the concurrent areas of province and local levels.

Table 4: Existing Local Legal Provision

S. N.	Existing Provision
1.	Cooperatives
1.1	Local policies, laws, standards, implementation, and regulation relating to cooperatives.
1.2	Registration, permission, termination, and dissolution of local cooperative societies.
1.3	Co-operative Savings and Local Standards, Regulations on Credit Mobilization.
1.4	Coordination and collaboration with federal, federal thematic, provincial, and local organizations related to cooperatives.
1.5	Co-operative Local Data Management and Study Research.
1.6	Capacity building related to local cooperatives.
1.7	Promotion and mobilization of the local cooperative sector.

S. N.	Existing Provision
1.8	Promotion and Development of Co-operative Societies.
2.	Agriculture and Livestock Resource
2.1	Local policies, laws, standards, planning, implementation, and regulation of agriculture and animal husbandry, agricultural produce management, and animal health.
2.2	Agriculture and Livestock Market Information, Market and Market Infrastructure Construction, Small Irrigation Construction, Training, Technology Dissemination, Technical Support, Agricultural Equipment Supply, and Farmer Capacity Development Program Operation and Regulation.
2.3	Control epidemic diseases in livestock.
2.4	Livestock Medical Services Management.
2.5	Agricultural Environment and Biodiversity Conservation and Promotion.
2.6	Promotion development and marketing of high-value agricultural products.
2.7	Animal husbandry improvement methodology development and management.
2.8	Local Grazing and Khark Development and Management.
2.9	Animal Diet Quality Regulation.
2.10	Data Management and Information Systems at the Local Level.
2.11	Management and regulation of slaughterhouses and cold storage.
2.12	Agriculture and Livestock Insurance and Credit Facilitation.
2.13	Small Irrigation Construction and Improvement.

81. The local levels have formulated several laws related to resource mobilization and promoting economic growth (LISA report). The unbundling report's recommendations can be used by three levels of government to streamline their laws on infrastructure, industries, cooperatives, agriculture, and natural resources (minerals, water, and forests) (2028 and 2023). The Lumbini Province can adhere to these unbundling reports to guarantee that provincial laws are suitably pertinent for resource mobilization.

4.4. Legal Provision Related to Economic Growth

82. The followings are some of the gaps in federal and provincial laws regarding cooperatives, agriculture, forests, industries, livestock, mines, and mineral subsectors.

Table 5: Provincial Level Legal Gaps in Areas of Economic Growth

SN	Legal Provision	Gaps in Legal Provision
1	The Lumbini Province Civil Service Act, 2079	<p>Key hurdles for implementation of Act:</p> <p>a) As per section 6 (3) there is the provision of a performance contract with the project chief, but there is no assurance of penalty or compensation. Lack of assurance of adequate resources, and frequent transfer of project chiefs and other staff are other obstacles to smooth performances</p> <p>b) The term of a Principal Secretary is three years, as stated in Section 22(1) of the Federal Civil Service Act; however, this conflicts with the Provincial Act and cannot be put into practice.</p> <p>c) Health insurance coverage for employees and their families has been made available under Section 54, though it is not required. Employee motivation should be achieved through its swift adoption.</p>

SN	Legal Provision	Gaps in Legal Provision
		d) d) The awarding of the best employee of the year prize following Section 128 shall be carried out impartially and fairly.
2	Nepal Police Act, 2079	The Act was enacted on 2079/04/08 however it is yet to be implemented. If this Act is implemented effectively then the customs or tax problem of the province will be solved properly.
3	National Natural Resources and Fiscal Commission Act, 2074	Indicators require revision. The following provisions should be revised: a) Section 14, Basis of consideration for the mobilization of natural resources b) Section 15, Basis or determination of grounds for the allocation of revenue to the province c) Section 16, Basis of recommendation to be considered while providing grants to the province.
4	Intergovernmental Fiscal Act, 2074	Requires revision. The following provision should be revised: a) Chapter 3, Allocation of revenue b) Chapter 4, Provision for grant and special grant to the province c) Chapter 5, especially foreign grants which is to be used for the development of infrastructure of the province. d) Chapter 9, should be implemented which is related to the inter-governmental fiscal council which is not working effectively.
5	Local Level Government Operations Act, 2074	The Constitution of Nepal provides power to the Provincial Government to enact necessary laws under Schedules 6 and 9. The Federal Government has enacted this Act for the operation of Local Government which is unnecessary intervention to the Local Government.
6	Cooperatives Act, 2076	This Act was passed on 2076/02/14 B.S. Seven distinct cooperative types may be registered under Section 11, although a strong regulatory framework is absent. The Act's weak regulatory provisions could cause problems for investors.
7	Financial Procedure Act, 074	Chapter 7 of this Act should be more effective for internal control and audit systems.
8	Province Fiscal Management Act, 2075	This Act is very short and it has provisions to provide grants and loans to the local Government, but it is yet to be implemented.
9	Act Relating to Province Tax and Non-tax Revenue, 2075	This Act has been enacted on 2075/02/21 and amended each fiscal year. The tax system must be progressive and coverage should be enhanced instead of raising the tax rate.
10	Provance Good Governance Act, 2076	All the problems related to governance will be solved if this Act is effectively implemented.

SN	Legal Provision	Gaps in Legal Provision
11	Provincial Media Act, 2079	Registration of Internet, newspapers, radio, and television may be the best source of revenue for Provincial and Local governments. For this purpose, separate rules and regulations for media should be adopted by the Provincial Government.
12	Provincial Medical Institution Incorporation, Operation, Renewal and Upgradation Act, 2076	The establishment of medical institutions may be a good source of Provincial Government in the future, so the provisions of this Act must be practical and liberal.
13	Road Traffic Transportation and Transit Act, 2076	This Act also generates revenue by license fees and road permit fees.
14	Province Tourism Act, 2076	Tourism is the main source of income in Lumbini Province. But the area of tourism and facilities of tourists should be increased.
15	Excavation and Enterprise of Mines Act, 2075	Excavation of mines is also a main source of income.
16	Animal Health and Livestock Service Act, 2075	Chapter 3 of this Act has a provision relating to the establishment of industry and obtaining a license for livestock service. Getting a license for establishing a livestock industry should be easy.
17	Fertilizer Act, 2075	Chapter 2 of the Fertilizer Act, of 2075 has a provision for establishing the fertilizer industry but there is no provision for foreign investment in such types of industry. It is a very costly industry so foreign investment provisions should be added to this Act.
18	Province Forest Act, 2078	Province Forest Act has various provisions which may be the income generating source to the province.
19	Industrial Enterprise Act, 2075	The Industrial Enterprise Act, of 2075 facilitates the establishment of an industry. The provisions for the establishment and liquidation investment should also be practical.
20	Private Firm Registration Act, 2076	Private Firm Registration Act, 2076 provides an opportunity to establish private firms and run trade or business which is also a source of income for the province.
21	Partnership Act, 2076	Partnership Act, 2076 has also provisions relating to doing business, so must be investor-friendly.
22	Province Infrastructure Development Authority Act, 2077	The Development Authority can play a vital role in the development of the Province.

4.5. Institutional Framework

83. The key concerns of the institutional framework and related issues are as follows:

4.5.1. National Coordination Council

84. The resource sharing area among three tiers of government is one of the highly contested area which requires continues and agile coordination through coordination council. The Prime Minister chairs the Council, which consists of the Chief Ministers of the Provincial Governments, the Leader of the major opposition party in the House of Representatives, and a member of the Federal Parliament nominated by her/him. The Ministers of Finance, Law, Justice, Parliamentary Affairs, Federal Affairs and General Administration, and Home Affairs are also present. The Council also consists of seven representatives from the seven provinces, who serve as the head of the district coordination committee, rural municipality, or municipality. The Federation, Province, and Local Level Coordination and Inter-relation Act, 2020 seeks to safeguard the state's multiparty competitive federal democratic republican system of governance. It manages the relationships between the Federation, Province, and Local Levels, which exercise the state's powers under the Nepalese Constitution, through coexistence, coordination, and cooperation.

4.5.2. National Natural Resource and Fiscal Commission

85. Under Nepal's federal system, the National Natural Resources and Fiscal Commission (NNRFC) is an important institution with a crucial role. Its key functions are as follows:
86. **Fiscal Federalism Custodian:** One of the main pillars of Nepal's federal structure, fiscal federalism is supervised by the NNRFC. It ensures an equitable distribution of revenue derived from the development and use of natural resources among the federal, provincial, and local levels of government. By doing this, it promotes the realization of Nepal's federal vision as stated in the 2015 Constitution and reduces the effects of historical centralization through developing mechanisms of fiscal transfers.
87. **Management of Resources:** The NNRFC establishes revenue distribution bases, suggests investments in utilization use of natural resources, and calculates returns. It researches possible conflicts regarding the distribution of resources and offers solutions. The Commission also provides required suggestions for internal loans for natural resource development and utilization by all levels of government.

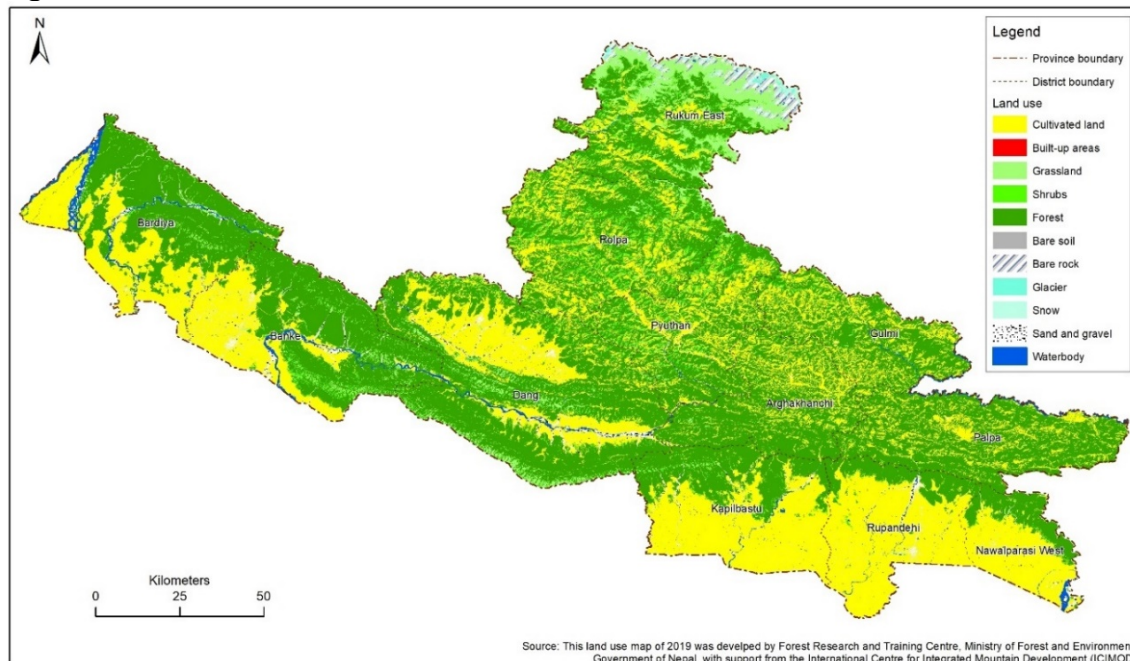
SECTION 5: RESOURCE MAPPING

88. The section covers the stock-taking of major resources available in Lumbini province.

5.1 Natural Resources

89. The province of Lumbini's land use is divided into five categories such as forest (45 %), agriculture (29 %), housing (14 %), grassland (5%), barren vegetation (5 %), water bodies (1 %) and others (1%).

Figure 7. Status of Land Use in the Lumbini Province



5.1.1. Forest Resource

90. Rupandehi has the lowest proportion of forest cover, at 19.54 percent—much less than the average of 50.43 percent—while Nawalparasi has the highest, with 81.30 percent of its land area covered by forests.

Table 6: Forest Area by Districts

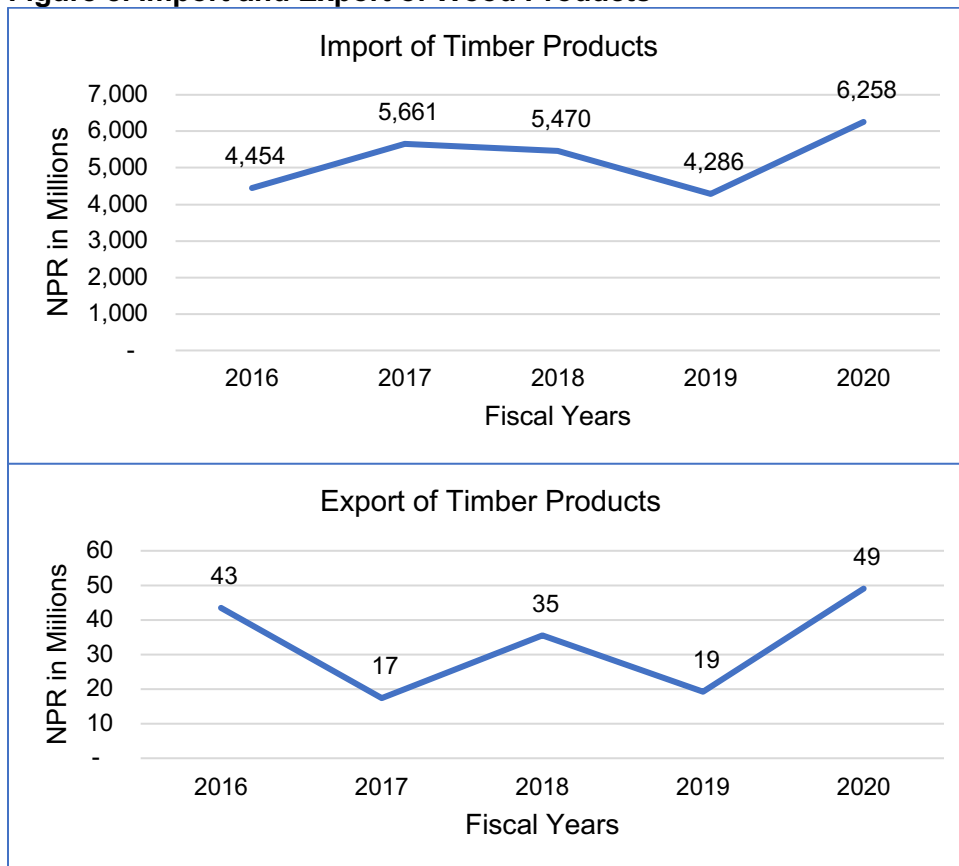
Districts	Forest (%)	Area (ha.)
Arghakhanchi	59.69	73.96
Banke	62.70	117.91
Bardiya	56.82	113.69
Dang	65.60	200.72
Gulmi	41.83	46.34
Kapilvastu	36.92	60.97
Nawal Parasi	81.30	22
Palpa	56.62	82.77
Pyuthan	48.95	64.67

Districts	Forest (%)	Area (ha.)
Rolpa	52.82	99.60
Rukum	39.39	66.25
Rupandehi	19.54	25.51
Total	50.43	974.38

Source: Department of Forest and Soil Conservation, GoN

91. The Lumbini Province's rich biodiversity and scenic beauty are widely recognized. Lumbini Province's changing forest cover was studied by researchers using time series Landsat images taken between 1996 and 2016. Between 1996 and 2016, the total forest area in the Lumbini Province increased by 199 km² (2.1 percent), from 9491 km² (49.3 percent) in 1996 to 9691 km² (50.3 percent) in 2016. Forecasts indicate that the amount of land covered by forests will rise even higher, to 9772 km² by 2026 and 9966 km² by 2036. Research helps achieve Sustainable Development Goals (SDG) and supports efforts to rehabilitate ecosystems. Based on a map created by the Forest Research and Training Centre, the total amount of forest cover in Nepal is 44.74 percent,⁵ with a higher proportion of 50.43 percent in the Lumbini Province.

Figure 8. Import and Export of Wood Products

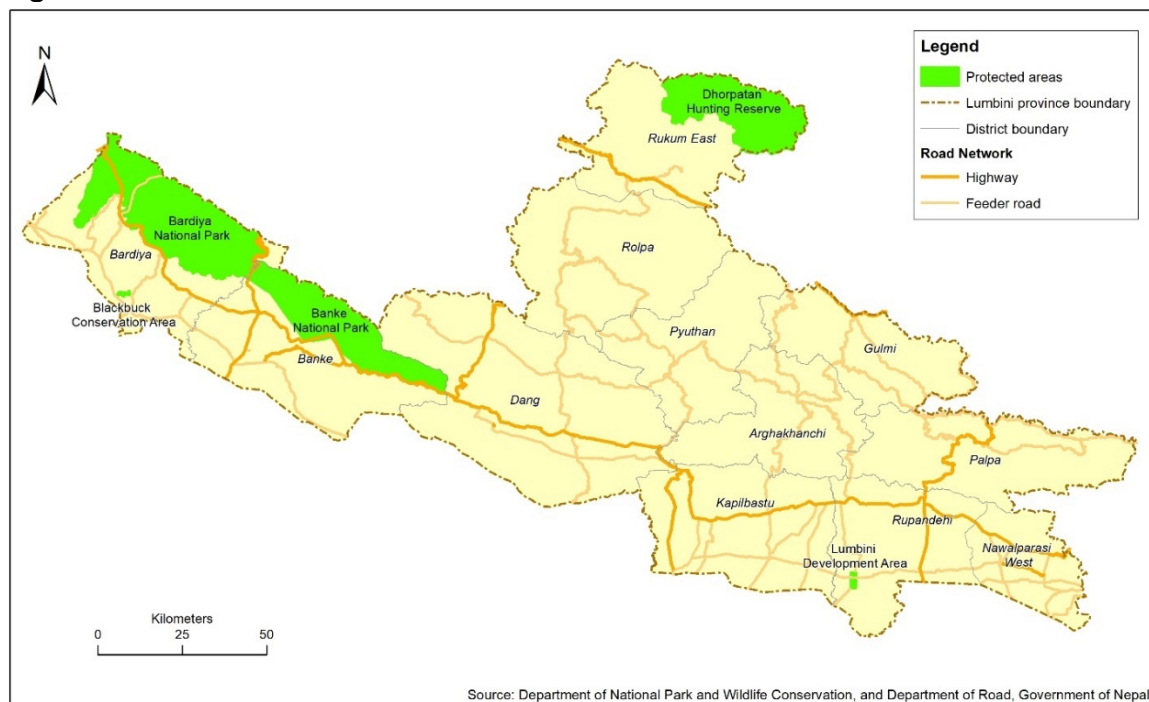


Source: Bhatta, K.P., Johns, C., Paudel, N.S. and Karki, R. 2022. Promoting inclusive and equitable timber business in Nepalese hills: A case of Sindhupalchok and Kavrepalanchowk. Research Paper Series on Agroforestry and Community Forestry in Nepal, Vol 2022-04

⁵ Forest Research and Training Centre, Nepal

92. The sunbathing gharials (*Gavialis gangeticus*) of Bardiya National Park are visible to visitors. Three parts of the province have been designated as protected areas: two national parks, Banke National Park and Bardiya National Park, are located in the Terai lowlands and together they form the Tiger Conservation Unit of Nepal; the Dhorpatan Hunting Reserve in Eastern Rukum, located in the province's north, is the only hunting reserve in the country.
93. In both rural and urban areas, cooking with LPG gas is replacing firewood. Since most metropolitan areas now use glass and concrete, the massive amount of wood that was once used in house construction is declining. There is a sale of imported furniture. The equitable distribution of resources and income is one of the government's other challenges. To tackle the "equity" aspect of federalism, we might have to devise systems for distributing benefits and resources to marginalized communities politically and geographically. Appropriations for "vulnerable communities and places" may be made to guarantee an equitable distribution of benefits.
94. The trend of imports and exports of wood products depicts that the imports of timber products far outweigh the exports. There are high prospects for wood product export, but the situation is not yet promising.

Figure 9. Protected Areas in the Lumbini Province



5.1.2. Forest Products: Potential Resource Value

95. Based on market rates, this quantity of nitrogen can be processed into 6,500 kg of urea fertilizer, equivalent to NPR 97,500. There will generate a USD 50,000 profit from cattle if the annual management costs of a cow are USD 47,000. Additional revenue of NPR 48,069 million was estimated using this potential, which accounts for 85 percent of adult cattle. About NPR 162,715 million would be possible to monetize the value of livestock products.

Table 7: Forest Products: Potential Resource Value

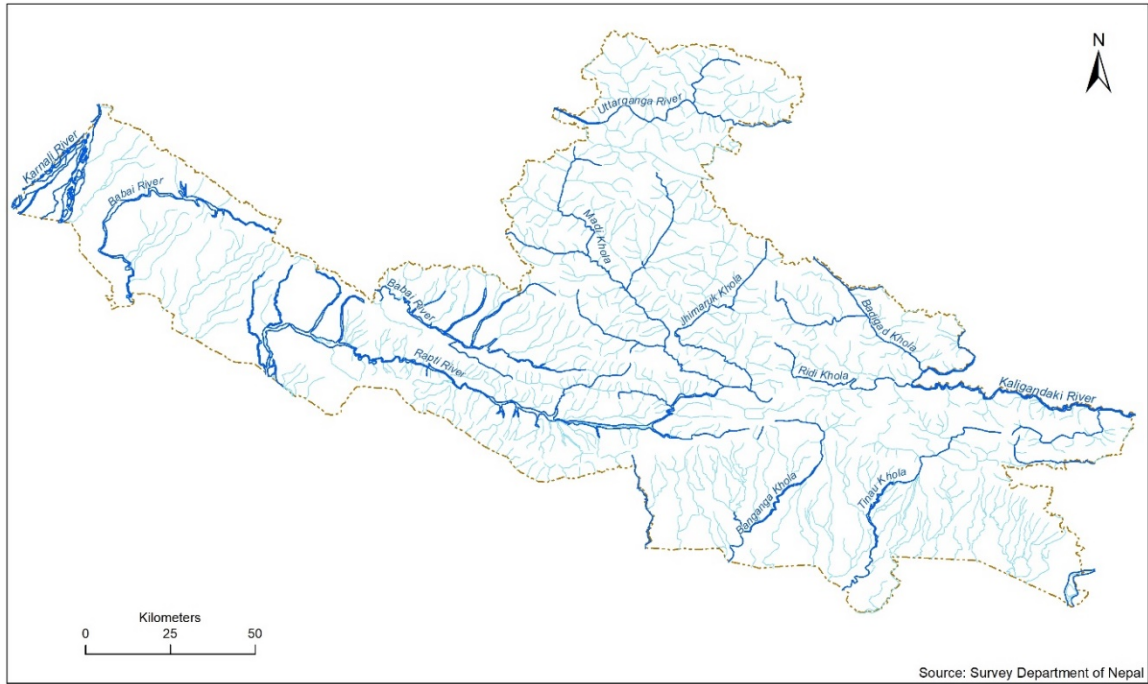
Resource Description	Unit	Revenue (NPR in Millions)	Source
Timber (Actual 2021/22)		753.399	Ministry of Forest, Lumbini Province, 2081/82
NTFP (Actual 2021/22)		2.989	Ministry of Forest, Lumbini Province, 2081/82
Fuelwood (Actual 2021/22)		0.347	Ministry of Forest, Lumbini Province, 2081/82
Total forest product		756.734	
Potentiality of timber product	9,338,932	14,008.399	Khatri, DB.et.al.2022

96. The Subtropical Evergreen Forest region makes up more than 99 percent of the entire forest area in the Lumbini Province that is not inside a protected area. The dominating tree is *Sal*, followed by *Sisau*, *Khayar*, and *Tik*. These are all priceless commercial timbers. This product will have a market value of over NPR 756.73 million annually. If the policy for promoting Nepali wood for furniture and construction is implemented the forest resource value may go to NPR 14,008.39 annually.
97. The province has an immense opportunity to unleash the potential of the forest sector by allowing the forest user groups (FUGs) through policy amendments and revive the market of timber and non-timber products.

5.1.3. Water Bodies

98. The Lumbini Province contains 97 lakes, with the Terai plains accounting for 92 percent of the province's total lakes. The region's topography is multi-altitudinal, extending from high mountains in the north to hills in the middle and plains in the south. 6 percent and 2 percent of all lakes are located in the hilly and mountainous regions, respectively. District-wise, Rupandehi has the most lakes in the province with 28, followed by Eastern Rukum (2), Palpa (2), Pyuthan (2), Dang (8), Banke (4), Bardiya (3), Kapilvastu (24), Nawalparasi (21), Dang (8), Banke (4), and Rolpa (2). The province's most well-known lakes are Taalpokhara, Bahrakune, Jakhera, and Gajedi.
99. A notable river that flows through Kapilvastu and Rupandehi, the Rohini River is a left tributary of the West Rapti River. The Gandaki River separates Gandaki Province from the Lumbini Provinceto the northeast.

Figure 10. Water Resources



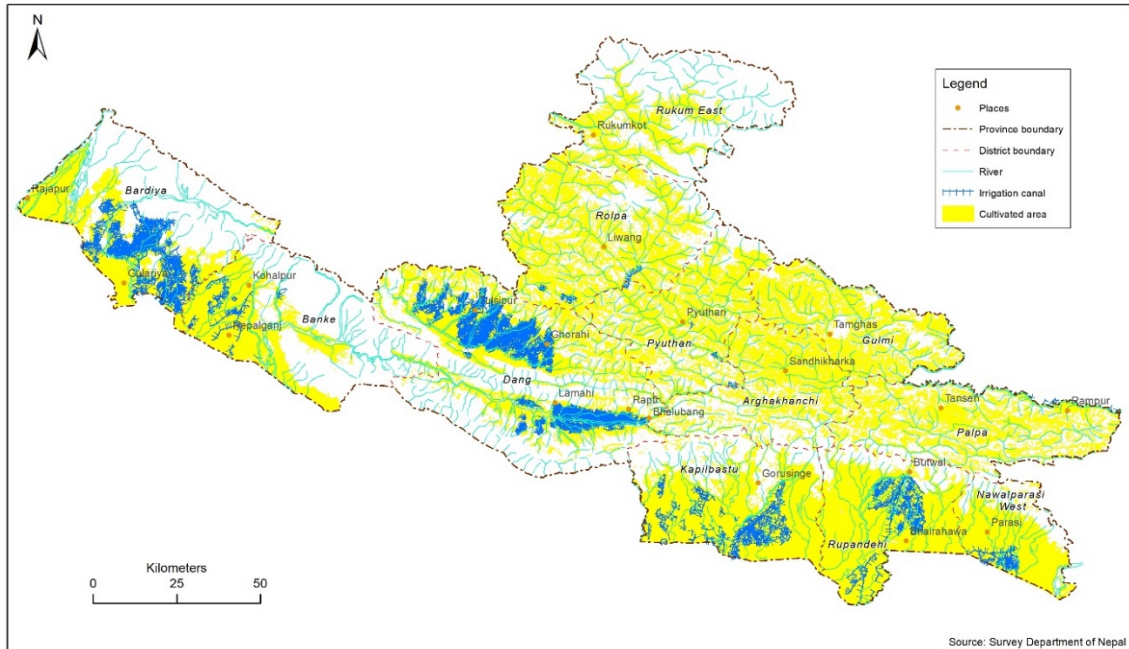
100. Salyan, Bardiya, and the inner Terai of the Dang Valley are drained by the Babai River, another river of immense global archeological value. Since ancient Hand axes and other items were discovered on the sediments near the river, the Dang Valley has been categorized as prehistoric. The tools are dated to the early Paleolithic (1.8 million to 100,000 years ago) and are classified as Acheulean, or second-generation tools, which follow the earliest Olduwan implements.

Table 8: Water Surface Area of the Lumbini Province

SN	District	Area in 2019 (km ²)
1	Arghakhanchi	1.46
2	Banke	15.66
3	Bardiya	34.48
4	Dang	13.84
5	Gulmi	3.45
6	Kapilbastu	8.39
7	Nawalparasi West	8.72
8	Palpa	4.69
9	Pyuthan	2.86
10	Rolpa	0.2
11	Rukum East	1.77
12	Rupandehi	7.47
	Total Area	102.99

Source: Forest Research and Training Centre (FRTC), Ministry of Forests and Environment, Government of Nepal, Supported by ICIMOD.

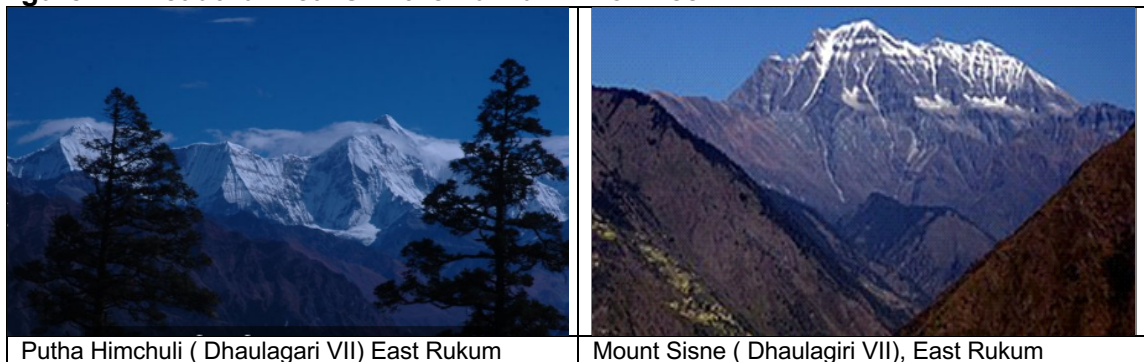
Figure 11. Irrigation Canals and Cultivated Areas in the Lumbini Province



5.1.4. Peaks of Lumbini Province

101. The only mountainous area in The Lumbini Province is the Eastern Rukum sector of the Dhaulagiri range, which is home to many of the province's most notable peaks. Mount Dhaulagiri VII, also known as Putha Himchuli, is the highest mountain in Lumbini Province, Eastern Rukum. At 7,246 meters, it is a well-liked hiking destination in the Dhaulagiri region. British explorer J.O.M. Roberts and Nepalese climber Ang Nyima Sherpa made the first ascent of the peak in 1954. It wasn't until 2013 that a group under the direction of Man Bahadur Khatri made the first climb of Mount Sisne I.

Figure 12. Beautiful Peaks in the Lumbini Province



102. The visitors coming to Lumbini stay only 1.8 days in the heritage site, can be attracted to the above beautiful Peaks of Dhaulagiri VII. The total number of stay in Lumbini Province can be extended to the national average (13.1 days). Hence, these Peaks have huge potential provided that the Lumbini Provincial government can develop required infrastructures and promote these peaks at national and global levels.

Table 9: Description of the Highest Peaks of the Lumbini Province

SN	Mountains	Elevation (meters)	District	Range	Additional Information
1	Mount Putha I	7,246	Eastern Rukum	Dhaulagiri Range	First ascent: 1954 AD
2	Mount Putha II (Putha shoulder)	6,598	Eastern Rukum	Dhaulagiri Range	
3	Mount Dogari (South)	6,315	Eastern Rukum	Dhaulagiri Range	
4	Mount Samjang	5,924	Eastern Rukum	Dhaulagiri Range	
5	Hiunchuli Patan	5,916	Eastern Rukum	Dhaulagiri Range	
6	Mount Nimku	5,864	Eastern Rukum	Dhaulagiri Range	
7	Mount Sisne II	5,854	Eastern Rukum	Dhaulagiri Range	
8	Mount Sisne I	5,849	Eastern Rukum	Dhaulagiri Range	First ascent: 26 May 2021

5.1.5. Herbal Plants

103. The plant *Acacia catechu* (*Senegalia catechu*), commonly called the burflower-tree, has several important medicinal properties. Because heartwood extract has astringent and anti-inflammatory qualities, it is utilized in traditional medicine. In Ayurvedic medicine, *Neolamarckia Cadamba*, sometimes known as the "Golden Rain Tree," is a plant. Its bark and flowers are said to have healing properties. The *Acacia Nilotica* tree, also known as *Vachellia Nilotica*, has several therapeutic uses. It is used to cure wounds, respiratory problems, diarrhea, and other illnesses with its bark, leaves, and pods. *Cassia fistula*: Also known as *Amaltas*, the Golden Shower Tree has breathtaking golden flowers. Its pulp and laxative properties are used to treat skin disorders.
104. The Province in collaboration with local levels and private sector can establish Herbal processing plants and support branding of products.

5.1.6. Wildlife

105. Bardiya National Park, the largest national park in the Terai area, is a biological treasure repository. It has sal forests, the alluvial washes of the Karnali River, and a diverse range of flora and fauna. The park is home to fish, water crocodiles, and swans. Located in Lumbini Province, the Dhorpatan Hunting Reserve is well-known for its unique blend of conservation and sustainable hunting practices.
106. The reserve is home to high-altitude species, including Himalayan blue sheep (Jharal). By offering an environment that is confined to hunting, it ensures the preservation of species. The Lumbini Province is home to the Ramsar-listed lake Jagdishpur. This pristine lake contributes to the province's natural equilibrium and provides habitat for aquatic species.
107. The Lumbini Province in collaboration with federal and local levels can promote tourism in above mentioned National Parks, Hunting Reserves, Ramsar areas, lakes and rivers.

5.1.7. Indexing of Resource

108. The key resources of the Lumbini Province have been unleashed using the "Resource Mapping Indexing" method up to the district level. The study develops a resource index (RI) for the Lumbini Province, and districts as follows:

Human = ecoactive * literacy

Where, Ecoactive = economically active percent of the population 10 years and above.

Literacy = percent of the population 5 years and above who can read and write.

Ecoactive = 65.8%

Literacy = 78.1%

Human resource (h) = 0.513898

When "eco-active" is multiplied by "literacy," the result is an active population that has been adjusted for literacy and includes "human capital." For instance, if the percentage of literacy is only 50 percent, then in terms of the quality of "human" resources, a 100 percent literate population is deemed to be 50 percent worth of the population. Thus, the value of "human" will be higher than that of "eco-active" or "literacy" is higher.

$$[\text{Natural}] = \frac{\text{forest area (km}^2\text{)} \times \text{agricultural land area (km}^2\text{)} \times \text{water surface area (km}^2\text{)}}{(\text{total land area (km}^2\text{)})^3}$$

$$= (9743.81 \text{ km}^2 \times 889,219 \text{ ha (8892.19 km}^2\text{)} \times 102.99 \text{ km}^2) / (22,228 \text{ km}^2)^3$$

$$\text{Nature (n)} = 8,923,445,975.823 / (22,228 \text{ km}^2)^3$$

$$n = 1.7631 \dots$$

$$[\text{Capital (k)}] = \frac{\text{total road length (km)}}{(\text{total land area (km}^2\text{)})}$$

$$k = 2450.02 \text{ km}^7 / 22288(\text{km}^2)$$

$$\text{Capital (k)} = 0.0.1099$$

This depicts the province's or district's physical capital availability. More highways equate to greater resources. After the values of "human (h)," "natural (n)," and capital (k) were calculated, they are normalized as follows, making the greatest value equal to 1 and the lowest value equal to zero:

$$[\text{Normalized index (h,n,k)}] = \frac{-\min(x)}{\max(x) - \min(x)}$$

$$(h,n,k) = 0.9957$$

109. It measures the province's or district's natural resource base. More land used for agriculture, forests, or bodies of water is said to equate to more resources. The maximum value is one (1). The value of a "natural resource" is zero if any portion of the region is zero (forest areas, for example, is zero). This shows that all resources (human, natural and capital) in the Lumbini Province have high potential if planned judiciously and sustainably for economic development.

⁶ Ministry of Forest and Environment, Government of Lumbini Province, 2080

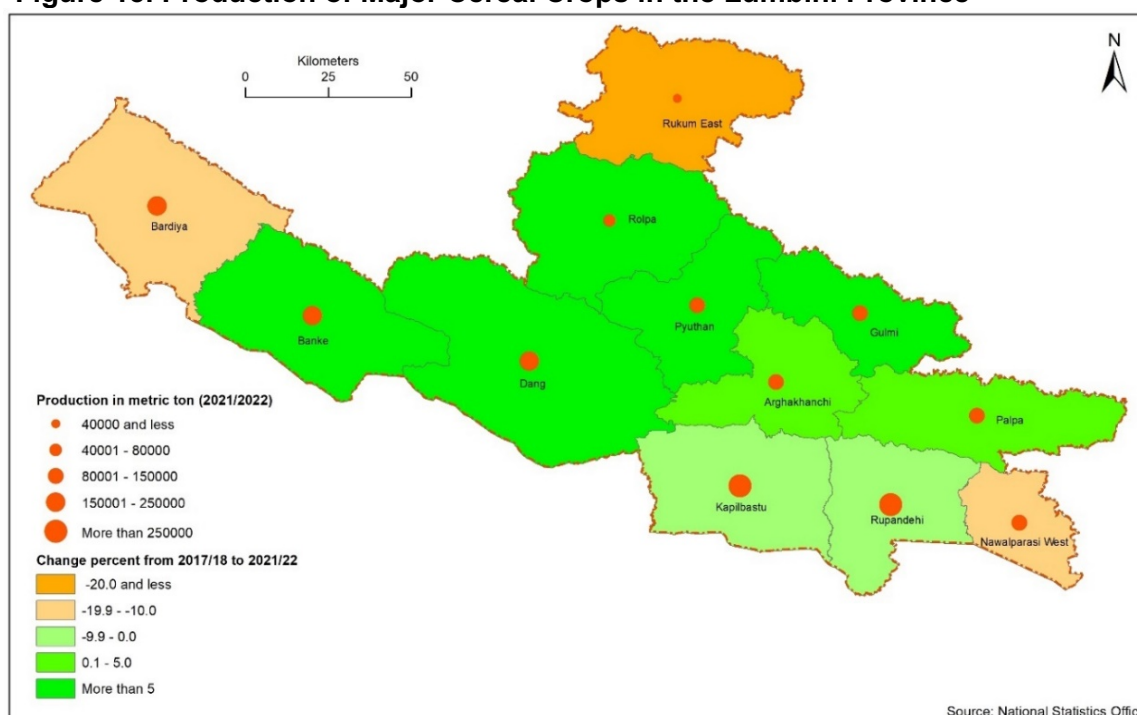
⁷ Department of Roads, 2017/18

5.2 Agriculture and Livestock Resources

5.2.1. Major Cereal Crops

110. The Lumbini Province in Western Nepal is well known for its abundant agricultural output. Major cereal crops are grown on 627,724 hectares of land in the province of Lumbini. The fertile plains of Lumbini are home to several crops, including vegetables, wheat, sugarcane, rice, and wheat. The majority of the population in this province still makes their livelihood from agriculture. The province generated an excess of 445,000 tons of food or over 2 million MT. The Province can feed itself with its produce. Rice is harvested by farmers in a field in Madi, Palpa, using a machine. The province's Agriculture Development Directorate claims that Lumbini province's food production is currently self-sufficient.
111. The twelve districts that make up the province produce enough food on their own to sustain people there without requiring imports or purchases. The province's 12 districts, according to the directorate, produced enough staple foods two years ago for everyone to feed themselves. The directorate claims that when farmers adopted a commercial farming strategy, agricultural output increased. There is potential for increased high-value item production and area expansion.

Figure 13. Production of Major Cereal Crops in the Lumbini Province



112. The three levels of government, cooperatives, and the private sector have all contributed to the province's ability to produce its food. Rupandehi, Kapilvastu, Bardia, Dang, Banke, and Nawalparasi (West) have all experienced food surpluses. The western Tarai regions employ modern facilities and agricultural methods and have historically had highly fertile soil. crop diversification has also increased productivity. Based on statistics, the province's hill districts (Palpa, Gulmi, Arghakhanchi, Pyuthan, Rolpa, Rukum, and East Rukum) grow enough food to sustain the majority of the inhabitants, despite having lower levels of food

production. The 12 districts of the province combined to produce almost 2 million tons of food, making a surplus of 445,000 tons.

113. Even in cases where food production is self-sufficient, there is still inequality in the food distribution system; 52 percent of the province's households are food insecure as a result of their low productivity, which prevents them from being able to support themselves throughout the year; approximately 10 percent of households are affected by the resulting dietary shortage; 37.6 percent of people are undernourished as a result of the unequal distribution of food; 296,000 tons of food were available in the Bardia district; 274,000 tons in Rupandehi; 232,000 tons in Dang; 226,000 tons in Kapilvastu; and 222,000 tons in Banke.
114. The West Nawalparasi farmers have a harvest of 121,000 tons of food; Palpa have 94,000 tons; Gulmi have 114,000 tons; Arghakhanchi have 95,000 tons; Rolpa have 80,000 tons; Pyuthan have 76,000 tons; and Rukum East have 35,000 tons. About 621,900 hectares are planted with food crops in the province of Lumbini. The cash crops are grown on 99,000 hectares. According to the Directorate of Agriculture Development, 41,000 hectares of land are used for vegetables, 8,000 hectares for spices, 16,000 hectares for fruits, and 80,000 hectares for pulses.
115. The major cereal crops produced in different districts of Lumbini are paddy, maize, wheat, millet, barley, and buckwheat in the fiscal year 2078/79 (2021/22) are given in the following table.

Table 10: Aggregate Major Cereal Crops

(Area in Hectare (Ha), Production in Metric Tons (Mt), Yield in Mt/Ha)

District	Area (H)	Product (MT)	Yield (MT/H)	Remarks
Palpa	38,350	103,161	2.69	
Gulmi	40,780	117,262	2.88	
Arghakhanchi	32,695	98,287	3.01	High yield
Nawalparasi west	31,981	110,445	3.45	“ “
Rupandehi	92,862	363,268	3.91	“ “
Kapilbastu	94,081	314,465	3.34	“ “
Dang	72,798	247,551	3.40	“ “
Banke	76,949	219,520	2.85	
Bardiya	78,415	246,491	3.14	High yield
Rukum east	11,795	30,021	2.55	
Pyuthan	29,829	82,901	2.78	
Rolpa	27,186	76,735	2.82	
Lumbini Total	627,724	2,010,107	3.20	

Source: Ministry of Agriculture and Livestock Development, 2023. Statistical Information of Nepalese Agriculture

116. Bardia, Dang, Kapilbastu, Rupandehi, Nawalparasi West, and Arghakhanchi were the districts with the highest yield (Mt/H) of the major cereal crops (paddy, maize, millet, barley, and buckwheat) in the fiscal year 2022–2023. If irrigation coverage is increased and improved, land Chaklabandi is put into practice, and agricultural extension services are improved, there is a considerable chance that the output of major cereal crops will increase in three to five years.

Table 11: Paddy by Seasons and Districts, Fiscal Year 2078/79 (2021/22)
(Area in Hectare (Ha), Production in Metric Tons (Mt), Yield in Mt/Ha)

District	Area (Ha)	Production (Mt)	Yield (Mt/Ha)	Remarks
Palpa	7,775	29,621	3.81	High yield
Gulmi	8,190	24,924	3.04	High yield
Arghakhanchi	7,164	21,942	3.06	High yield
Nawalparasi west	19,639	72,472	3.69	High yield
Rupandehi	63,873	249,151	3.90	High yield
Kapilbastu	66,261	211,484	3.19	High yield
Dang	35,114	129,903	3.70	High yield
Banke	33,896	78,316	2.31	
Bardiya	49,557	146,971	2.97	
Rukum east	1,720	4,523	2.63	
Pyuthan	6,029	18,597	3.08	High yield
Rolpa	4,407	11,617	2.64	
Lumbini Total	303,626	999,522	3.29	

Source: Ministry of Agriculture and Livestock Development, 2023. Statistical Information of Nepalese Agriculture

117. The paddy yields (Mt/H) in Palpa Gulmi, Arghakhanchi, Nawalparasi West, Rupandehi, Kapilbastu, Bardia, and Pyuthan were the greatest in the fiscal year 2022–2023. In three to five years now, paddy production can be increased with enhanced and extended irrigation coverage, Land Chaklabandi, contract farming, and strengthened agricultural extension services.

Table 12: Maize and Wheat By Districts, Fiscal Year 2078/79 (2021/22)
(Area in Ha., Production in Mt., and Yield in Mt./ha)

District	Maize			Wheat		
	Area	Production	Yield	Area	Production	Yield
Palpa	21,643	55,779	2.58	5,786	13,572	2.35
Gulmi	22,445	68,269	3.04	6,517	19,386	2.97
Arghakhanchi	16,955	54,975	3.24	7,340	19,955	2.72
Nawalparasi west	4,466	15,419	3.45	7,638	22,303	2.92
Rupandehi	2,751	10,752	3.91	26,118	103,167	3.95
Kapilbastu	1,334	4,451	3.34	26,292	98,184	3.73
Dang	24,900	77,847	3.13	12,690	39,694	3.13
Banke	19,545	62,192	3.18	23,500	79,000	3.36
Bardiya	5,350	20,008	3.74	23,500	79,500	3.38
Rukum east	5,037	14,559	2.89	3,273	8,952	2.74
Pyuthan	12,158	35,626	2.93	8,690	24,959	2.87
Rolpa	12,335	38,500	3.12	8,596	24,400	2.84
Lumbini Sub Total	148,920	458,376	3.08	159,940	533,072	3.33

Source: Ministry of Agriculture and Livestock Development, 2023. Statistical Information of Nepalese Agriculture

118. Wheat and maize, which are farmed on 148,920 hectares of land in Lumbini, are two more major crops. After accounting for Lumbini, the average yield of these two crops is 3.08 MT

for maize and 3.33 MT for wheat per hectare. It should be noted, however, that Rupandehi, Kapilbastu, Dang, Banke, and Bardiya have the highest yields (3.13–3.95). The nation's expanding hotel and restaurant business is a contributing factor to the ongoing demand for maize and wheat.

Table 13: Millet-Barley-Buckwheat by Districts, Fiscal Year 2078/79 (2021/22)
(Area in Ha., Production in Mt., and Yield in Mt./ha)

District	Millet			Buckwheat			Barley		
	Area	Prod.	Yield	Area	Prod.	Yield	Area	Prod.	Yield
Palpa	2,684	3,762	1.40	438	403	0.92	24.0	24.2	1.01
Gulmi	2,927	3,817	1.30	275	513	1.87	426	353	0.83
Arghakhanchi	511	577	1.13	350	450	1.28	375	388	1.03
Nawalparasi west	228	238	1.04	6	7	1.28	5	6	1.23
Rupandehi	46	53	1.14				74	145	1.96
Kapilbastu	-	-	-	18	17		177	330	1.87
Dang	14	15	1.06	57	63	1.11	23	28	1.23
Banke	-	-	-				8	11	1.37
Bardiya	-	-	-				8	12	1.50
Rukum east	641	833	1.30	163	187	1.15	962	967	1.01
Pyuthan	2,205	2,918	1.32	11	14	1.27	736	787	1.07
Rolpa	1,126	1,498	1.33	102	95	0.93	620	625	1.01
Sub Total	10,383	13,711	1.32	1,419	1,749	1.23	3,437	3,676	1.07

Source: Ministry of Agriculture and Livestock Development, 2023. Statistical Information of Nepalese Agriculture

119. In the past, barley, buckwheat, and millet were disregarded crops in Nepali culture. However, because more people are becoming aware of the high nutritional content in foods made of these crops, there is a growing trend in the demand for these products. Rukum East, Pyuthan, Rolpa, Palpa, Gulmi, and Arghakhanchi districts are the primary producers of these crops. These crops can also be cultivated in arid and less fertile places.

5.2.2. Cash Crops

120. Sugarcane, potatoes, and oil seeds are important cash crops that are in high demand in Nepal. Lumbini grows 71,852 MT of oilseeds on about 65,327 hectares of land. Approximately 12,553 sheep yielded 73,391 kg of wool in the province during the fiscal year 2021–2022.

Table 14: Cash Crops by Districts, Fiscal Year 2078/79 (2021/22)
(Area in Ha., Production in Mt., and Yield in Mt./ha)

District	Oilseed			Sugarcane			Potato		
	Area	Prod.	Yield	Area	Prod.	Yield	Area	Prod.	Yield
Palpa	1,170	1,199	1.02	32	432	13.50	798	12,050	15.10
Gulmi	734	723	0.98	132	4,884	37.00	835	14,183	16.99
Arghakhanchi	1,522	1,535	1.01	5	235	47.00	791	12,656	16.00
Nawalparasi west	4,629	4,918	1.06	3,255	153,945	47.30	1,604	22,456	12.95
Rupandehi	7,381	7,554	1.02	370	16,450	44.46	2,345	34,354	14.65
Kapilbastu	3,865	4,509	1.17	3,540	185,880	52.51	2,586	38,810	15.01

District	Oilseed			Sugarcane			Potato		
	Area	Prod.	Yield	Area	Prod.	Yield	Area	Prod.	Yield
Dang	19,628	23,030	1.17	-	-	-	2,475	39,600	16.00
Banke	7,798	8,748	1.12	60	2,340	39.00	3,000	50,700	16.90
Bardiya	16,816	17,753	1.06	220	6,820	31.00	4,255	69,782	16.40
Rukum east	375	391	1.04	5	235	47.00	4,246	70,051	16.50
Pyuthan	998	1,107	1.11	12	420	35.00	1,615	25,275	15.65
Rolpa	414	388	0.94	2	58	29.00	1,350	22,248	16.48
Sub Total	65,327	71,852	1.10	7,633	371,150	48.62	25,900	412,164	15.91

Source: Ministry of Agriculture and Livestock Development, 2023.

121. About 371,150 MT of sugarcane is produced on 7,633 hectares of land, with a yield of 48.62 MT/H. The province also produces 412,164 MT of potatoes annually, yielding 15.91 MT per hectare on 25,900 hectares of land.

Table 15: Cotton: Area and Production by Districts, Fiscal Year 2078/79 (2021/22)

District	Area (Ha)	Production (Mt.)	Yield (Mt./Ha)
Dang	137	149	1.09
Banke	8	9	1.13
Bardiya	2	2	1.00
Total	147	160	1.07

Source: Ministry of Agriculture and Livestock Development, 2023.

122. Sugarcane, potatoes, and oil seeds are important cash crops that are in high demand in Nepal. Lumbini grows 71,852 MT of oilseeds on about 65,327 hectares of land. The Banke area has a long history of cotton growing, despite low growth and yield. Cotton will expand into new regions if local governments and the province provide farmers with targeted financial and technical assistance for marketing goods manufactured from cotton cultivated in the province.

Table 16: Coffee: Area, Production, and Yield by Districts, FY 2078/79 (2021/22)

(Area in Ha., Production in Mt., and Yield in Mt./ha)

Districts	Small Farmers (No.)	Plantation (Ha)	Production (Mt.) Green Bean	Yield (Kg/Ha)
Arghakhanchi	1,705	130	16	123.08
Eastern Rukum	12	2	0.2	100.00
Gulmi	1,965	256	31	121.09
Nawalpur	108	15	0.6	40.00
Palpa	2,325	124	17.3	139.52
Pyuthan	175	37	4.5	121.62
Total	6290	564	70	107.55

Source: Ministry of Agriculture and Livestock Development, 2023.

123. Originally planted in Gulmi, coffee eventually extended throughout time to Arghakhanchi, Eastern Rukum, Palpa, Nawalpur, and Pyuthan. For FY 2021/22, the yearly yield of coffee was 107.55 kg/ha, or close to 70 Mt. The province of Lumbini now has over 6,290 farmers who have expanded their coffee plants to encompass about 564 hectares.

5.2.3. Major Spice Crops

124. Major spices such as ginger, garlic, turmeric, and dry chili are produced in all districts of Lumbini. These products have local, regional, national, and international markets. Major

spices grown in all of Lumbini's districts include ginger, garlic, turmeric, and dry chili. There is a local, regional, national, and worldwide market for these products.

Box II: Potential of Coffee Sector

The Rise of Coffee Culture in Nepal from Gulmi: Case Study

Under the Tinau Watershed Project (1982), coffee plantations on terrace risers were initially encouraged to combat soil erosion. In Manigram, Rupandehi, the Nepal Coffee Company (NeCCo) was founded in 1983 to process dry cherries that farmers would harvest. Initiatives in Gulmi, where it is thought that the first coffee seeds were sown, gained popularity in the meantime. Farmers in Gulmi established the first coffee nursery in the country in 1981 at Aapchaur. This paved the way for an Official Organizational Structure of the National Tea and Coffee Development Board (NTCDB) which was founded in 1993 to oversee programs for the growth of the coffee industry.

The district of Gulmi, where coffee planting first evolved, has hugely contributed to Nepal's coffee industry. In 2016/17, it employed 1,790 farming households and produced 35 metric tons of green beans on a 160-hectare plantation, ranking second after Syangja. The success of Gulmi's coffee industry is a testament to the hard work and cooperation of regional farmers and coffee cooperatives. Gulmi has helped Nepalese coffee grow sustainably by supporting stakeholder collaboration and empowering coffee cooperatives.

Japan received Nepal's first shipment of processed green coffee beans in 1994. In the 1994–1995 fiscal year, Nepal produced 12.95 tons of coffee. The Nepal Coffee Producers Association (NCPA) was established in 1998 as a national organization bringing together cooperatives, business people, and groups of coffee farmers. The NCPA has more than 1,900 members as of right now.

Gulmi Coffee's success story has spread to 32 coffee-producing districts across the nation, including Syanja, Palpa, Arghakhanchi, Kaski, Gorkha, Parbat, Lamjung, Baglung, Kaski, Tanahu, Lalitpur, Kavre, Sindhupalchok, and Ilam. Of the 2,650 hectares (ha) of coffee plantations that exist in Nepal, an extra 1.19 million hectares could be planted with coffee. Nepal generates over 513 metric tons (MT) of green beans per year for use in coffee. Conversely, the declared demand is 8,000 metric tons, a much higher amount. With 84 MT, or NPR 93 million, Nepal exports coffee to South Korea, Japan, Germany, the Netherlands, and the United States of America where Nepalese coffee is in high demand.

Nepali coffee is highly regarded for its taste, aroma, quality, and organic content. The beans are attractive to both domestic and foreign markets because they are grown in highland areas with little exposure to pesticides. The coffee market in Nepal is expanding, and attempts are being made to improve market accessibility, quality, and production.

Nepal has made significant progress in its coffee culture, having gone from being a curiosity crop to one of the world's leading producers of Arabica coffee beans. Nowadays, coffee is a vital component of the nation's culture, and its history continues to inspire, and ever-growing coffee market has created opportunities for further development.

The Gulmi farmers shared their looming fear of pests that is damaging their lush green coffee farms. The three tiers of government should ensure the technical and extension service to this end.

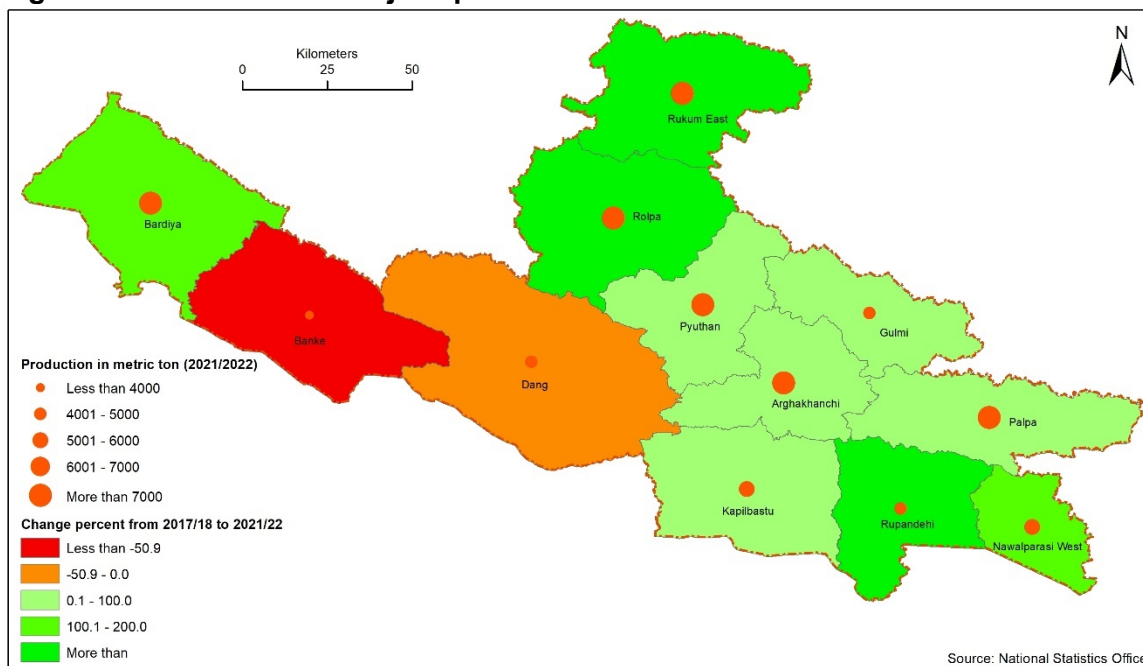
Table 17: Major Spice Crops by Districts, Fiscal Year 2078/79 (2021/22)

(Area in Hectare (Ha), Production in Metric Tons (Mt), and Yield in Mt. /Ha.)

Districts	Ginger			Garlic			Turmeric			Dry Chili		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
Palpa	1,405	15,511	11.04	94	503	5.35	106	1,003	9.50	49.72	326	6.56
Gulmi	310	2,992	9.65	39	254	6.50	95	931	9.80	22.25	176	7.91
Arghakhanchi	400	3,975	9.94	120	876	7.30	159	1,711	10.77	178.07	1,246	7.00
Nawalparasi west	260	3,019	11.61	91	789	8.70	64	591	9.19	213.53	1,552	7.27
Rupandehi	28	382	13.64	190	1,626	8.56	129	1,550	12.04	80.58	641	7.96
Kapilbastu	201	1,836	9.14	195	1,256	6.44	118	1,250	10.60	207.75	1,231	5.93
Dang	240	3,009	12.54	46	293	6.42	47	530	11.34	143.99	837	5.81
Banke	89	907	10.16	188	1,170	6.22	86	856	10.00	165.61	948	5.72
Bardiya	159	1,491	9.38	280	2,003	7.15	87	865	9.94	465.00	2,788	6.00
Rukum east	410	5,502	13.42	412	2,390	5.80	165	1,921	11.64	242.00	1,428	5.90
Pyuthan	265	12.05	160	1,280	8.00	120		1,580	13.17	850.00	4,692	5.52
Rolpa	3,008	12.80	241	1,515	6.30	200		2,267	11.33	521.53	3,893	7.46
Total	204	74	0.36	3,759	41,896	11.15	2,055	13,955	6.79	1,375	15,054	10.95

Source: Ministry of Agriculture and Livestock Development, 2023.

Figure 14. Production of Major Spices in the Lumbini Province



125. The province of Lumbini produces important spices including garlic, ginger, turmeric, and dry chili in all districts of the province. There is a great demand for these products both domestically and internationally. Turmeric and ginger powder already have a global niche market in Nepal. The province's industries that process ginger and turmeric powder might be extremely important to the growth of the province's important spice value chain development.

5.2.4. Major Pulses

126. Several climatic zones in the Lumbini Province are suitable for major pulses such as Lentil, Chickpea, Pigeon pea, Grass pea, Horse gram, and Soyabean. These pulses are major items of Nepali cuisine. The major pulses are as follows:

Table 18: Pulses by Types and Districts, Fiscal Year 2078/79 (2021/22)

(Area in Ha., Production in Mt., and Yield in Mt./ha)

District	Lentil			Chickpea			Pigeon Pea		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
Palpa	142	153	1.08	242	255	1.05	48	45	0.93
Gulmi	153	149	0.98	29	35	1.21	4	7	1.75
Arghakhanchi	344	302	0.88	105	115	1.09	-	-	-
Nawalparasi west	4,456	5,784	1.30	113	134	1.19	213	108	0.51
Rupandehi	5,497	8,217	1.50	120	140	1.17	350	355	1.01
Kapilbastu	5,389	6,756	1.25	350	368	1.05	275	302	1.10
Dang	25,323	32,422	1.28	377	401	1.07	309	349	1.13
Banke	9,550	13,439	1.41	1,368	1,420	1.04	2,134	2,237	1.05

District	Lentil			Chickpea			Pigeon Pea		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
Bardiya	13,013	15,900	1.22	690	695	1.01	1,243	1,138	0.92
Rukum east	63	56	0.90	34	35	1.03	1	1	1.00
Pyuthan	135	149	1.11	72	96	1.33	-	-	-
Rolpa	134	126	0.94	50	56	1.12	-	-	-
subtotal	64,195	83,454	1.30	3,549	3,749	1.06	4,577	4,541	0.99

Source: Ministry of Agriculture and Livestock Development, 2023.

127. Out of all the pulses, lentils are produced on 64,195 hectares, yielding 83,454 MT. Similarly, about 3,749 MT of chickpeas are produced annually on 3,549 hectares of land. Comparably, in 2021/22, 4,577 hectares of land were used to raise pigeon peas, yielding 4,541 MT of output.

Table 19: Pulses by Types and Districts, Fiscal Year 2078/79 (2021/22)
(Area in Ha., Production in Mt., and Yield in Mt./ha)

District	Grass Pea			Horse Gram			Soyabean		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
Palpa	-	-	-	51	46	0.91	339	412	1.22
Gulmi	-	-	-	250	260	1.04	161	197	1.23
Arghakhanchi	-	-	-	9	10	1.06	45	58	1.29
Nawalparasi west	68	68	1.00	73	75	1.03	92	129	1.41
Rupandehi	607	760	1.25	-	-	-	10	15	1.40
Kapilbastu	2,711	3,321	1.23	-	-	-	-	-	-
Dang	250	286	1.14	13	13	1.00	32	41	1.27
Banke	355	385	1.08	-	-	-	-	-	-
Bardiya	200	203	1.02	-	-	-	-	-	-
Rukum east	-	-	-	2	2	1.33	155	174	1.12
Pyuthan	-	-	-	6	7	1.19	706	1,076	1.52
Rolpa	-	-	-	33	34	1.03	287	383	1.34
Sub total	4,191	5,023	1.20	436	446	1.02	1,826	2,485	1.36

Source: Ministry of Agriculture and Livestock Development, 2023.

128. Nepalese cuisine greatly benefits from the use of pulses. We can decrease our reliance on imports and increase food security by promoting the production and consumption of a variety of pulses.

Table 20: Pulse Types by Districts, Fiscal Year 2078/79 (2021/22)
(Area in Ha., Production in Mt., and Yield in Mt./ha)

District	Others +			Total		
	Area	Production	Yield	Area	Production	Yield
Palpa	180	83	0.46	1,109	1,087	0.98
Gulmi	-	-	-	736	803	1.09
Arghakhanchi	45	40	0.89	591	560	0.95
Nawalparasi west	224	212	0.95	5,298	6,565	1.24
Rupandehi	941	1,076	1.14	7,582	10,621	1.40
Kapilbastu	-	-	-	9,406	11,412	1.21
Dang	305	107	0.35	26,656	33,673	1.26
Banke	701	1,292	1.84	14,429	19,089	1.32
Bardiya	2,140	2,141	1.00	17,490	20,278	1.16
Rukum east	336	292	0.87	669	637	0.95
Pyuthan	-	-	-	1,252	1,643	1.31
Rolpa	260	292	1.12	907	1,013	1.12
Sub Total	5,132	5,534	1.08	86,126	107,382	1.25

Source: Ministry of Agriculture and Livestock Development, 2023.

5.2.5. Major Fruits

129. The Province of Lumbini grows major fruits in different climatic belts ranging from tropical to sub-temperate. The major fruits grown are mango, banana, litchi, mandarin, lime, lemon, and sweet orange. Approximately 16,000 hectares are planted with fruit trees in the Lumbini Province.

Table 21: Citrus Fruits: Area, Productive Area, Production and Yield, FY 2021/22

(Area in Ha., Production in Mt., and Yield in Mt./ha)

Districts	Mandarin				Sweet Orange				Lime			
	Total Area	Productive Area	Production	Yield	Total Area	Productive Area	Production	Yield	Total Area	Productive Area	Production	Yield
Palpa	1,144	1,105	8,765	7.93	39	39	321	8.22	203	169	1,749	10.35
Gulmi	865	597	7,164	12.00	39	23	219	9.50	260	191	1,815	9.50
Arghakhanchi	729	444	4,828	10.87	63	50	490	9.80	541	321	1,878	5.85
Pyuthan	265	228	2,304	10.10	204	132	1,198	9.08	130	94	743	7.90
Rolpa	737	650	7,875	12.12	406	265	3,197	12.06	301	45	315	7.00
Nawalparasi west	-	-	-	-	-	-	-	-	70	40	296	7.40
Rupandehi	-	-	-	-	-	-	-	-	130	43	307	7.14
Banke	-	-	-	-	-	-	-	-	50	45	293	6.50
Bardiya	-	-	-	-	-	-	-	-	50	30	180	6.00
Rukum east	105	82	975	11.89	35	28	286	10	386	280	2,526	9.02
Dang	-	-	-	-	-	-	-	-	187	104	791	7.61
Kapilvastu	-	-	-	-	-	-	-	-	50	46	414	9.00
Sub total	3,845	3106	31,911	10.27	786	537	5,710	10.63	2,358	1,408	11,305	8.03

Source: Ministry of Agriculture and Livestock Development, 2023.

130. On 31,911 hectares of land, mandarin was grown, yielding around 31,911 metric tons of fruit in the last year. The production of 5,710 mt of sweet oranges was produced in 537 hectares of land dedicated to sweet oranges. Palpa, Gulmi, Arghakhanchi, Pyuthan, Rolpa, and Rukum in the east are the only areas that grow mandarin and sweet oranges. About 11,305 mt of lime were produced in FY 2021/22 on 1,408 hectares of land spread over all 12 districts of the province.

Table 22: Citrus Fruits: Area, Productive Area, Production and Yield, FY 2021/22
(Area in Ha., Production in Mt., and Yield in Mt./ha)

Districts	Lemon				Others				Total			
	Total Area	Productive Area	Production	Yield	Total Area	Productive Area	Production	Yield	Total Area	Productive Area	Production	Yield
Palpa	-	-	-	-	20	18	167	9.17	1,406	1,331	11,001	8.26
Gulmi	9	4	21	5.25	15	7	33	5.00	1,188	822	9,251	11.26
Arghakhanchi	-	-	-	-	450	128	1,391	10.87	1,783	943	8,587	9.11
Pyuthan	12	6	29	4.83	-	-	-	-	611	460	4,274	9.29
Rolpa	-	-	-	-	-	-	-	-	1,444	960	11,387	11.86
Nawalparasi west	11	7	35	5.00	-	-	-	-	81	47	331	7.04
Rupandehi	-	-	-	-	-	-	-	-	130	43	307	7.14
Banke	-	-	-	-	-	-	-	-	50	45	293	6.50
Bardiya	-	-	-	-	-	-	-	-	50	30	180	6.00
Rukum east	128	122	765	6.27	-	-	-	-	654	512	4,552	8.89
Dang	125	121	982	8.12	-	-	-	-	312	225	1,773	7.88
Kapilvastu	-	-	-	-	-	-	-	-	50	46	414	9.00
Subtotal	285	260	1,832	7.05	485	153	1,591	10.41	7,759	5364	52,349	9.76

Source: Ministry of Agriculture and Livestock Development, 2023.

131. In fiscal year 2021/22, 1,832 mt of lemons were produced from 260 ha of farming. In all, 5,364 hectares were used to produce citrus fruits, with 52,349 mt produced.

Table 23: Winter Fruits: Area, Productive Area, Production and Yield, FY 2021/22
(Area in Ha., Production in Mt., and Yield in Mt./ha)

Districts	Apple				Pear				Walnut			
	Total Area	Productive Area	Production	Yield	Total Area	Productive Area	Production	Yield	Total Area	Productive Area	Production	Yield
Palpa	-	-	-	-	16	14	134	9.60	17	16	56	3.50
Gulmi	-	-	-	-	60	47	423	9.00	71	8	34	4.20
Arghakhanchi	-	-	-	-	109	50	506	10.12	120	60	266	4.43
Pyuthan	7	4	18	4.50	33	30	308	10.25	5	3	12	4.10
Rolpa	300	260	1,085	4.17	83	79	648	8.20	267	96	504	5.25
Nawalparasi west	-	-	-	-	-	-	-	-	-	-	-	-

Districts	Apple				Pear				Walnut			
	Total Area	Productive Area	Production	Yield	Total Area	Productive Area	Production	Yield	Total Area	Productive Area	Production	Yield
Rupandehi	-	-	-	-	-	-	-	-	-	-	-	-
Banke	-	-	-	-	-	-	-	-	-	-	-	-
Bardiya	-	-	-	-	-	-	-	-	-	-	-	-
Rukum east	538	498	2,750	5.52	10	9	85	9.44	502	355	1,398	3.94
Dang	-	-	-	-	2	1	11	11.00	-	-	-	-
Kapilvastu	-	-	-	-	-	-	-	-	-	-	-	-
Sub total	845	762	3,853	5.06	313	230	2,115	9.20	982	538	2,270	4.22

Source: Ministry of Agriculture and Livestock Development, 2023.

132. Apples were planted on 762 hectares of land among winter fruits, and 3,853 MT were produced in FY 2021/22. Similarly, 230 ha of land generated roughly 2,115 mt of pear harvest. Likewise, on 538 hectares of land in the province, 2,270 mt of walnuts were produced in the same fiscal year.

Figure 15. Land Capability Map of the Lumbini Province

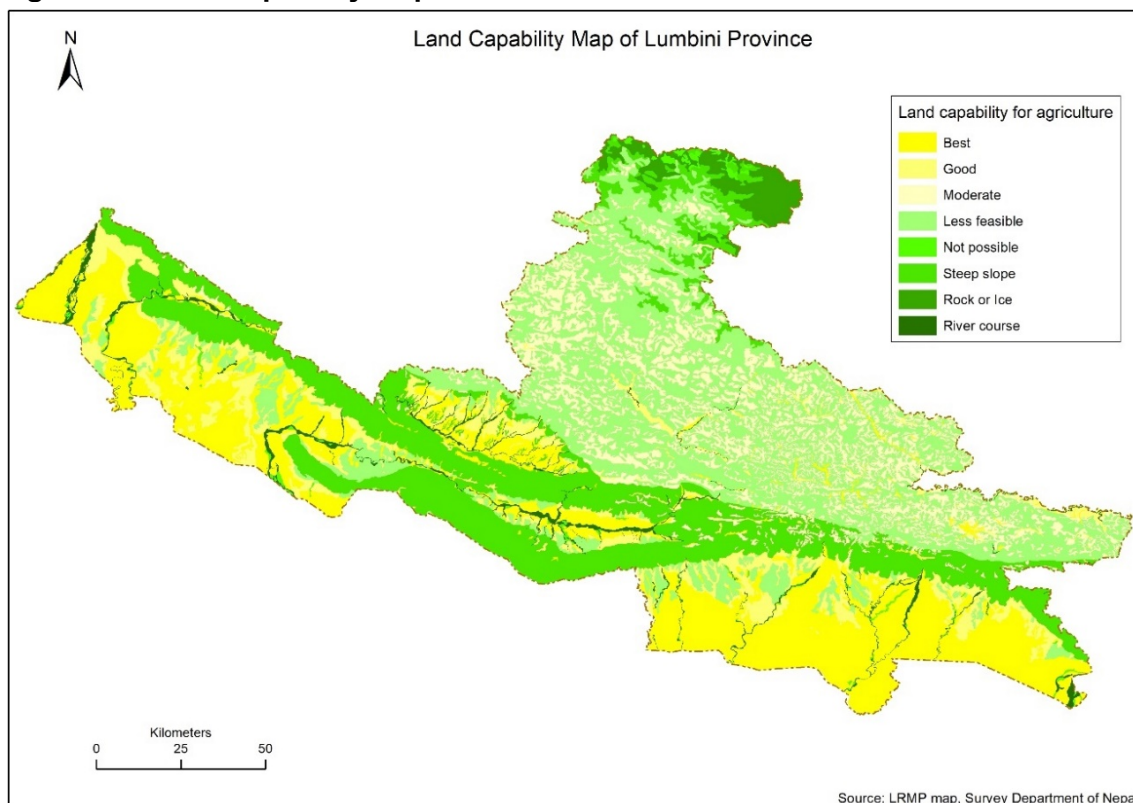


Table 24: Winter Fruits: Area, Productive Area, Production and Yield, FY 2021/22

(Area in Ha., Production in Mt., and Yield in Mt./ha)

Districts	Peach				Plum				Apricot				Persimmon			
	Total Area	Productive Area	Production	Yield	Total Area	Productive Area	Production	Yield	Total Area	Productive Area	Production	Yield	Total Area	Productive Area	Production	Yield
Palpa	14	14	65	4.66	12	11	59	5.32	-	-	-	-	-	-	-	-
Gulmi	42	31	229	7.40	46	29	244	8.40	-	-	-	-	-	-	-	-
Arghakhanchi	10	8	34	4.20	60	57	122	2.14	-	-	-	-	-	-	-	-
Pyuthan	8	7	29	4.10	50	45	203	4.50	-	-	-	-	-	-	-	-
Rolpa	42	36	272	7.56	154	102	465	4.56	15	12	64	5.33	19	15	89	5.93
Nawalparasi west	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rupandehi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Banke	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bardiya	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rukum east	34	28	198	7.07	33	26	205	7.88	2	2	10	5.00	3	1	5	5.00
Dang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kapilvastu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub total	150	124	827	6.67	355	270	1,297	4.80	17	14	74	5.29	22	16	94	5.88

Source: Ministry of Agriculture and Livestock Development, 2023.

133. In fiscal year 2021–2022, 827 mt of peaches were produced on 150 hectares of land. About 1,297 mt of plums were produced from 270 hectares of land in the same year. In a similar vein, 74 mt of apricot was produced from around 14 hectares of land and 16 hectares of land were used to grow persimmons, with an output of around 94 mt.

Table 25: Winter Fruits: Area, Productive Area, Production and Yield, FY 2021/22

(Area in Ha., Production in Mt., and Yield in Mt./ha)

Districts	Pomegranate				Hog Plum				Kiwi				Total			
	Total Area	Productive Area	Production	Yield	Total Area	Productive area	Production	Yield	Total Area	Productive Area	Production	Yield	Total Area	Productive Area	Production	Yield
Palpa	-	-	-	-	17	14	104	7.4	4	3	9	3.1	80	72	427	5.93
Gulmi	15	11	67	6.10	5	3	19	6.3	30	15	98	6.50	269	144	1113	7.73
Arghakhanchi	5	4	20	5.00	-	-	-	-	10	3	18	6.00	314	182	966	5.31
Pyuthan	-	-	-	-	-	-	-	-	10	5	50	10.00	113	94	619	6.59
Rolpa	11	9	16	1.78	-	-	-	-	102	21	229	10.90	993	630	3372	5.35
Nawalparasi west	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rupandehi	30	25	225	9.00	-	-	-	-	-	-	-	-	-	-	-	-
Banke	10	9	54	6	-	-	-	-	-	-	-	-	-	9	54	6.00
Bardiya	15	13	91	7.00	-	-	-	-	-	-	-	-	-	-	-	-
Rukum east	5	2	10	5	-	-	-	-	12	5	25	5.00	1139	926	4686	5.06
Dang	203	94	724	7.70	-	-	-	-	-	-	-	-	205	95	735	7.74
Kapilvastu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub total	294	167	1,207	7.23	22	17	123	7.21	168	52	429	8.24	3,168	2,190	12,288	5.61

Source: Ministry of Agriculture and Livestock Development, 2023.

134. Pomegranates were planted on 167 acres of land in FY 2021/22, producing 1,207 mt of fruit. A total of 123 metric tons of hog plums were produced on 52 hectares of land. On 52 hectares of land, kiwi was planted as an innovative practice that same year, producing 429 metric tons of output. 3,168 hectares of land were used to produce all of the winter fruits in FY 2021/22, producing 12,288 mt of product, or 5.61 MT per ha, as a yield.

Table 26: Summer Fruits: Area, Productive Area, Production and Yield, FY 2021/22

(Area in Ha., Production in Mt., and Yield in Mt./ha)

Districts	Mango				Banana				Guava			
	Area	Productive Area	Production	Yield	Area	Productive Area	Production	Yield	Area	Productive Area	Production	Yield
Palpa	352	345	2,125	6.16	66	65	689	10.60	10	8	76	9.45
Gulmi	96	40	224	5.60	60	45	279	6.20	8	5	30	6.00
Arghakhanchi	30	20	151	7.56	51	42	370	8.80	15	14	120	8.57
Pyuthan	275	230	2,125	9.24	241	212	2,989	14.10	45	34	319	9.37
Rolpa	158	87	912	10.48	70	42	571	13.60	74	59	417	7.07
Nawalparasi west	390	280	2,946	10.52	2,900	2,200	30,866	14.03	45	40	406	10.15
Rupandehi	610	440	4,287	9.74	280	262	5,350	20.42	32	28	196	7.00
Banke	960	900	7,056	7.84	110	110	1,815	16.50	35	35	280	8.00
Bardiya	900	895	7,948	8.88	800	700	12,950	18.50	42	40	300	7.50
Rukum east	15	5	47	9.41	285	265	3,350	12.64	98	90	802	8.91
Dang	360	280	2,446	8.74	270	260	2,782	10.70	102	85	740	8.71
Kapilvastu	1,786	1,420	14,318	10.08	180	172	3,054	17.76	105	99	941	9.50

Source: Ministry of Agriculture and Livestock Development

135. Almost every area in Lumbini produces mangoes, bananas, guavas, papaya, jackfruit, pineapple, and litchi during the summer. There were around 4,942 hectares of mango-producing land and 44,585 metric tons of mangos produced in 2021–2022. Around 65,065 mt of bananas were produced on 4,375 hectares of land in the same FY. About 4,626 mt of guava was produced on 537 hectares of land in the same fiscal year in Lumbini.

Table 27: Summer Fruits: Area, Productive Area, Production and Yield, FY 2021/22
(Area in Ha., Production in Mt., and Yield in Mt./ha)

Districts	Papaya				Jackfruit				Pineapple			
	Area	Productive Area	Production	Yield	Area	Productive Area	Production	Yield	Area	Productive Area	Production	Yield
Palpa	9	8	52	6.44	10	9	112	12.47	10	9	99	11
Gulmi	8	5	31	6.20	13	4	42	10.50	6	3	40	13
Arghakhanchi	10	8	119	14.88	5	3	30	10.00	5	5	64	13
Pyuthan	28	28	358	12.79	-	-	-	-	-	-	-	-
Rolpa	26	21	364	17.33	19	14	245	17.50	7	4	62	16
Nawalparasi West	27	25	225	9.00	14	12	140	11.67	-	-	-	-
Rupandehi	35	30	272	9.07	18	17	100	5.88	17	16	197	12
Banke	7	7	105	15.00	37	37	407	11.00	-	-	-	-
Bardiya	174	165	2,821	17.10	40	39	585	15.00	-	-	-	-
Rukum East	115	90	1,050	11.67	105	95	680	7.16	65	60	756	13
Dang	3	2	33	16.50	105	95	1,150	12.11	52	50	715	14
Kapilvastu	88	55	836	15.20	123	123	1,170	9.51	-	-	-	-
Subtotal	530	444	6,266	14.11	489	448	4,661	10.40	162	147	1,933	13.15

Source: Ministry of Agriculture and Livestock Development, 2023.

136. Other significant summer fruits in Lumbini are litchi, papaya, jackfruit, and pineapple. In FY 2021/22, 6,266 mt of papaya were produced on 444 hectares of land. Similarly, in fashion, 4,661 mt of jackfruit were produced across 448 ha of land during the same FY. 147 acres of land were used to cultivate pineapple, yielding 1,933 mt of product.
137. Around 5,239 mt of litchi were produced, with 772 hectares of land used for cultivation. Mangoes, bananas, guavas, papaya, jackfruit, pineapple, and litchi are among the summer fruits which cover a total of 11, 666 hectares. The total production produced during this time was 132,374 mt, with an average yield of 11.35 MT per hectare. The growth of industry, tourism, and agriculture all have a lot of promise in Lumbini Province. The province possesses significant potential for the development of its three areas: arable land, industrial sector, and tourism destinations.

Table 28: Summer Fruits: Area, Productive Area, Production and Yield, FY 2021/22
(Area in Ha., Production in Mt., and Yield in Mt./ha)

Districts	Litchi				Total			
	Area	Productive Area	Production	Yield	Area	Productive Area	Production	Yield
Palpa	317	58	341	5.87	774	502	3,493	6.96
Gulmi	179	58	696	12.00	370	160	1,342	8.39
Arghakhanchi	25	18	121	6.72	141	110	975	8.86
Pyuthan	29	18	117	6.47	618	522	5,907	11.32
Rolpa	5	4	19	4.75	359	231	2,590	11.21
Nawalparasi west	63	60	383	6.38	3,439	2,617	34,966	13.36
Rupandehi	80	59	600	10.17	1,072	852	11,002	12.91
Banke	38	36	180	5.00	1,187	1,125	9,843	8.75
Bardiya	125	100	600	6.00	2,081	1,939	25,204	13.00
Rukum east	5	3	25	7.91	688	608	6,710	11.03
Dang	254	245	1,378	5.62	1,146	1,017	9,244	9.09
Kapilvastu	120	113	780	6.90	2,402	1,982	21,099	10.65
Subtotal	1,240	772	5,239	6.78	14,277	11,665	132,374	11.35

Source: Ministry of Agriculture and Livestock Development, 2023.

5.2.6. Potential of Vegetables in the Lumbini Province

138. In the fiscal year 2022/23, Nepal imported fruits worth Rs. 16.16 billion, including bananas, apples, guavas, mangoes, oranges, grapes, papayas, and pomegranates.⁸ The Lumbini Province produced about 132,374 metric tons of different varieties of fruits in the fiscal year 2021/22. The province has high potential in production of all type of fruits that are produced in all ecological belts at commercial scale.

5.2.7. Major Vegetables

139. In the province, vegetable growing occupies around 44,277 hectares of land and produces 597,037 MT at a rate of 13.48 MT per hectare yield. Different areas of the province produce a variety of foods, including cauliflower, cabbage, broccoli, tomatoes, radishes, broad-leaf mustard, chili, brinjal, onions, cucumbers, squash, bitter gourd, coriander leaf, and many more.

Table 29: Vegetables: Area, Productive Area, Production and Yield, FY 2021/22
(Area in Ha., Production in Mt., and Yield in Mt./ha)

Districts	Subtotal		
	Area	Production	Yield
Cauliflower	7,086	114,760	16.20
Cabbage	6,467	121,736	18.83
Broccoli	348	4,214	12.11
Tomato	3,670	60,347	16.45

⁸ GoN, 2023, [The Department of Customs' Annual Trade Statistics. Fruits worth Rs. 16.1 billion imported, with 44% share of apples \(risingnepaldaily.com\)](#)

Districts	Subtotal		
	Area	Production	Yield
Radish	3,024	49,015	16.21
Broad Leaf Mustard	1,315	17,294	13.15
Carrot	328	4,433	13.50
Turnip	189	2,722	14.42
Capsicum	509	4,023	7.90
Peas	1,327	11,404	8.59
French Beans	805	5,124	6.37
French Beans -Pole Type	755	5,649	7.48
French Beans -Bush Type	829	5,451	6.58
French Beans - Sword Type	472	2,798	5.93
Broad Beans	111	750	6.75
Asparagus Beans	967	11,583	11.97
Cowpea	1,411	12,367	8.76
Other (Legumes)	196	1,312	6.69
Asparagus	28	167	6.05
Tree tomato	12	85	7.08
Chili Akabare	97	739	7.64
Chili	1,253	7,518	6.00
Okra	1,791	15,933	8.90
Brinjal	994	10,636	10.70
Onion	1,300	16,906	13.00
Cucumber	1,377	21,646	15.72
Pumpkin	720	8,745	12.15
Squash	495	5,227	10.55
Bitter Gourd	1,042	10,850	10.42
Pointed Gourd	143	1,183	8.27
Sponge Gourd	686	6,886	10.03
Ridge Gourd	91	772	8.49
Snake Gourd	98	1,257	12.77
Bottle Gourd	989	15,893	16.07
Ash Gourd	15	98	6.39
Kakari	17	121	7.12
Kundru	28	294	10.50
Chayote	70	660	9.48
Watermelon	348	8,148	23.41
Other (Cucurbits)	116	1,426	12.29
Drumsticks	26	274	10.54
Lettuce	24	105	4.44
Fennel Leaf	8	47	5.57
Coriander Leaf	450	3,181	7.06
Spinach	417	3,567	8.55
Cress	221	2,294	10.40
Amaranthus	74	650	8.74
Fenugreek Leaf	192	1,588	8.28
Swiss chard	130	852	6.55
Others (Leafy Veg.)	118	1,152	9.78

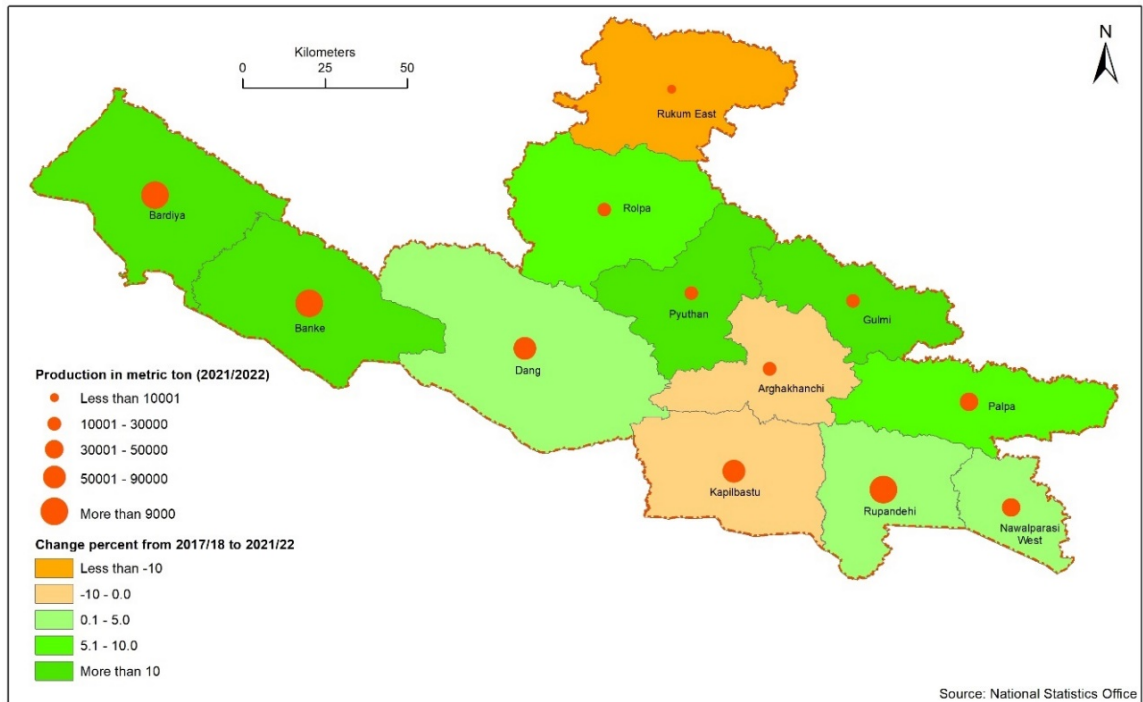
Districts	Subtotal		
	Area	Production	Yield
Colocasia	762	9,868	12.96
Yam	103	1,462	14.16
Elephant Foot Yam	27	402	15.01
Other (Tubers)	72	499	6.93
Others(veg.)	134	923	6.89
Total	44,27	597,037	13.48

Source: Ministry of Agriculture and Livestock Development, 2023.

5.2.8. Potential of Vegetables in the Lumbini Province

140. In the fiscal year 2021/22, the province produced more than 50 varieties of vegetables equivalent to about 597,037 metric tons. The province has high potential in production of all type of vegetables thanks to the prevailing diverse climatic conditions that exist in different districts of the province.

Figure 16. Vegetable Production in the Lumbini Province



5.2.9. Livestock Products and Fisheries

141. This category includes dairy products (milk, yogurt, and cheese), meat from chickens, goats, cattle, and other by-products like leather and wool. The province's ideal climate and abundance of pasture land make cattle raising feasible and vital to the local economy. Farmers raise animals for commercial and subsistence purposes that support their livelihoods and the region's overall economic growth. Some of the challenges include developing climate-smart technology, strengthening market connections, and improving disease prevention strategies.

Table 30: Milking Population and its Production by District FY 2021/22

District	Milking Cows No.	Milking Buffaloes No.	Cow Milk (Mt.)	Buffaloes Milk (Mt.)	Total Milk Produced (Mt.)
Arghakhanchi	5,741	25,791	4,329	23,719	28,048
Banke	34,665	60,679	32,754	53,033	85,787
Bardiya	18,516	45,179	18,487	38,311	56,797
Dang	22,450	46,781	18,089	39,250	57,339
Gulmi	6,910	14,531	4,775	12,290	17,066
Kapilbastu	24,975	43,876	25,436	39,538	64,974
Nawalparasi west	14,107	21,970	14,880	20,652	35,532
Palpa	11,738	28,818	9,527	26,408	35,935
Pyuthan	11,588	22,087	7,112	17,965	25,077
Rolpa	16,735	15,887	10,231	11,360	21,592
Rukum east	2,590	5,244	1,588	4,417	6,006
Rupandehi	21,048	64,089	25,820	55,723	81,543
Subtotal	191,063	394,932	173,029	342,667	515,696

Source: Ministry of Agriculture and Livestock Development, 2023.

Table 31: Milking Population and its Production by District FY 2021/22

District	Milking Cows No.	Milking Buffaloes No.	Cow Milk (Mt.)	Buffaloes Milk (Mt.)	Total Milk Produced (Mt.)
Arghakhanchi	5,741	25,791	4,329	23,719	28,048
Banke	34,665	60,679	32,754	53,033	85,787
Bardiya	18,516	45,179	18,487	38,311	56,797
Dang	22,450	46,781	18,089	39,250	57,339
Gulmi	6,910	14,531	4,775	12,290	17,066
Kapilbastu	24,975	43,876	25,436	39,538	64,974
Nawalparasi west	14,107	21,970	14,880	20,652	35,532
Palpa	11,738	28,818	9,527	26,408	35,935
Pyuthan	11,588	22,087	7,112	17,965	25,077
Rolpa	16,735	15,887	10,231	11,360	21,592
Rukum east	2,590	5,244	1,588	4,417	6,006
Rupandehi	21,048	64,089	25,820	55,723	81,543
Subtotal	191,063	394,932	173,029	342,667	515,696

Source: Ministry of Agriculture and Livestock Development, 2023.

Figure 17. Status of Cattle in the Lumbini Province

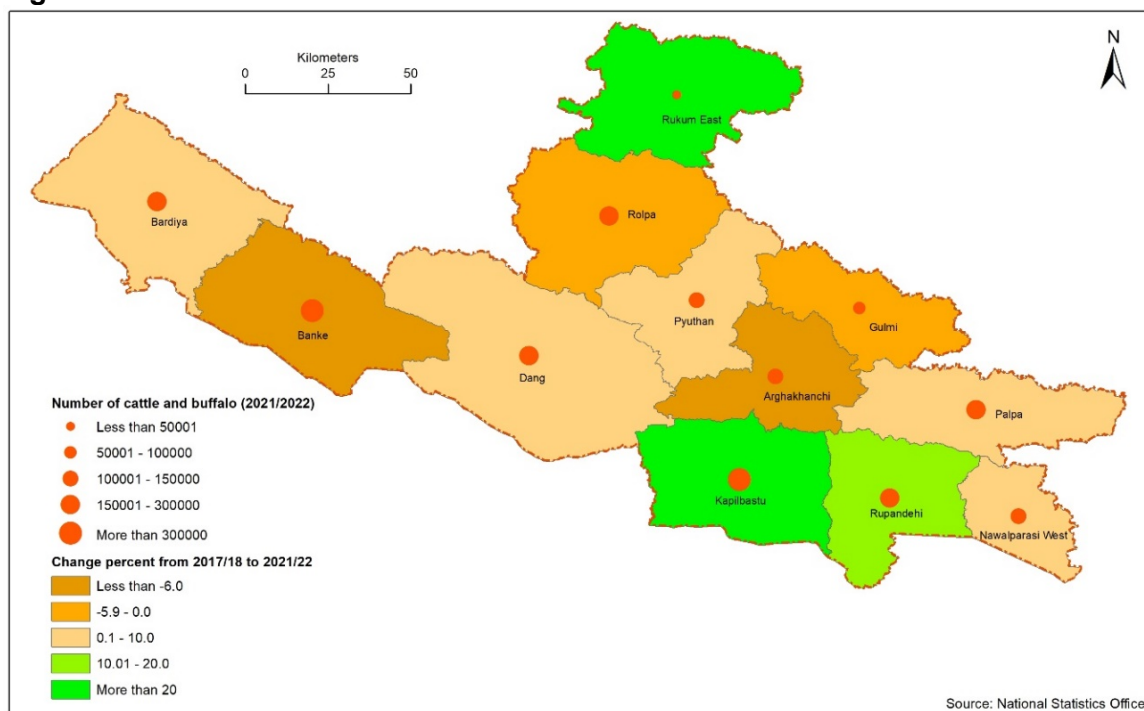


Table 32: Meat Production by Districts, Fiscal Year 2021/22

District	Buff	Mutton	Chevon	Pork	Chicken	Duck	Total Meat
Arghakhanchi	3,523	4	747	64	1,508	2	5,849
Banke	7,597	37	1,746	1733	3,443	3	14,558
Bardiya	5,116	43	1,148	877	1,446	2	8,633
Dang	5,675	121	1,705	2110	8,653	15	18,281
Gulmi	1,886	23	842	262	782	1	3,796
Kapilbastu	5,810	46	1,486	543	1,974	6	9,865
Nawalparasi west	2,534	11	536	910	1,622	35	5,648
Palpa	3,620	10	1,219	646	2,384	4	7,884
Pyuthan	2,965	49	1,019	252	982	1	5,268
Rolpa	2,185	50	1,139	836	1,596	1	5,808
Rukum east	696	80	350	235	398	1	1,761
Rupandehi	6,419	16	1,341	397	4,135	28	12,337
Sub total	48,026	491	13,279	8,868	28,924	100	99,688

Source: Ministry of Agriculture and Livestock Development, 2023.

142. Approximately 99,688 kg of meat were produced annually in 12 districts of Lumbini, including 48,026 kg of buff, 491 kg of mutton, 13,279 kg of cheven, 8,868 kg of pork, 28,924 kg of chicken, and 100 kg of duck meat.

Table 33: Egg Production by Districts, Fiscal Year 2021/22

(Population in numbers, Production in '000')

District	Laying Hen	Laying Duck	Hen Egg	Duck Egg	Total Egg
Arghakhanchi	54,124	1,074	5,673	85	5,759
Banke	147,691	1,221	17,908	98	18,005
Bardiya	69,036	1,108	8,227	86	8,313
Dang	520,388	7,547	66,064	574	66,638
Gulmi	27,375	421	2,397	32	2,428
Kapilbastu	90,876	3,058	10,547	238	10,785
Nawalparasi west	80,211	17,008	10,427	1,412	11,839
Palpa	56,748	2,058	6,394	172	6,566
Pyuthan	38,754	513	3,946	41	3,987
Rolpa	29,057	265	2,184	20	2,205
Rukum	12,583	292	1,069	23	1,092
Rupandehi	158,635	13,841	20,940	1,054	21,993
Sub total	1,285,478	48,407	155,776	3,834	159,611

Source: Ministry of Agriculture and Livestock Development, 2023.

143. Since the province had 1,285,478 laying hens and 48,407 laying ducks, poultry is found to be growing. In fiscal year 2021-22, there were 159,611 eggs of hens and ducks combined.

Table 34: Wool Production by Districts, FY 2021/22 (Kg)

District	Sheep (No.)	Sheep Wool Produced
Arghakhanchi	1,100	846
Banke	9,970	4,849
Bardiya	11,574	5,287
Dang	32,530	13,842
Gulmi	6,099	4,779
Kapilbastu	12,215	5,569
Nawalparasi west	2,939	1,190
Palpa	2,652	1,738
Pyuthan	13,217	8,836
Rolpa	13,451	10,192
Rukum east	21,512	14,229
Rupandehi	4,294	2,034
Total	131,553	73,391

Source: Ministry of Agriculture and Livestock Development, 2023.

144. This volume of wool production in the province has promoted the manufacturing of local woolen fabrics. In the Lumbini Province, the wool sector is essential to connecting the rural economy with manufacturing. It supports both national exports and local livelihoods. In Lumbini's hilly terrain, sheep are a valuable livestock species since they can provide

both meat and wool. The industry is divided into several categories, including finished textiles, clothing, knitwear, blankets, and carpets, as well as textile middlemen.

5.2.10. Fishery Products

145. With its abundant water resources, the Lumbini Province has a great deal of potential for development of fisheries. The rivers, lakes, and ponds in the province provide an ideal circumstance for fishery farming in the province. Sustainable activities like fish farming, replenishing native species, and encouraging environmentally friendly fishing techniques can be investigated by local communities.

Table 35: Fish Production by Water Surface Area and Districts, FY 2021/22

District	Pond's No.	Water Surface Area (Ha.)	Total Fish Prod. (MT.)	Yield (Kg./Ha.)
Palpa	95	13	42	3,231
Gulmi	135	15	34	2,366
Arghakhanchi	55	6	16	2,877
Nawalparasi west	522	225	1,103	4,902
Rupandehi	4,667	1,310	8,310	6,344
Kapilvastu	1,131	537	2,745	5,112
Dang	1,201	237	807	3,405
Banke	1,362	275	1,132	4,112
Bardiya	1,955	425	1,707	4,019
Rukum east	-	-	-	-
Pyuthan	92	7	19	2,667
Rolpa	55	3	7	2,258
Sub total	11,270	3,053	15,923	5,216

Source: Ministry of Agriculture and Livestock Development, 2023.

146. In fiscal year 2021/22, 1,707 MT of fish were produced by water ponds covering 1,955 hectares and water bodies used for fisheries covering 425 hectares. Lumbini produced 4,019 kg of fish per hectare.

5.2.11. Agriculture Products: Monetary Value

147. The primary agricultural product in the Lumbini Province is cereal crops. The cereal crops (rice, wheat, corn, and millet) comprise nearly half of the crop, with cash crops making up the other half. Fruits and spices make up less than thirty percent of total agricultural products. It is estimated that agriculture can be further extended on 214,831 hectares of underdeveloped land. Growing cereal crops on those underutilized lands could yield 687,459 metric tons of value annually, for NPR. 21,775 million. It is expected that the Lumbini Province will produce goods worth NPR 141,771 million on 119,996 hectares in 2021–2022.

Table 36: Agriculture Products and Value (2021/22)

Crop types	Amount in MT	NPR in Million	%	Source
Cereal crops	2,010,107	63,671	53.06	Food Management and Trading Company Limited
Cash crops	2,010,107	30,026	25.02	Food Management and Trading Company Limited
Spices	4020214	13,375	11.15	Food Management and Trading Company Limited
Fruit	190963	12,711	10.59	Kalimati Fruit and Vegetable Development Committee
Pulses	107382	213	0.18	Food Management and Trading Company Limited
Total	8,338,773	119,996	100	
Potentiality of unused land	687,459	21,775		Office of the Water Resource and Irrigation Development Division, Government of Nepal
Total potentiality	9,026,232	141,771		

Source: Ministry of Agriculture and Livestock Development, 2023.

148. Farmers across various districts have seen growth in production and productivity. The Banke and Bardia districts will experience an unparalleled increase in productivity and production once the national pride irrigation projects, specifically the Sikta, Babani, and Bheri diversions in a couple of years. It will be possible to expand the command area, enhance crop diversity and productivity, lessen conflicts involving water, and eventually improve livelihood and food security in the province through improved irrigation made possible by these significant projects. In the hilly and mountainous regions, the provincial government and local level can promote climate-smart agriculture will further boost output and productivity. The climate-smart irrigation methods such as rainwater harvesting and impermeable canal linings for drip and sprinkle irrigation, encouraging water efficiency can help reduce water stress.
149. The province has a stronghold of producing cereals that feed the population of the provinces and exports the surplus grains. The province has low-hanging fruit in enhancing policy windows that gear up the expansion of agri-based manufacturing industries of the province. This has a high possibility of generating more jobs, reducing exports, and producing products for exports. This sector has a high potential to raise the bar of provincial GDP in the coming years.

5.2.12. Livestock Products: Monetary Value

150. Meat and milk comprise more than 95 percent of livestock products. In the Lumbini Province, 1,131,041 cattle were registered in 2021–2022. The Nitrogen from 5,475 kg of dung and 1,460 liters of cattle urine is produced 2,956 Kilograms annually. The province has huge potential to upgrade the existing livestock practices to a commercial scale starting from the selected pocket areas in collaboration with local levels and private businesses. In the province, cow farming at a commercial scale is possible in most of the rural and urban peripheries.

Table 37: Livestock Products and Production Value (2021/22)

Livestock types	Production (MT)	NPR in Million	% of cost	Source
Meat (MT)	99688	61,546	53.68	Market survey
Milk (MT)	515696	46,113	40.48	DDC
Fish (MT)	15923	4,352	3.80	Kalimati fruit and vegetable market
Egg (No.)	159611000	1,915	1.67	Market survey
Wool (KG)	73391	420	0.37	Market survey
Total		114,646	100	
Potential income from useless cattle	(85% adult of total 1131041)	48,069		https://thehimalayantimes.com/opinion/unproductive-cattle-know-their-economic-value
Total potentiality		162,715		

Source: Ministry of Agriculture and Livestock Development, 2023.

151. The value of livestock products is currently around NPR 114, 646 million, and have the potential to produce NPR 162,715 million annually.⁹

⁹ <https://thehimalayantimes.com/opinion/unproductive-cattle-know-their-economic-value>

Box III: Potential of Commercial and Climate Smart Agriculture Unleashing the Potential of Agriculture in Lumbini: Case Study II

The Lumbini Province is well known for its abundant agricultural potential. At present, 12 districts of the province combined produce almost 2 million tons of food, making a surplus of 445,000 tons. Districts such as Rupandehi, Kapilvastu, Bardia, Dang, Banke, and Nawalparasi (West) have experienced food surpluses. However, the province's hill districts (Palpa, Gulmi, Arghakhanchi, Pyuthan, Rolpa, Rukum, and East Rukum) grow just sufficient food to sustain the majority of the inhabitants, despite having lower levels of food production.

The fertile plains of Lumbini are home to several crops, including vegetables, wheat, sugarcane, rice, and wheat. The major cereal crops are grown on 627,724 hectares of land in the province. The majority of the people in this province still make their livelihood from subsistence agriculture.

In 2021, the province's 621,900 hectares of land were planted with cereal crops. Thirty thousand tonnes were harvested in Rukum East; twelve thousand tonnes in West Nawalparasi; nine thousand tonnes in Palpa; eleven thousand tonnes in Gulmi; nine thousand tonnes in Arghakhanchi; eighty thousand tonnes in Rolpa; and seven thousand tonnes in Pyuthan. It is necessary to start mass production since the conventional agricultural system is not commercially feasible at the scale and breadth of operations.

Dang has the potential to grow into a pocket area that produces oilseeds. Pyuthan, Rukum, and Rolpa districts are suitable for seed production. Consider cultivating cash crops like ginger and coffee in the districts of Palpa, Gulmi, Arghakhanchi, and Pyuthan. Hill districts like Palpa, Gulmi, Arghakhanchi, Pyuthan, Rolpa, Rukum, and East Rukum can produce enough food to feed their population, even though their levels of food production are not very high. Cash crops are grown on 99,000 hectares. According to the Directorate of Agriculture, 41,000 hectares of land are used for vegetables, 8,000 hectares for spices, 16,000 hectares for fruits, and 80,000 hectares for pulses.

As per the local people, the Rajapur Irrigation Project, constructed in 1992 needs to be rehabilitated to increase the flow of water. Babai will enhance the irrigation capacity when the Veri-Babai Diversion project is finished. Small irrigation channels need to be rehabilitated and adapted to changing patterns of rainfall and land use. A robust plan to turn fallow land into cultivable land is desperately needed since 33% of the "cultivable land" area in the province is fallow. Subsistence farming should be transformed into commercial businesses with the help of various agricultural interventions such as local-level land banking. As a result, the province's population will have access to more food due to increased productivity in crops and livestock. To address the issue of irrigation and ensure that fallow land is used appropriately and productively throughout the year, Climate Smart Agriculture (CSA) has the potential to attract investments in the agriculture sector, particularly in promoting CSA technologies (CIP-Lumbini.pdf (libird.org)).

5.3. Mines and Mineral

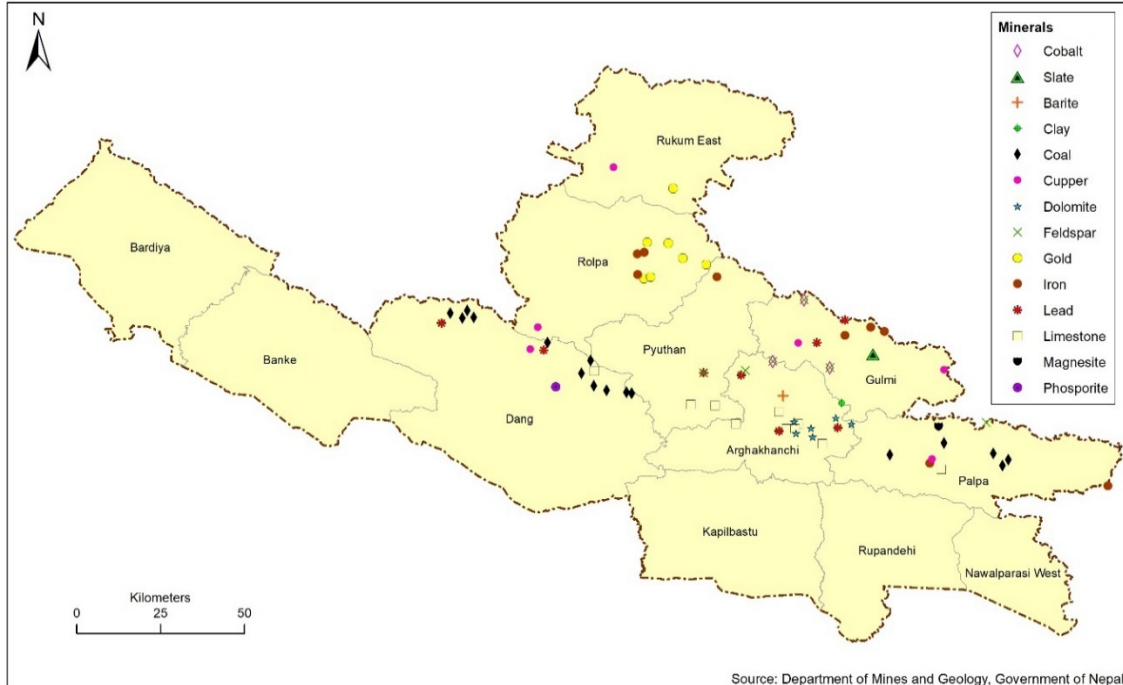
5.3.1. Geology and Mineral

152. Archaeological study indicates that Sivapithecus, the ape-human bridge, was located in the Churiya range, which joins the Dang valley in the Lumbini province. Since the year 2000, several prehistoric studies have been carried out in the valley. These include the studies carried out in 1966 by Tribhuvan University, the Department of Mines of the History Majesty's Government of Nepal in 1976, and the University of Erlangen-Nuremberg in Germany in 1984 as part of their paleolithic study of the Dang valley. These results indicate that Dang Valley existed as a lake between 2.5 and 1 million years ago.
153. Additionally, in the alluvial deposits of the Babai River in the Dang Valley, early Paleolithic objects dating from 1.8 million to 100,000 years ago have been found, including hand axes. Olduwan artifacts of the first generation are replaced by Acheulean implements of the second generation. Besides the Babai River, archeological sites dating back between 50,000 and 10,000 years, from the Late Pleistocene/Upper Paleolithic period, have also been discovered. Extensively exposed in the southern section of Dang and on all sides of the Deukhuri valley are the late Cenozoic sedimentary layers, which are mostly composed of deformed rocks as a result of the Indian Plate and Eurasian Plate continuing to shorten. In South Asia, the two valleys are considered an important Paleolithic archeological site because of the large concentration of Paleolithic tool findings there. Paleolithic hand axes dating from 1.8 million to 100,000 years old have been found along the Babai River in Lumbini Province. The drainage source of the ancient Airavati River, currently called the West Rapti River, is located in the smaller Himalayas of Eastern Rukum, which is located in the province's northern region.

5.3.2. Distribution of Mines and Mineral

154. The major minerals are limestone, coal, iron, and gold. The distribution of mines and minerals age is given in the map. The Lumbini Province is rich in limestone reserves. Twelve cement plants are located in the Rupandehi district's Dhakdhai and Lumbini Corridor. A few of these include Supreme Cement, Ambuja Cement, Pathak Cement, Maruti Cement, Bishal Cement, Arghakhachi Cement, Jagdamba Cement, Siddhartha Cement, Brij Cement, Agni Cement, Reliance Cement, Goyanka Cement, and Bishal Cement.
155. Several factories are expanding their production capacity as a result of new investments. For instance, Jagdamba Cement is building a second factory in the eastern region of Bhairahawa, which will be able to produce 1,500 tons of cement per day. The area is becoming a cement center because it is easily accessible to limestone quarries and because it is easy to import raw materials from India. In addition to cement, the Lumbini Province has potential mineral resources; granite and marble have been identified but not fully explored. There are coal mines located in the districts of Dang, Salyan, Rokpa, and Palpa.

Figure 18. Minerals in Lumbini



156. Producing enough clinker and cement to feed itself is the province's goal. Long-term growth requires investments in exploration and infrastructure. Government support and well-defined policies are essential for the effective mobilization of natural resources. Beyond its contribution to the national economy, the Lumbini Province's cement sector is vital to the region's development and employment generation.
157. After years of reckless limestone extraction, most of the hill districts in the Lumbini Province are losing their natural springs. The depletion of natural water sources in the catchment area has negatively impacted the locals living in Palpa, Arghakhanchi, Rolpa, and Pyuthan districts. Along the drinking water supply lines that wind through the hillsides, the excavated material gets washed downstream during the rainy season, destroying and preventing the burying of natural springs. Settlements beneath limestone mines are vulnerable to landslides and floods during the rainy season due to the mines' reckless mining practices.¹⁰

¹⁰¹⁰ [Limestone extraction drying up water sources in Lumbini \(kathmandupost.com\)](http://kathmandupost.com)

Table 38: No. of Explored Minefields/Blocks in the Lumbini Province

Minerals	Use	Reserve Amount	Area	Prospects
Coal	11 small mine extraction	5 million ton	Dang, Rolpa, Pyuthan, Salyan and Palpa districts	Low:
Limestone	Cement graded	535 million tons of deposits of limestone (nearly 40% are feasible, more than 50% are proven and 10% are semi-proven)	Palpa, Arghakhanchi, Dang, Pyuthan, Salyan, and Rolpa districts	High:
Gold		Particle size is tiny to 1.5 mm. Search is going on	Lungri Khola, Rolpa	Low:
Phosphorite (Phosphate rock)	One of the primary raw materials used to create chemical fertilizers like triple super phosphate (TSP) and fused magnesium phosphate (FMP) is phosphorite, often known as phosphate rock.		Sewar Khola section in Pyuthan District	Medium: (About 300,000 mt of chemical fertilizer are currently needed annually in Nepal.)
Cobalt	Cobalt is mainly used in making high-resistant steel and alloys and in glass factories to produce blue-colored glass.		A few old workings for cobalt are known from Netadarling and Tamghas (Gulmi) and Samarbhamar (Arghakhanchi).	Low to Medium:
Iron *		200 MT	Jhulabang area , Bhume Rural Municipality (Rukun East)	Medium: Probable (45% possible utilization)

Source: Department of Mines and Geology* The volume of iron deposit covers only the portion of a single notice of the Department of Mines and Geology dated 13th May 2024.

5.3.3. Mines and Mineral Products: Potential Resource Value

158. There are about 2.5 billion metric tons of cement-grade limestone reserves in Lumbini. More than a dozen cement factories are located in the province. Five billion metric tons of dolomite can be mined and sold. A superior magnetite reserve of about 180 million metric tons is another important reserve in the province. The proper exploration and use of mineral resources in the Lumbini Province will strengthen the economy, generate jobs, and increase exports. The Lumbini Province contains several minerals, including talc, quartzite, granite, marble, coal, and semi-precious stones. There is a lot of industrial potential for the dolomite and limestone in the province. The three tiers of government should work together to locate these hidden minerals through research and excavation as a higher-priority project.

Table 39: Mines and Mineral: Potential Resource Value

Mine/Mineral Types	Production (billion MT)	NPR in Million	Source
Cement Grade Limestone	2.5		The Economic Survey of 2022/23 has estimated a further staggering potential of 1.27 billion tons of limestone deposits in Nepal.
Dolomite	5.0		
Others (refer to the figure 18)			Other minerals shown need further study/exploration.

Source: GoN, Department of Mines and Geology

5.4. Physical Infrastructures and Assets

5.4.1. Transport Network

159. Provincial and municipal roads in the Lumbini Province encompass a total length of 9,139 kilometers. These comprise around 46,441 kilometers, or 72 percent of the local network including over 13,629 kilometers, or 21 percent of the whole local network.¹¹ Remembering that road infrastructure is essential for general growth, transit, and connection is vital. Development, maintenance, and natural catastrophes may impact the life of the road assets.

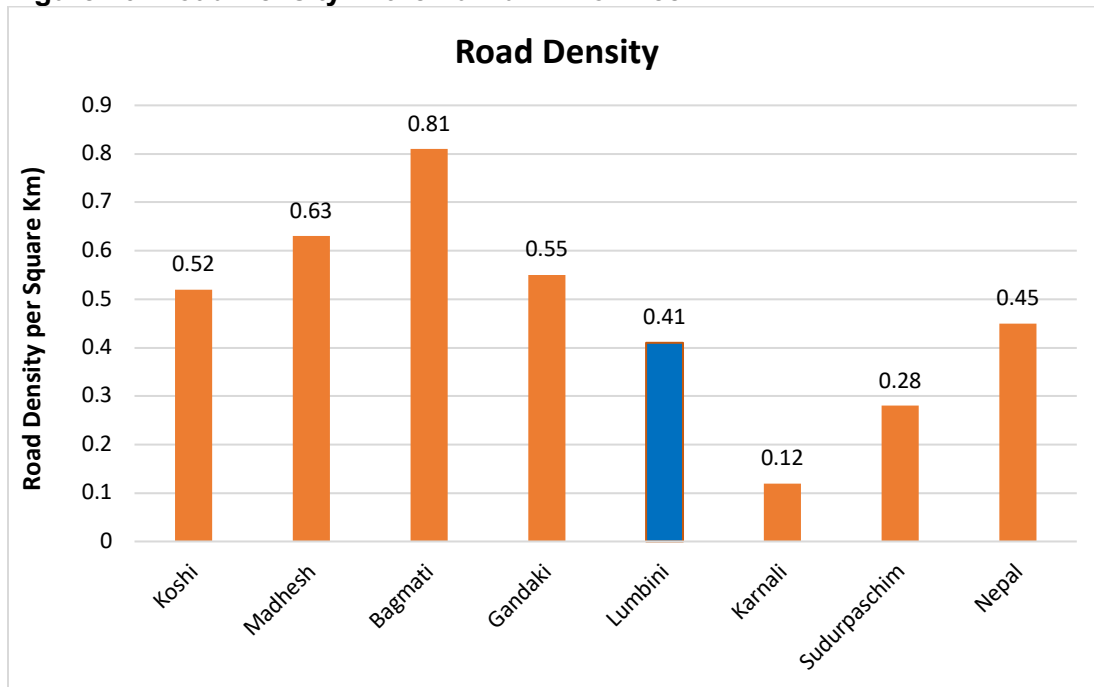
¹¹ GoN, 2004. The Nepal Road Statistics (NRS), "Statistics of Strategic Roads Networks (SSRN)"

Figure 19. Transport Network in the Lumbini Province



160. Lumbini's transportation routes have evolved since H01. The H01 and H10, Lumbini's two main roads, converge close to Butwal. About 8,931 km of new roads are being constructed inside the province. There are 5,293 kilometers of blacktop. Dang district's West Rapti River is crossed by Nepal's second-longest bridge. Twelve districts of the province are connected by blacktopped roads. The following are the main roads in the province: Mahendra Highway: Mahendra Highway (H01) passes latitudinally through the districts of Bardiya, Banke, Dang, Kapilvastu, Rupandehi, and Parasi. It is connected to Bagmati to the east and Sudurpaschim to the west. The Province of Karnali is accessible by the H12 Ratna Highway. It starts close to Nepalgunj, India's border, and ends at Birendranagar, Surkhet. From the highway's termination point, the Karnali Highway system is entered. The Rapti Highway (H11) runs from Ameliya, Dang, to Musikot West Rukum. This route goes up into the hilly parts of Salyan West Rukum, East Rukum, and Rolpa regions. Siddharthanagar, the border between India and Nepal, is the starting point of the Siddhartha Highway (H10), which finally ends at Prithivi Chowk in Pokhara. Butwal, Tansen, Waling, Putalibazar, Syangja, and Siddharthanagar are a few of the significant settlements along the road. Bhairahawa, Nepalgunj, and India have long maintained significant commercial ties. The total road network of Lumbini is 9,228 km (Department of Local Infrastructure, 2023). Road density in Lumbini (0.41) is less than the national average (0.45).

Figure 20. Road Density in the Lumbini Province



Source: Department of Local Infrastructure, 2023

161. The province's three primary airstrips are Dang Airport, Nepalgunj Airport, and Gautam Buddha International Airport. Nepalgunj Airport, now the nation's second busiest airport after Tribhuvan International Airport, is being converted into an international airport following the 20-year master plan. Aviation travel isn't the best because it largely covers flat terrain, even though Nepalgunj Airport serves as a hub for the majority of the airports in the Karnali Province and Sudurpaschim Province and as a transit point for tourists going to Lake Manasarovar and Mount Kailash in Tibet. New airports are being constructed in the districts of Resunga (Gulmi District) and Sandhikharka (Arghakhanchi District).

5.4.2. Irrigation System

162. Altogether 541 irrigation systems in the province irrigate over 316,000 hectares of cropland. Another noteworthy project under construction is the Babai Irrigation Project. Just 59 percent of the Bheri Babai Multi-Purpose Irrigation Project has been finished since the government started construction on it eleven years ago. When tertiary canals are not included, the overall length of the two main canals—the Sikta East Canal and the Sikta West Canal—is 160 kilometers. This is achieved by the construction of eight branch canals, each measuring around 20 kilometers. Ensuring farmers have access to water and increasing agricultural productivity are dependent on these measures. After these massive irrigation projects are completed, almost 140,000 hectares of land will be irrigated, which will be very advantageous for the region.

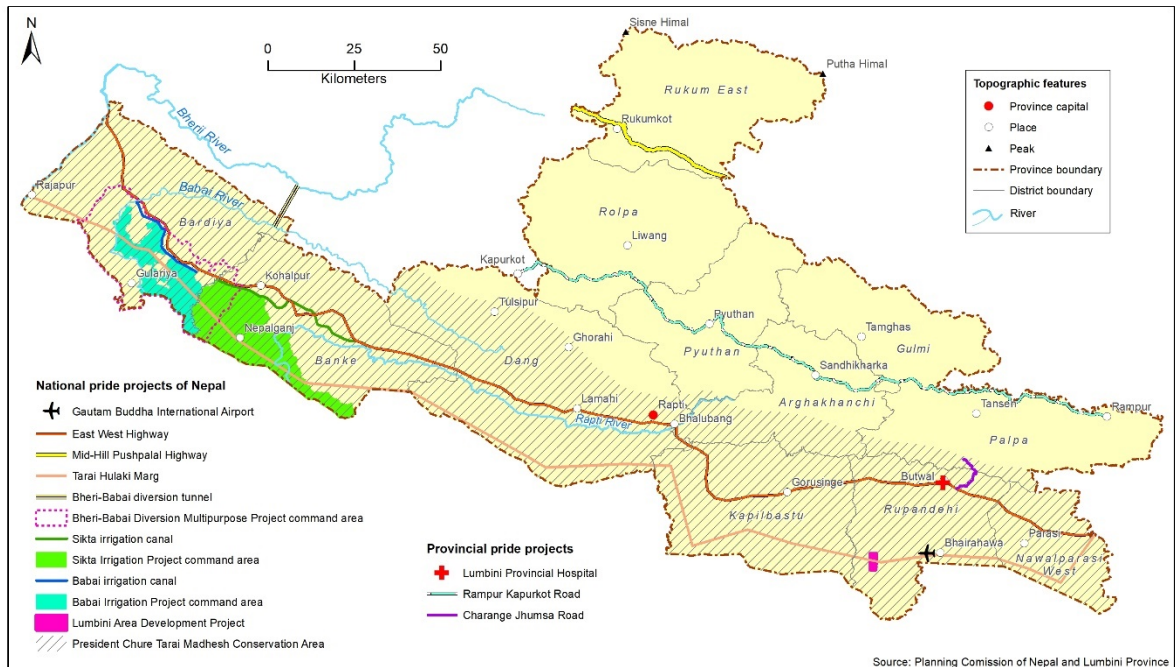
5.4.3. Energy Related Infrastructure

163. The distribution of electricity is overseen by a total of 21 Distribution Centers in Lumbini Province. The Lumbini Province Office (LPO) has a distribution loss of 8.48 percent. 14.04 percent of all sales go into the Nepal Electricity Authority (NEA) system through LPO. In the province, energy sales (MWh) are around 1,312,774 MWh, or NPR 12,448 million in

income (million). About 532,3061 households in total. In Lumbini province, 532,3061 households. Altogether 532,3061 households are linked to the electrical grid. In addition, 91 percent of houses in the Lumbini Province now have electricity, demonstrating the province's notable progress in electrification. With 457,992 customers for electricity, the province uses 370.8 million MWh of energy yearly. These initiatives support sustainable development, higher living standards, and economic expansion.

164. Hydropower power projects generate 21.2 MW of energy in Lumbini. The province, as a whole, has 4,57,992 electrical customers, consuming 370.8 million MWh of energy annually. The Distribution and Consumer Service Directorate of the NEA reports that 93 percent of consumers are domestic; in 2076–2077 (2020 AD), the province will lose 12.17 percent of its power. Gularia contributes the highest loss percentage to the distribution provincial office's overall loss, at 25.02 percent. The first privately owned grid-connected solar power plant in Nepal, the Butwal Solar PV Project, was linked to the national transmission line in October 2020. The Rupendehi District's Tilottama power station was constructed by the Ridi Hydropower Company. The project's more than 32,000 330-watt solar panels allow it to generate 8.5 MW of electricity.

Figure 21. Location of National and Provincial Pride Project



5.5. Social Infrastructures/Assets

5.5.1. Water Supply Networks

165. The Lumbini Province has made remarkable progress, with 76.7 percent of the population having access to water. Water resources are affected by a province's physical vulnerability to disasters like earthquakes and floods. Merely 25 percent of water distribution networks are functioning at full capacity. Approximately 40 percent of water distribution systems require significant repair. Disasters linked to climate change and changes in rainfall patterns result in a reduction in spring-water output.

5.5.2. Sewerage and Drainage Network

166. River floods are a constant problem throughout the province, especially during the wet season. When it comes to planning and reacting to disasters, the estimated population exposed to these floods is crucial in lowland municipalities. About 25 percent of sewage systems are operating at maximum capacity. The pathogen *Escherichia coli* contaminates over 71 percent of water sources. About 40 percent of sewage systems need significant maintenance. In Lumbini Province, efforts to enhance stormwater management and sewerage infrastructure are essential for maintaining environmental sustainability, public health, and disaster resilience.

5.5.3. Health Facilities

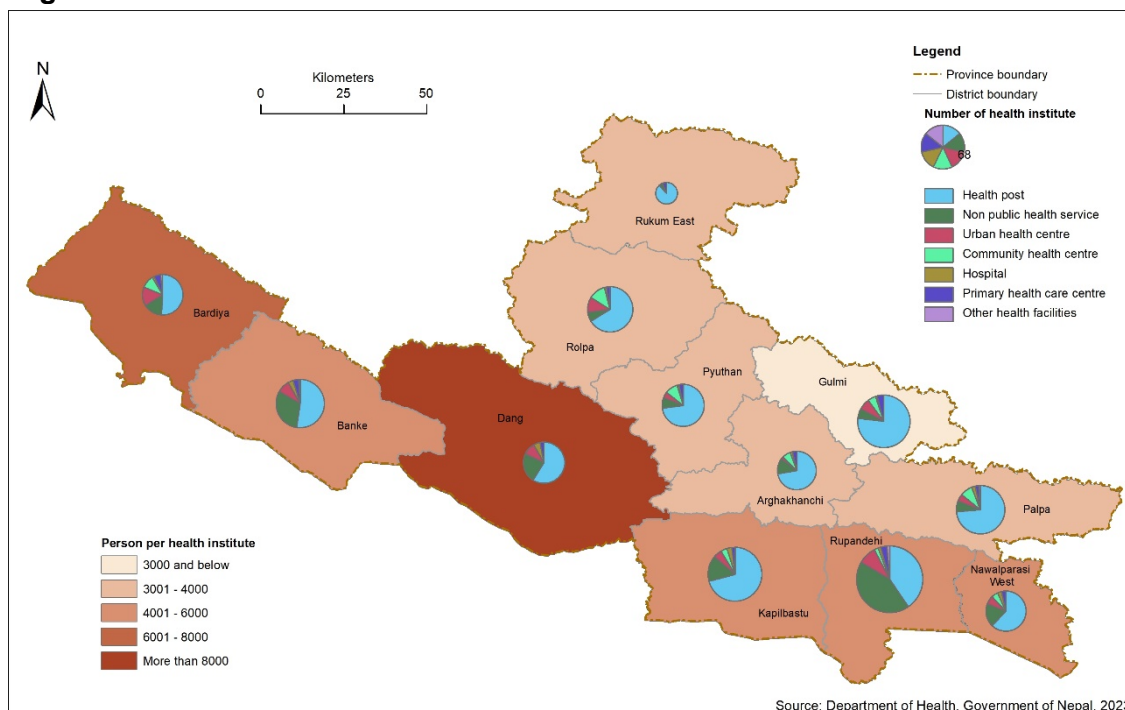
167. The province has twenty government hospitals. These hospitals are essential to the population's access to healthcare services. There are 30 primary healthcare facilities in Lumbini Province. These facilities act as vital hubs for the provision of primary healthcare and health promotion. With 570 health posts spread around the province, primary healthcare services are essential for both urban and rural populations. The Lumbini Province has 363 birthing clinics. These facilities prioritize the health of mothers and children, guaranteeing safe births and postpartum care. Together, these medical institutions help the people of the Lumbini Province live healthier lives by preventing illness and enhancing their access to healthcare.

5.5.4. Education Facilities

168. The contribution of the education sector to the GDP of the Province was 10.65 percent in the last year and is expected to be in the same range in the coming fiscal year. There are 3 universities and 185 campuses having all together 76,863 students. In addition, there are 4531 community schools and 1269 institutional schools. Further, there are 313 technical schools and 5,422 child development centers.¹² The province has 12,551 students enrolled in 5,707 schools. In the schools, 23,627 teachers are employed.
169. Lumbini Baudha University, Rapti Academy of Health Sciences, and Nepal Sanskrit University are prominent universities and academic centers. Tinau International Hospital in Butwal is one of the medical institutions. As to the National Demographic Health Survey (NDHS) of 2016, the province has a higher rate of infant mortality (42 per 1000 live births) and neonatal mortality (30 per 1000 live births) than the national average of 21 and 32, respectively. In addition to the four hub hospitals, 18 hospitals, two regional medical stores, 31 primary health care centers, 570 health posts, 27 urban health centers, 15 community health units, and 9 additional health facilities, the province is home to 670 public health institutions.

¹² Economic Survey 2023-24 , Lumbini Province

Figure 22. Health Facilities in the Lumbini Province



170. The difficulty of obtaining high-quality healthcare services is one major issue. Several rural municipalities of Rukum, Rolpa, and certain parts of Kapilbastu still lack well-trained medical professionals, and equipment in health facilities, despite the efforts to upgrade the healthcare infrastructure in the province. Targeted investments in healthcare facilities, healthcare worker training programs, and community awareness campaigns to encourage health-seeking behavior are all necessary to address this challenge.

5.6. Commercial Infrastructures/Assets/Resources

171. In Lumbini Province, there are sixty-seven industries—sixteen small-scale, seventeen large-scale, and seventeen middle-scale—run by foreign investors. The Lumbini Province is a sought-after destination that attracts foreign investment mainly from the production, service, and tourism sectors. The Lumbini Province hosts approximately 25,000 cottage and small industries, 150,000 commercial enterprises, and 882 large industries. Kasaju also mentioned the possibility of a tourism, agricultural, and forest feed industry in the province. The Lumbini Province contributes approximately 14% of the country's GDP, along with two industrial areas and a special economic zone in Bhairahawa.

172. Similar main industrial corridors exist for Bhairahawa-Lumbini, Butwal-Bhairahawa, Bhairahawa-Parasi, and Parasi-Bhumahi. Similar industrial areas are being planned for Banke's Naubasta and Rupandehi's Motipur.

5.6.1. Industries

173. The districts of Rupandehi, south-east of Kapilbastu, Dang, west of Banke, south-east of Bardiya, and Nawalparasi West have witnessed an increase in the number of brick factories, cement industries, and crusher businesses.

174. The loan interest rate naturally does not drop as the previous borrowers had anticipated as a result. The amount of loans in the Lumbini Province reached 553 billion in 2080, by increase of 2.7 percent from the previous year. This province accounts for approximately

11.4 percent of the total credit disbursement. This province is economically feasible based on the increasing loans and deposits over time.

5.6.2. Banks and Financial Institutions

175. Among the seven provinces in Nepal, the Lumbini Province comes in third position with a GDP contribution of 14.3 percent as of the last fiscal year 2022-23, and has the second fastest growth rate, after Bagmati Province. Nepalgunj and Siddharthanagar (Bhairahawa), which are located in the southern part of the province, are the country's two principal customs facilities and significant hubs for trade and transit to India. Major industrial hubs are the rapidly expanding cities in the province of Lumbini; the districts of Rupandehi, Ghorahi, and Tulsipur; Banke, Nepalgunj, and Kohalpur; and Dang, Ghorahi, and Tulsipur. Lumbini's financial hub is expanding beyond Butwal.
176. In terms of the concentration of banks and other financial institutions in Nepal, this province comes in second only to Bagmati Province. The province has launched several programs to encourage economic growth. The Gautam Buddha International Airport, the Nepalgunj Airport's conversion to an international airport in line with the 20-year master plan, the establishment of industrial units in the Special Economic Zone, and the opening of new hotels are all expected to contribute to the province's economic growth.

5.6.3. Special Economic Zone

177. The Government of Nepal (GoN) adopted the Special Economic Zone (SEZ) concept to attract foreign and domestic investors and promote the establishment of business and industrial units that will significantly strengthen the economy. The establishment of a specific commercial zone to facilitate global trade is the government's goal for the SEZ. The diversification of the export market is one significant factor that can significantly support the expansion of economic activity and, subsequently, the overall improvement of people's standard of living. Industries established within SEZ are eligible for special benefits that are intended to support their industrial productions. The focus of the government is to maintain the trade balance through export promotion and import substitution.
The infrastructure that is available within the SEZ includes a suitable industrial plot, access roads, power and water supplies, a drainage system, a wastewater treatment plant, a fuel station, a weighbridge, a recreation area, a child care center with first aid services, and a cafeteria.

5.7. Heritage Sites and Places of Natural Beauty in Lumbini Province

178. Lumbini, the site of the Lord Buddha's birth, is a highly significant UNESCO World Heritage Site. According to historical narratives, in 623 B.C., the Lord Buddha, also known as Siddhartha Gautama, was born in the holy area of Lumbini, which is located in the Terai plains of southern Nepal. Thanks to Queen Maya Devi, Siddhartha Gautama was born at the site of this temple. Its brick architecture dates back to the third millennium BC. In Lumbini, Emperor Ashoka had a memorial pillar constructed circa 249 BC. Lumbini's status as the birthplace of the Lord Buddha is confirmed by the inscription on the pillar written in Brahmi script. Besides, there are beautiful places for visitors in the Lumbini province.

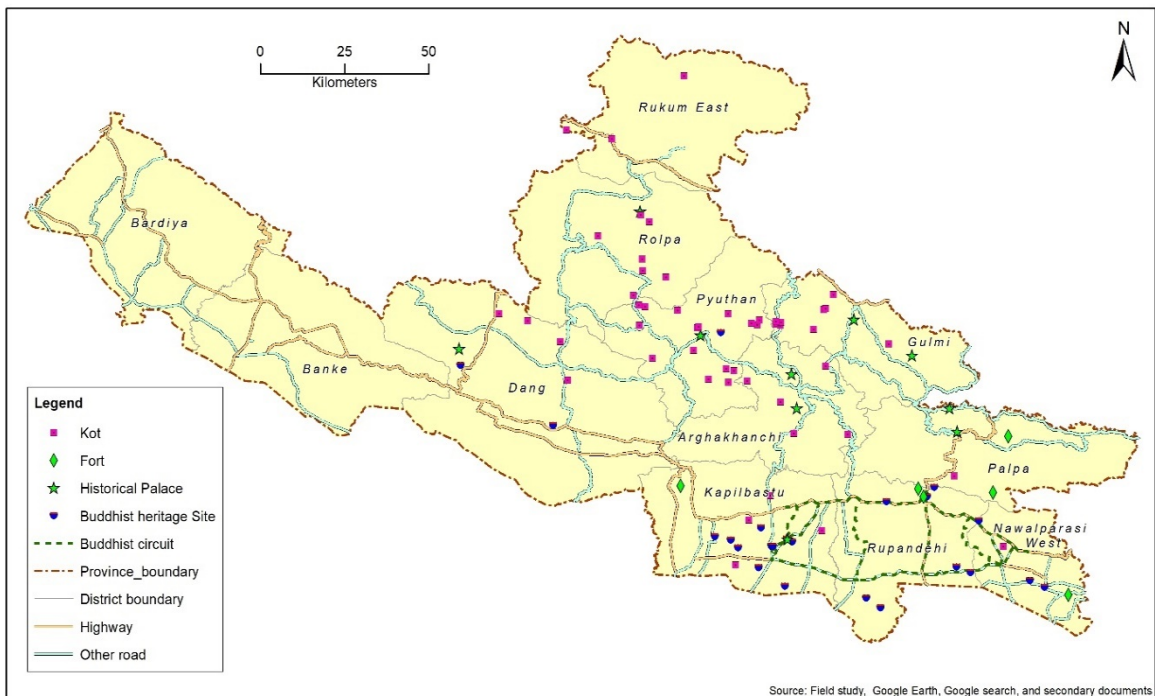
5.7.1. Heritage Sites

179. Lumbini: The Buddhist pilgrimage site Lumbini is located in Rupandehi District, Lumbini Province, Nepal. It is where, according to Buddhist legend, Queen Maya gave birth to

Siddhartha Gautama in about 566 BC. According to Buddhist legend, Gautama became Shakyamuni Buddha and established Buddhism after reaching enlightenment somewhere about 528 BC. One of the many pilgrimage hotspots that arose in locations significant to the Buddha's life is Lumbini. Lumbini's Mayadevi Temple is the birthplace of Gautam Buddha. Several new temples supported by international Buddhist organizations may be seen in Lumbini in addition to some older temples, such as the Mayadevi Temple. Lumbini was declared a World Heritage Site by UNESCO in 1997.

180. Devdaha: According to Buddhist tradition, Queen Maya Devi of Kapilavastu was en route to give birth to her child at her father's Koliya kingdom in Devdaha, in line with Shakya custom. Still, she stopped along the way in Lumbini Garden for a break, gave birth under a sal tree, and went into delivery. As per the inscription on the pillar, which was erected by the Mauryan Emperor Ashoka in 249 BC, marking the birthplace of Buddha Shakyamuni, Gautama Buddha was born at Lumbini in 623 BC. "King Devanampriya Priyadarsin came himself and worshipped (this spot) after having been anointed for twenty years," states the inscription, as interpreted by Paranavitana, because the Buddha Shakyamuni was born here. To mark the Blessed One's birthplace, King Ashoka sculpted a stone figure of a horse and built a stone pillar. He made sure that the settlement of Lumbini was tax-free by giving an eighth of the agricultural products. The location of Gautama Buddha's birth is shown by Maya Devi, who is seen holding a sal tree branch. According to Buddhist tradition, Gautama Buddha was born as a prince into a Shakya clan that controlled the kingdom of Kapilavastu where ruins of the old, fortified city have been excavated.

Figure 23. Heritage Resource in the Lumbini Province



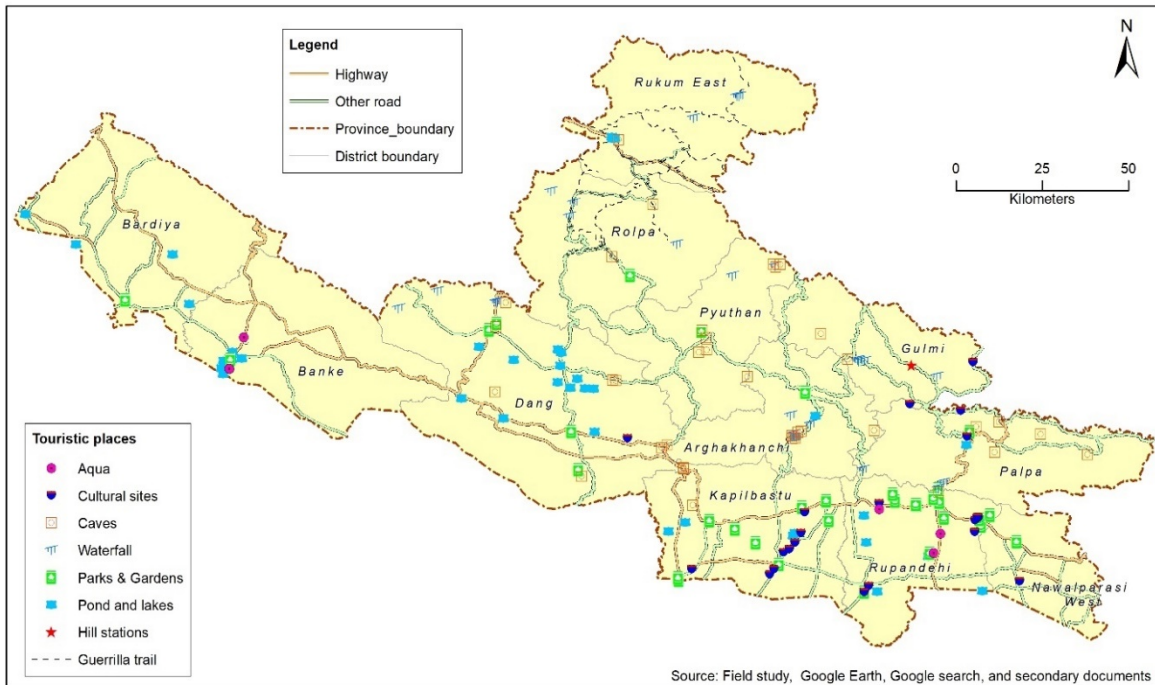
181. Jitgadi Fort: When the Nepalese army defeated the British East India Company in 1815 AD, they used the Jit Gadhi Fort to fight off the English forces. Over them, Colonel Ujir Singh Thapa triumphed. After the Kingdom of Nepal refused the British East India Company's desire to assert its control over the districts of Butwal and Sheoraj, General John Sullivan Wood led an attack column to the Jit Gadhi fort in January 1815 AD. Situated

on the west bank of the river Tinau on the major route to Tansen, the frontier fort was surrounded by dense forest and commanded by Colonel Ujir Singh Thapa, the nephew of the prime minister of Nepal, Mukhtiyar Bhimsen Thapa. Colonel Ujir Singh Thapa valiantly defended Nepal twice, in January and April 1815, against the British invasion, despite having a small force and inadequate weaponry. Following the forced retreat of the English soldiers, Colonel Thapa was recognized as a national military hero.

5.7.2. Key Tourist Sites and Tourism

182. Palpa's Rani Mahal is renowned for both its natural beauty and its medieval palace. Bardiya's Thakur Baba Mandir is a spiritual location that the locals adore. Pyuthan's Sworgadwari Temple is a prominent Hindu temple. Another place of spirituality is Bageshwori Temple. Furthermore, the Lumbini Province provides rural experiences like the magnificent Sisne Himal in Rukum and the Dalla Homestay in Bardiya. There are several sites to be explored by visitors such as Jaljala (Rolpa). Supa deurali (Arghakhachi), Siddhababa (Palpa), Bhairabsthan Temple (Palpa), Manimukundasen Park (Butwal) and Narainapur (Banke).

Figure 24. Touristic Places in the Lumbini Province

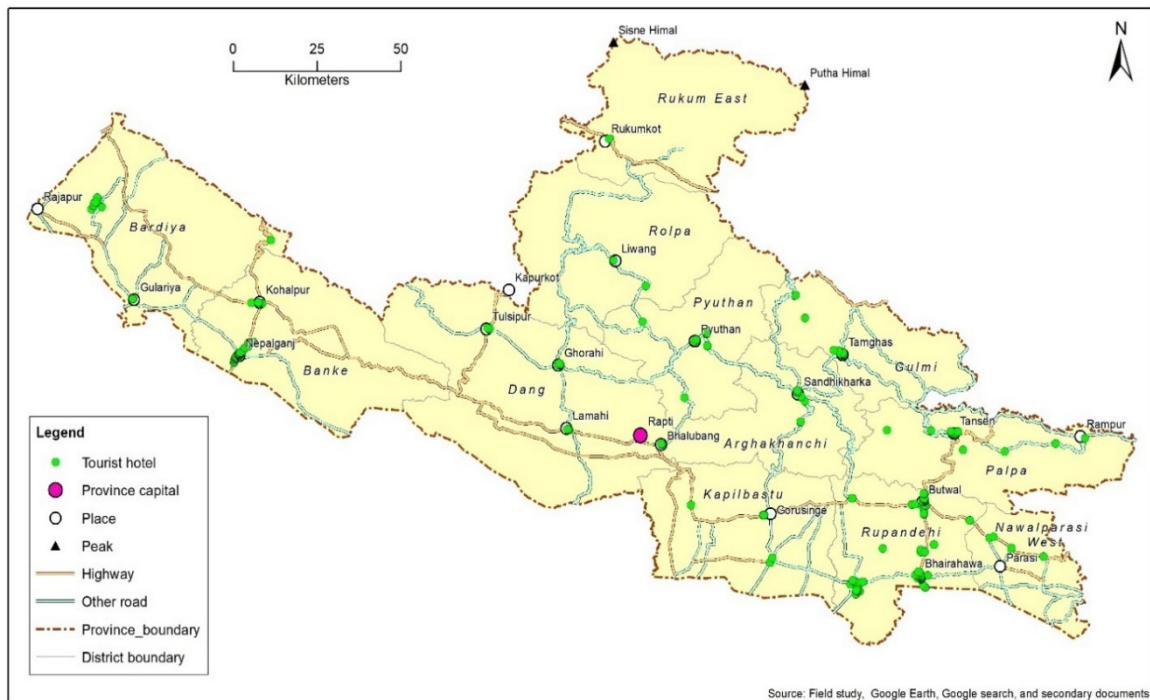


5.7.3. Expansion of Hospitality Infrastructures

183. It has been noted that the hospitality industry in the Lumbini Province is thriving. Over the past ten years, the hospitality industry in the Lumbini Province, which is nestled away in southern Nepal, has grown remarkably. As the birthplace of Lord Buddha, this area has gained historical and cultural significance and is becoming a more well-liked travel destination for both domestic and foreign travelers. Over the past few years, In 2022, tourists from 96 countries visited Gautam Buddha's birthplace; by July 2023, visitors from 67 countries had visited the ancient city. There were 23,942 visitors from third countries to Lumbini overall, as opposed to 3,975 during the same period last year.

184. The infrastructure of hotels is gradually expanding to meet the rising demand. The hotel industry has seen tremendous developments as a result of the increase in visitor arrivals. In Lumbini Province, the number of tourist-class hotels increased by an astounding 54.30 percent between 2012–13 and 2019–20, while the number of star hotels increased by 29 percent during the same period. These places serve a wide spectrum of visitors, from adventure seekers visiting neighboring national parks and wildlife reserves to pilgrims seeking spiritual comfort. The province is a promising hub for additional investment and growth in the hospitality sector because of its distinctive blend of natural beauty, spiritual significance, and cultural heritage. These factors continue to draw tourists to the region. The Lumbini Province is well-positioned to provide friendly hospitality and eco-friendly tourism practices as it adopts these practices.

Figure 25. Expansion of Tourist Class Hotels in the Lumbini Province

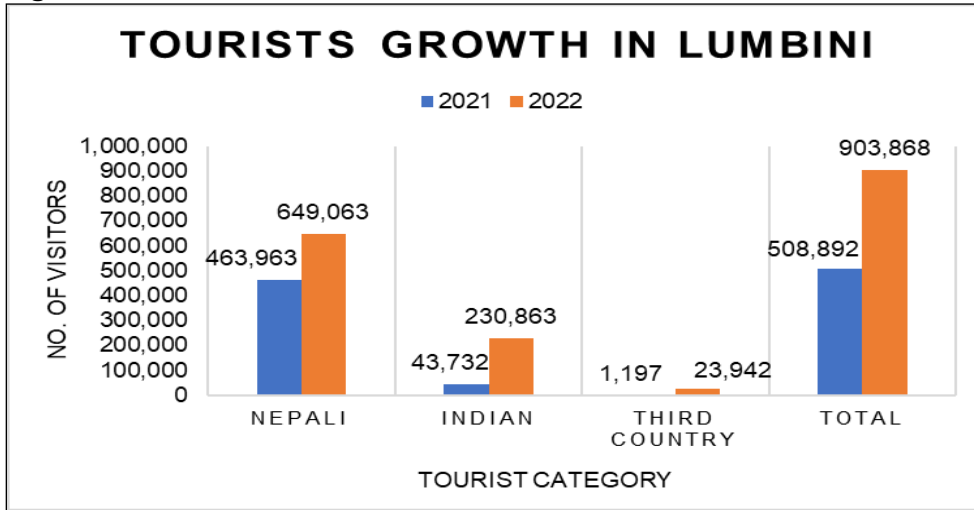


5.7.4. Tourism Products: Potential Resource Value

185. The Bardiya National Park generates the total revenue from tourism products (almost 85%), with the Dhorpatan Hunting Reserve (belonging to the Lumbini Province) coming to rest at 14.37 percent. According to this, these two protected areas—aside from Lumbini Conservation Area—receive nearly all of the province's income. This province has huge potential for tourism because of its distinctive topography, ample natural resources, and abundance of historical, archaeological, and religious sites. These resources include high mountains, an alpine region, lakes, waterfalls, and hot springs. An estimated 4000 tourists could potentially visit those areas, excluding those visiting Lumbini heritage sites. Every year, they are expected to spend 18 million rupees.

186. The number of visitors is steadily rising annually. A total of 903,868 visitors, of which 649,063 Nepalese, 230,863 Indians, and 23,942 other foreign nationals visited Lumbini in 2022. The sacred birthplace of Lord Buddha, Lumbini, which is also a World Heritage Site, saw a rise in tourists of more than 77 percent in 2022 compared to the previous year.

Figure 26. Tourism Growth in the Lumbini Province



Source: Visitors' Information Centre, LDT, 2023

187. The revenue potential from the tourism sector is NPR 2,490.37 million in FY 2022/23. However, the total revenue from tourism was only about NPR 71.83 million. In the medium term, the tourism business sector has a high potential to mobilize more than NPR 14,809.51 million annually.
188. The average stay of tourists in the province is about 1.88 days. This is far below the national average stay of 13.1 days (2022). If Lumbini's local and provincial governments promote other noteworthy tourist destinations and attractive packages the average number of stays could be increased to the national average. Within the Greater Lumbini Area, 235 heritage sites have undergone GIS mapping, highlighting the necessity of working with site managers and local authorities. Lumbini province's economy could benefit greatly from its tourism potential and historical significance by enhancing the potential of Lumbini heritage sites. The monetary value of some of the tourist sites is given in the following table.

Table 40: Tourism Products: Potential Resource Value

Resource	No. of Tourists	Govt. Revenue (NPR in Millions)	Revenue Mobilized by Businesses and Community (NPR in Millions)	Remarks
Bardiya National Park	3395	45.00	N/A	
Dhorpatan Hunting Reserve	4334	7.65	N/A	Because The Lumbini Provinces hares 43.69% of the total area of the Dhorpatan Hunting Reserve, 43.69% of the total revenue collection of 1,75,00,000 was collected (NTS, 2022).

Resource	No. of Tourists	Govt. Revenue (NPR in Millions)	Revenue Mobilized by Businesses and Community (NPR in Millions)	Remarks
Putha Himalchuli (50% share with Gandaki province of the total Nrs 9,83,750)	18	0.49	N/A	Because Putha Himal is situated at the border of the provinces of Gandaki and Lumbini, Gandaki will receive 50% of the total amount of Rs. 9,83,750 (NTS, 2022).
Banke National Park	3395	0.07	N/A	Nepal Tourism Statistics 2022 (NTS 2022)
Lumbini (Foreign Tourists)	254,805	N/A	2,125.33	Nepal Tourism Statistics 2022 (NTS 2022)
Lumbini (Nepali Tourists)	649,063	N/A	324.53	The average Nepali visitor spends NPR 1500 per day.
The potential tourists outside protected areas	4000	18.63	40.51	Based on potential touristic places and per-tourist expenses in 2021/22 in Nepal (NTS, 2022)
Total		71.83	2,490.37	
The potential of resource mobilization in the Tourism of Lumbini annually.			14,809.51	Assumption: Several other tourist places are linked with the tourists coming to Lumbini and the average stay reached the national average (13.1) for Lumbini.

Box IV: Exploring the Hidden Treasures to Promote Tourism in Lumbini Province

Tourism Development in Lumbini and Beyond: Case Study III

One of the most important Buddhist sites in the world, Lumbini is considered holy by about 500 million Buddhists worldwide. The government uses the site to attract more tourists, gain over foreign allies, and reinforce a sense of national pride. Lumbini's tourism development can be further enhanced by promoting the feeling of shared responsibility and facilitating dialogue among stakeholders.

Renowned sites such as the Buddha's birthplace, Lumbini, Tilaurakot, Dhorpatan, Bardia National Park, Swargadwari Temple, Bageshwori Temple, and Rani Mahal are worth visiting. A solid operating plan has not yet been developed despite the several operating challenges seen after the completion of the construction of an international airport. Approximately 18,715 businesses in the province serve visitors. Mythology about Jagdishpur Lake describes the Shakya dynasty and the mass murder of Buddha's pupils, or Baudhamargis, by invading forces. Joining Swargadwari (of Pyuthan) to Supa Deurali (Arghakhanchi) and adding the Ruru Area (Palpa, a confluence of Palpa and Gulmi, and Triveni Dham of Gulmi) to this holy circle will make a Buddhist circuit that encircles the whole region. It quickly enhances travel, both locally and abroad.

Locations such as Bageshwari Mandir, Kotahi Devi Temple, Parvatiya (Shiva Parvati) Temple, etc. could be the other religious tourism. One of the unique rituals of Parvatiya Temple is the offering of "Janto," a traditional grinding stone. Similarly, Khannababa Temple is located nearby. The temple of Baijuraj Radha is not to be overlooked. Local people call it "Radhapyari" in the local language. There is an abundant potential for homestays. The neighborhood anticipates assistance in the form of instruction and other related services. Though a well-liked pilgrimage site, the Thakurbaba temple is awaiting renovations.

A famous lake that reaches twelve Bigha is currently being built. "Janto," a traditional grinding stone, is a special ritual of Parvatiya Temple. Not to be forgotten is the Baijuraj Radha temple. "Radhapyari" is the local term for it. The potential for homestays is enormous in Tharu and Magar villages is immense. The local community expects support in the form of training and other things in this respect. From an environmental and financial standpoint, it is critical to safeguard Badhaiya and Bhadgaiya lakes. To safeguard the villagers' land, embankments will be built in the Auraha and Ambasa rivers.

The welcoming residents and fascinating opportunities for exploring cultural diversity make Lumbini a unique location. The locations of Lumbini are the meeting point of outstanding historical, cultural, and natural beauty. It is well known for its serene surroundings and lovely landscape which represent peace. The sacred birthplace of Lord Buddha is Lumbini. The palace Rani Mahal in Palpa is important both historically and architecturally. Rukum's scenic grandeur makes it possible to explore Sisne Himal even further.

5.8. Economic Corridors and Market Centers

189. The Silk Road Corridor between Lumbini-Lomangthang and Upper Mustang extends geographically to include Lumbini-Kapilvastu. It covers a range of cultural events as well as historical, political, and religious happenings in the area. Fostering long-lasting connections for rural business owners is the corridor's goal. Nepal's GDP (gross domestic product) is boosted by 14 percent in Lumbini Province. Bhairahawa is noteworthy for having two industrial sectors and being regarded as a special economic zone. The province's principal industrial routes are Butwal-Bhairahawa, Bhairahawa-Parasi, Parasi-Bhumahi, and Bhairahawa-Lumbini.
190. Furthermore, Motipur (Rupandehi) and Naubasta (Banke) have planned industrial zones. Improving commerce, communication, and economic development in the area are all made possible by these economic corridors.

Figure 27. Economic Corridors and Market Centers in the Lumbini Province



5.8.1. List of Provincial Economic Projects (Strategic)

191. Gautam Buddha International Airport, Sikta Irrigation Project, Babai Irrigation Project, Rani Jamara Kulariya Irrigation Project, and Bheri Babai Diversion Multipurpose Project, are among the national pride projects located in Lumbini province.
192. UNESCO project: Enhancing Lumbini, the site of Lord Buddha's birth, through conservation and management. Because of Lumbini's exceptional worldwide worth, the birthplace of Lord Buddha is listed on the UNESCO World Heritage List. The project's objectives are to improve the management and conservation of the Lumbini World Heritage site and create plans to conserve Tilaurakot-Kapilvastu and the Greater Lumbini Area. Goal 11.4 of the Sustainable Development Agenda (SDG) addresses the preservation of cultural assets, and this project helps to achieve it. With funding from the Japanese government, UNESCO works with the Lumbini Development Trust and the

Department of Archaeology in Nepal. Creating archaeological risk maps and management plans, uncovering buildings from the 6th century BCE, and preserving iconic monuments are only a few of the noteworthy accomplishments.

193. Kenzo Tange Master Plan Implementation: Lumbini Development Trust (LDT) was given the task of carrying out the Kenzo Tange Master Plan by the Government of Nepal. Even after 42 years of development, the Lumbini Master Plan is still unfinished. Construction of the Lumbini Culture Center, an auditorium, parking lots, walkways, staff housing, a blacktopped road, and other projects are noteworthy. With the help of these initiatives, Lumbini's rich spiritual and cultural legacy will be preserved for Buddhist communities throughout the globe in addition to Nepal.

5.8.2. National and Provincial Pride Projects in Lumbini

194. The National Pride Projects (NPPs), in the Lumbini provinces to improve infrastructure, connectivity, and regional prosperity, are an important part of Nepal's development landscape and have a big impact at the province level. Under the framework of the 42-year-old Lumbini Master Plan, development sub-projects are still going on in the Lumbini Area Development Project. This project has huge positive socioeconomic impacts at the provincial and national levels. The goal of the Gautam Buddha Regional International Airport project is to boost travel and connectivity. However, delays in its completion have been brought about by issues with land acquisition and technical matters.
195. Situated in Surkhet District, Karnali Province, the Bheri Babai Diversion Multipurpose Project (BBDMP) is important to Nepal's development. As the first inter-basin water transfer project, it is intended to irrigate 51,000 hectares of land in the Banke and Bardiya districts year-round. The project aims to address food scarcity and increase agricultural productivity by incorporating irrigation and hydropower generation components. Notably, a 12.2-kilometer tunnel will be built as part of the project using Tunnel Boring Machine (TBM) technology. Currently, 62 percent of the work has been completed; the goal is to have it finished by FY 2079/80.
196. An enormously important project for the province is the Babai Irrigation Canal, a National Pride Project. This ambitious 35-year-old project intends to use water diverted from the Babai River to irrigate 36,000 hectares of land. However, a lack of funding has brought up new difficulties. The project's development is still slow even with a revised completion date of fiscal year 2025/2026. This fiscal year, the government only allocated NPR 630 million, which has an impact on the construction of the canal. The project has already spent Rs 13.14 billion and has made 72.22 percent of its physical progress to date. Timeliness for completion will be impacted because the remaining funds will mainly pay for fuel and worker salaries.
197. The largest irrigation project in the nation, the Sikta Irrigation Project is located in Banke District, Lumbini Province, Nepal, and has great significance. Its main goal is to irrigate about 43,000 hectares of land in Banke, which will help the local farmers and increase the productivity of agriculture. The project entails building a 53-kilometer eastern canal that is presently being built and a 45-kilometer western main canal that has already been completed. Notwithstanding the project's strategic significance, delays and financing issues have arisen. Currently, 67 percent of the project is completed, and work is being done to reach its full potential¹³. The project is completed 67 percent in 15 years. The total revised cost is NPR 25 billion. At present, both the eastern and western parts of the canal can irrigate 3200 hectares of land.
198. Despite the time and cost overruns, the aforementioned national projects will significantly boost the province's economic growth. Even strategically significant projects that are

¹³ [Sikta Irrigation Project: 67 Percent Complete In 15 Years | Investopaper](#)

finished, like Gautam Buddha International Airport, lack a strategic and operational business plan.

5.8.3. Key Infrastructure Assets: Potential Resource Value

199. Anything with value that the province can use to make money or build wealth is considered an asset. Assets can also be tangible or intangible. Intangible assets include things like heritage value, whereas tangible assets may include assets like roads and irrigation systems. In this study, the project cost is taken as a proxy for the valuation of the assets.

Table 41: National Pride Projects in the Lumbini Province

Asset Type	Investment (NPR)	Remarks
Sikta Irrigation Project	25.2 Billion	
Babai Irrigation Project	18 Billion	
Bheri-Babai Diversion Multipurpose Project (including Karnali Province)	33 Billion	
Gautam Buddha International Airport	6 Billion	
Lumbini Development Trust	7.5 Billion	
Electricity Transmission Project (including Bagmati Province)	61 Billion	
North-South (Karnali) Highway (including Karnali Province)	4.1 Billion	

Source: NPC, GoN

**Box V: National Pride Irrigation Projects in Lumbini Province: Prospects
National Pride Irrigation Projects in Lumbini Province: Prospects -Case Study IV
Sikta Irrigation Project:**

While the original goal of this project was to be finished in FY 2014–15, the completion date has been moved to FY 2021/22. As of FY 2021/22, 69% of the physical progress has been made. By mid-March of this fiscal year, water flow had been restored to 4 km of the problematic section of the west main canal of this project under emergency maintenance. Of the 37 km that make up the east main canal, 10 km have been completed with soil work, 5 km have been lined, and 16 structures have been constructed. Six branch canals are currently being built. The purpose of this project is to supply irrigation services over 42,766 hectares.

Despite publishing the tenders for the electromechanical work, the contract for the hydromechanical work has been signed and the work has begun. This project has made 56% physical progress as of mid-March 2022.

Bheri-Babai Diversion Multi-Purpose Project:

The project intends to generate 46.8 megawatts of hydropower and supply irrigation water to roughly 51,000 hectares of land in the Banke and Bardia districts by the end of the 2022–2023 fiscal year. By mid-July 2021, construction on this project was 48% complete. Plum concreting, R.C.C. slope work, foundation excavation for the DS Stilling Basin (D/S Stilling Basin), and foundation digging for the settling basin are all included in this project as of mid-March of FY 2021/22. Slope stabilization, foundation excavation, and drain diversion are ongoing tasks at the powerhouse construction site.

Babai Irrigation Project:

This project is expected to be finished in FY 2025–2026. The project's headwork has been finished. Both canals, the 79.9 km main canal, and the 222.08 km branch/sub-branch canal are completed. As of 2020–2021, about 56.38 percent of the physical progress was accomplished.

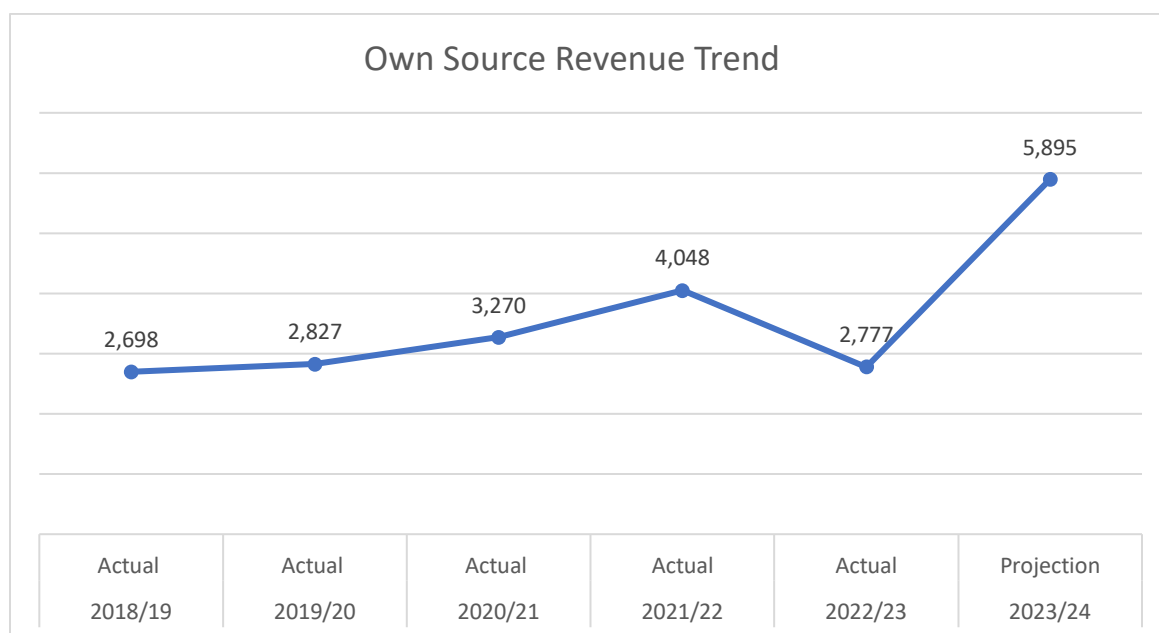
These irrigation projects not only boost agricultural yield but also promote growth in the economy, empower communities, and advance Province's development as a whole. They create the foundation for a resilient and prosperous The Lumbini Province by efficiently using the available water resources.

5.9. Financial Resources : Status of Lumbini Province

5.9.1. Own Source Revenue (OSR)

200. Nepal transitioned to a federal system after adopting the 2015 Constitution, necessitating the devolution of political, administrative, and financial power to the local levels (local government). The fully mandated sub-national governments-provincial and local levels is a relatively recent development, it took time and effort to establish a revenue administration system that functions.
201. All three tiers of government have different funding sources assigned to them by the Constitution. Schedule 6 lists the exclusive revenue streams for the provinces, and Schedule 8 outlines the exclusive revenue streams for local governments. Despite these exclusive lists, some revenue streams overlap, such as entertainment taxes, car taxes, advertising taxes, and home and property registration fees.
202. The province of Lumbini provides plenty of opportunities to generate revenue. Provisions in the Province's annual Fiscal Act and the Intergovernmental Fiscal Arrangement Act, 2017 permit it to levy fees, charges, and direct and indirect taxes for the different services. Provinces have fewer rights than local levels or local governments. The own-source revenue (OSR) for the Lumbini Province increased to NPR 2,698 million in fiscal year 2018/19 and NPR 2827 million in fiscal year 2019-20, as shown in the following figure. The sum had grown to NPR 2,777 million by the fiscal year 2022–2023. It is projected to generate NPR 5,895 million in revenue for NPR in fiscal year 2023–2024. However, Lumbini Province has been able to collect about NRS. 3,063.42 million¹⁴ within the eight month of this fiscal year. There is potentiality in property tax, vehicle tax and natural resources which is reflected in the projection chapter. The projection of potential OSR is given in table 46.

Figure 28. OSR Growth Trend of Last Five Years

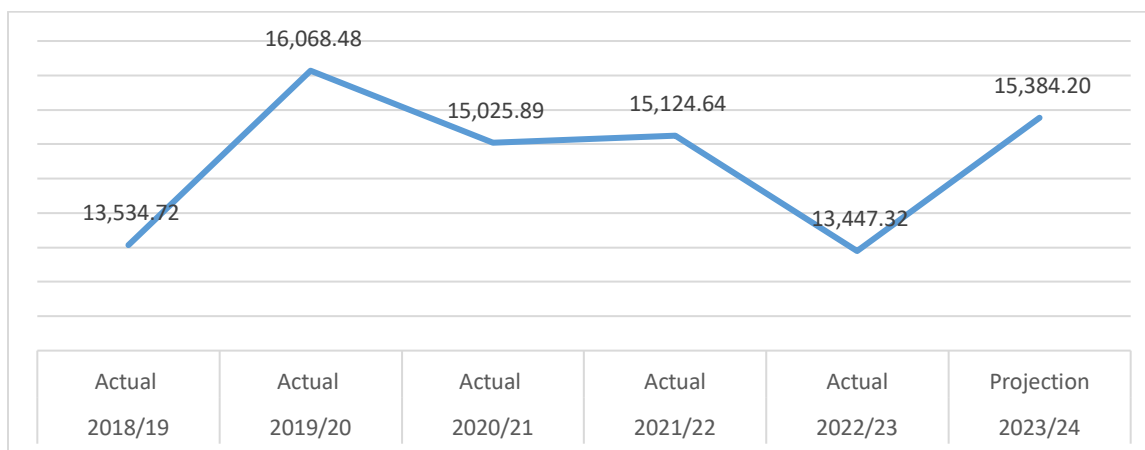


¹⁴ Economic Survey of fiscal year 2023-24, Ministry of Finance, Lumbini Province

5.9.2. Intergovernmental Fiscal Transfer (IGFT)

203. The intergovernmental fiscal transfer (IGFT) has emerged as the main source of funding for subnational governments due to the limited OSR. The National Natural Resources and Fiscal Commission's (NNRFC) recommendation and the federal government's discretionary funding determine the IGFT they are granted. The subnational governments receive four types of grants from the federal government: equalization, conditional, special, and complementary. Based on the NNFRC's recommendation, the Province of Lumbini received NPR 13,534.7 million from the federal government in the 2018-19 fiscal year. The amount increased for the fiscal year 2023-2024. This assessment shows that the OSR has contributed only 11.46 percent in total provincial revenue in the fiscal year 2021/22. Hence, the provincial government need to focus more on the OSR mobilization strategies in coming years.

Figure 29. IGFT Trend of Last Five Years



5.9.3. Total Revenue

204. Among the different sources of revenue, a certain portion comes from the exercise of exclusive rights and the rest come from the the exercise of concurrent rights. According to the Constitution, the federal government's revenue should be allocated to the other subnational governments. Likewise, local governments have to share the revenue with the province. Value Added Tax (VAT); Excise Duty (having a 70/15/15 sharing ratio); and Royalty (having a 50/25/25 sharing ratio) are the three main federal revenue-sharing sources. In addition, the province will share the revenue in the ratio of 60:40.

205. In fiscal year 2018/19, the Lumbini Province mobilized NPR 24,558.79 million in OSR, IGFT, revenue sharing, domestic borrowing, and unspent amount; this amount was transferred to NPR 32,763.11 million in fiscal year 2022-2023. In fiscal year 2023-2024, it aims to mobilize NPR 40,479.70 million and it is revised to NPR 33,605 million now. With the prior consent of the federal government, provincial governments (PGs) are authorized to borrow money. Consequently, for the fiscal year 2023-2024, the Lumbini Province also proposed to mobilize NPR 1,250 million in domestic borrowing.

Table 42: Total Revenue of The Lumbini Province in the Last Five Years
Amount in Rs. 000

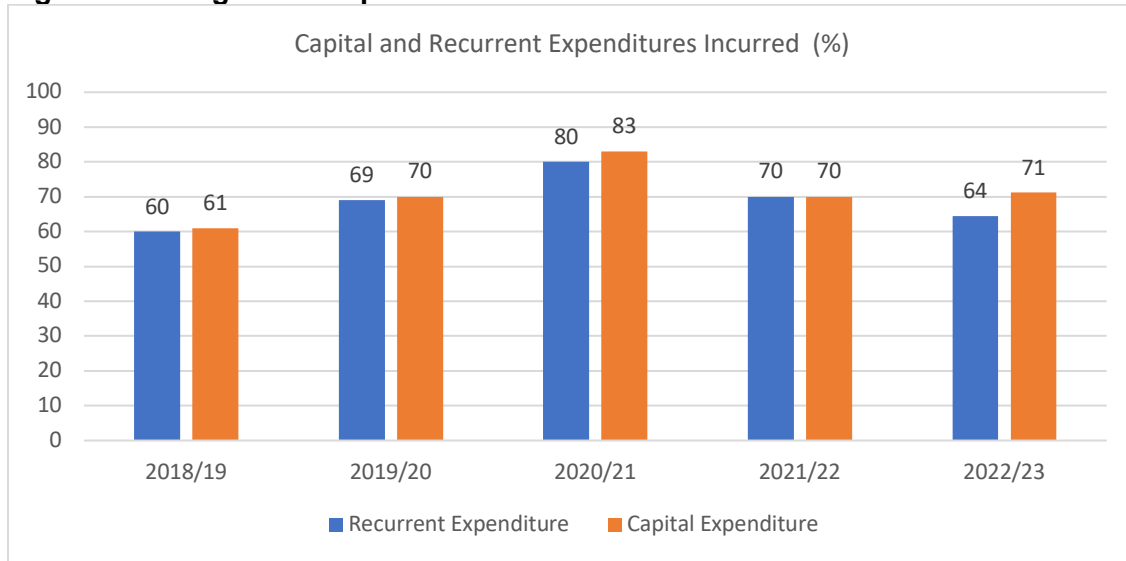
SN	Particulars	Fiscal Year						Remarks
		2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	
		Actual	Actual	Actual	Actual	Actual	Projection	
1	Own Source Revenue	2,697,971	2,826,957	3,270,029	4,047,937	2,777,025	5,895,100	
1.1	Direct and Indirect Tax Revenue	2,697,971	2,826,957	3,270,029	4,047,937	2,777,025	5,895,100	
2	Fiscal Transfer							
2.1	Federal Government	13,534,723	16,068,478	15,025,885	15,124,635	13,447,322	15,384,200	
2.1.1	Equalization Grant	6,869,700	7,540,100	7,637,100	8,025,700	7,473,988	8,148,300	
2.1.2	Conditional Grant	6,613,257	8,184,861	7,038,777	6,385,049	5,353,463	5,835,900	
2.1.3	Matching Grant	51,766	153,187	319,204	331,097	380,833	560,000	
2.1.4	Special Grant	-	190,330	30,804	382,789	239,038	840,000	
3	Revenue Sharing	7,185,967	6,675,417	8,587,286	9,958,400	10,437,131	13,820,400	
3.1	Revenue Sharing (From Federal GoN)	7,018,536	6,502,887	8,396,290	9,705,536	9,085,539	11,317,400	
3.2	Revenue Sharing (From Local GoN)	167,431	172,530	190,996.00	252,864	1,351,591	2,503,000	
4	Royalty (Federal GoN)	250,983	298,407	-	554,466	-	290,000	
5	Miscellaneous	59,308	393,888	1,282,284	1,191,146	836,552	840,000	
5.1	Irregular	51,874	51,867	52,773	56,665	261,352	190,000	
5.2	Budget Release Return	7,434	33,153	221,321	264,347	104,348	250,000	
5.3	Grant Return	-	308,868	1,008,190	870,134	470,852	400,000	
6	Domestic Borrowing	-	-	-	-	-	1,250,000	
7	Last Year Saving	829,842	7,524,669	8,380,744	4,443,186	5,265,087	3,000,000	
	Total (1+2.1+3+4+5+6)	24,558,794	33,787,816	36,546,228	35,319,770	32,763,117	40,479,700	

Source: Annual Program and Budget of Lumbini Province, various years.

5.9.4. Total Budget and Expenditure

206. The recurrent and capital expenditures are falling short of the target. In the earlier years the average expenditure ranged from 60 to 70 percent in the fiscal year 2020-21 the trend increased to 80 percent. In recent years the realization of expenditure is in the range of 70 percent. The expenditure trend shows that both capital and recurrent expenditure are moving upward in tandem. The conventional wisdom suggests that in an ideal situation, the ratio of capital to recurrent expenditure should be in the range of 60 to 40 percent. From this perspective the public expenditure of the Provincial Government is inefficient. There is possibility to save the recurrent expenditure by use of ICT in all ministries, hiring mostly the technical staff in the coming years instead of admin staff. This will reduce the volume of recurrent expense annually and generate additional money for capital fund. The following table shows the recurrent and capital expenditure realization.

Figure 30. Budget and Expenditure Scenario of the Last Five Years



Source: Economic Survey FY 2022/23, MoF, Lumbini Province

207. The Lumbini Province has been following the practice of preparing annual programs and budgeting in consultation with line ministries by the Provincial Planning Commission. However, it now appears that the allocations are yet to be made fully consistent with the provincial priority and programs stipulated in the parodic plan.
208. Capital investments are crucial for the expansion and development of the economy. The following table illustrates the distribution of capital expenditure across various sectors. The largest allocation sector for the fiscal year 2022-2023 is NPR 14.27 billion for public works-the infrastructure spending. Building and structures come in second with NPR 2.52 billion, and capital improvement costs come in third with NPR 1.36 billion. The share of the public works sector was anticipated to receive the largest allocation (NPR 18.42 billion) of the NPR 23.25 billion total projected expenditure in the fiscal year 2023-2024. It is revised NPR. 17.99 billion now.

Table 43: Capital Expenditure by Sectors

Amount in NPR 000'

Capital Expenditure	Fiscal Year					
	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	Actual	Actual	Actual	Actual	Actual	Projection
Building and Structures	918,893	867,367	834,569	1,415,787	2,532,782	2,064,740
Vehicle and Machinery Tools	836,348	606,675	809,647	1,180,445	387,894	613,069
Other Capital Expenditure	677,228	699,705	268,998	266,060	189,977	181,510
Safety Equipment	-	999	-	4,966	-	-
Public Works	6,730,716	11,482,787	15,661,723	12,807,309	14,278,704	18,423,840
Improvement expenses of Built structure	825,136	125,328	121,886	113,051	145,905	161,825
Capital Improvement Expenses	181,796	931,035	807,407	1,620,191	1,361,816	1,555,917
Natural assets (Non-Produced assets)	2,708	7,417	-	-	7,000	5,000
Miscellanies capital expenses	-	-	-	-	207,669	250,000
Total Expenses	10,172,825	14,721,313	18,504,230	17,407,809	19,111,747	23,255,901

Source: Economic Survey of MoF, The Lumbini Province FY 2023/24

5.9.5. Efficiency of Expenditure

209. The number of ministries has fluctuated over the years. Initially, there were seven ministries, including OCMCM. However, the number of ministries increased to ten in the fiscal year 2020-2021, thirteen in the fiscal year 2021-2022, and ten in the fiscal year 2023-2024. The erratic change in the number of ministries year after year has marred the performance and, at the same time increased the recurrent expenditure limitlessly. If a ministry is added, average recurrent cost will increase by NPR 59.82 million¹⁵ for a year, which could be invested in productive sectors. There were overlaps and gaps in the business allocations of sectoral ministries with such frequent changes in structure and mandate also. The above changes have impacted planning, budgeting, and implementation of the province.

Table 44: Ministry-wise Expenditure Breakdown

Amount in NPR 000'

SN	Name of Ministry	Budget			Expenditure		
		Capital	Recurrent	Total	Capital	Recurrent	Total
1	Office of Chief Minister and Council of Ministers	66,750.00	914,445.00	981,195.00	595,719.52	75,938.83	671,658.35
2	Ministry of Finance	9,330.00	99,297.00	108,627.00	2,597.00	59,827.00	62,424.00
3	Ministry of Physical Infrastructure Development	13,220,472.00	521,136.00	13,741,608.00	10,115,085.58	331,482.93	10,446,568.51
4	Ministry of Home	407,215.00	222,996.00	630,211.00	135,945.32	266,827.53	402,772.85
5	Ministry of Health	1,500,860.00	3,080,799.00	4,581,659.00	409,319.17	2,584,047.78	2,993,366.95
6	Ministry of Forest and Environment	1,115,129.00	905,571.00	2,020,700.00	76,755.19	768,771.45	845,526.64
7	Ministry of Industry, Tourism and Transportation Management	1,988,899.00	10,200,778.00	12,189,677.00	1464101.34	8322623.42	9,786,724.76
8	Ministry of Drinking water, Rural and Urban Development	5,178,294.93	265,365.00	5,443,659.93	4,547,310.00	176,722.00	4,724,032.00
9	Ministry of Social Development	860,874.00	2,151,713.00	3,012,587.00	471,285.00	1,600,334.00	2,071,619.00
10	Ministry of Agriculture and Land Management	149,150.00	2,330,350.00	2,479,500.00	56,645.21	1,408,077.43	1,464,722.64
	Total	24,496,973.93	20,692,450.00	45,189,423.93	17,874,763.33	15,594,652.37	33,469,415.70

Source: Annual Progress Report of Ministries_ The Lumbini Province FY 2022/23

210. The ministry of Physical Infrastructure Development spent only 56.59 percent of capital expenditure, whereas the Ministry of Drinking Water, Rural, and Urban Development spent 25.44 percent of total capital expenditure in the fiscal year 2022-23. The recurrent expenditure of the Ministry of Industry, Tourism and Transportation Management was 53.37 percent, the Ministry of Health was 16.57 percent and the Ministry of Social Development was 10.26 percent in the fiscal year 2022-23. This indicates that major ministries are lacking efficiency in expanding the dedicated allocations.

¹⁵ Annual Progress Report of Ministries_ The Lumbini Province FY 2022/23

211. Based on the spirit of the constitution, the number of ministries can be optimized and aligned to core functions. In fiscal year 2023-2023, there were 1,106 open positions, 3701 filled staff positions, and 4807 approved positions, overall. Unfilled positions affect the entire service delivery system. For fiscal year 2020-2021; fiscal year 2021-22; and fiscal year 2022-2023, ministries spent a total of NPR. 7643.7 million, NPR. 7,715.76, and NPR. 15,594.65 on recurrent expenses. The Lumbini Province has scope to reduce the cost through O&M study and its implementation. Streamlining the directorate, and imparting training to the front-desk officers, and digitizing of major processes through use of ICT are important measures to gain higher efficiency by reducing recurrent costs. Several federal project offices established in the province should be assessed aligned with the constitutional mandate and streamlined accordingly.
212. There is a lack of project development capacity in line ministries to prepare robust project pipelines that ensure achieving the targets set in periodic plans and MTEF and annual programs.¹⁶

5.9. Potential of Financial Resources Mobilization

5.10.1. Fiscal Federalism

213. According to Article 59 (1) of the Constitution, the three tiers of government- Federal, provincial, and Local- are required to promulgate laws concerning their respective rights, prepare annual budgets, determine course of action, and carry out plans and policies. Clause (2) allows the federal government to enact laws, regulations, penalties, and other measures that can impact the provinces regarding the concurrent list of taxes and other economic rights-related matters. This Article' Clause (3) specifies that the Federal, State, and Local Governments' budget preparation and submission deadlines must comply with legal requirements. A part of the proceeds from the use or development of natural resources must be given to the communities and areas affected by the project in the form of legally required goods and services, according to Clause (4) of the inter- governmental fiscal arrangement Act. A fair portion of these benefits must go to the federal, state, and local governments. Clause 5 of the Act states that when local, state, and federal governments use natural resources in compliance with the law, the community should have the opportunity to participate.
214. Under the fiscal federalism there are five components: i) revenue assignment, ii) expenditure assignment, iii) Intergovernmental fiscal transfer, iv) Natural resources mobilization , and v) internal borrowing.

5.10.2. Revenue Assignment

215. The Article 60 of the Constitution of Nepal specifies how revenue sources are to be divided. The federal, state, and local governments may impose taxes within their respective jurisdictions and receive revenue from those sources, according to clause (1) of the article. It does state, however, that in cases of concurrent list. The federal government will determine the taxation and revenue collection system in the cases not included in the list of any level.
216. The rates and fees for all taxes are established and implemented on an annual basis by the Fiscal Act. The province has several options for generating income. The province government's sole authority to impose taxes is through income tax on agricultural income.

¹⁶ Based on review of Provincial Government documents and FGD.

Given that agriculture is a subsistence industry, it is unlikely that the province will be able to collect enough taxes to make a meaningful difference. Currently, the primary revenue streams are the vehicle tax and property tax (also known as property registration tax). The province also receives a portion of its revenue from its forests and natural resources. The province also receives funding from tourism-related fees.

217. As own source revenue is a major component of resources. In Lumbini, the property tax and the property registration fee combined make up the second-highest portion of all sources of revenue (NPR 1,045 million) for the average last five years from . During the same period, the sales revenue from forest production was NPR 1,332.25 million. In particular, the potentiality total amount of own source revenue (OSR) for the fiscal years 2024-25 through 2028-29 is projected NPR 5,895.10 million, 7,233.07 million, 7,856.37 million, 8,631.01 million, and 9,925.66 million. OSR is projected using both the conservative and the progressive approaches based on a set of presumptions. The information regarding OSR is shown in the table below.

Table 45: Scenario of OSR (Conservative Approach)

Amount in NPR 000'

SN	Particulars	Actual Average Amount (Last five year)	Projection of Five Fiscal Year					Remarks	
			Projection 2024/25*	Expected Realization 2024/25	2025/26	2026/27	2027/28		2028/29
1	Property Tax (Property Registration fee)	1,045,354	2,297,500	2,000,000	2,420,000	2,662,000	2,928,200	3,367,430	
2	Vehicle Tax/ Fee	1,724,946	4,752,000	2,000,000	2,520,000	2,672,000	2,928,200	3,367,430	
3	Advertisement Tax	2,748	18,113	2,500	3,025	3,328	3,660	4,209	
4	Agriculture Income Tax	52	5,261	10,000	12,100	13,310	14,641	16,837	
5	Entertainment Tax	1,120	11,293	500	605	666	732	842	
6	Natural Resources Collection and Selling charges/fees	21,251	595,000	21,740	26,305	28,936	31,830	36,604	
7	Forest Production(Wan Paidawar) sales charges/fee	156,716	1,332,252	1,135,000	1,373,350	1,510,685	1,661,754	1,911,017	
8	Tourism Fee (Business registration, renew, entry fee)	88,994	248,882	250,410	302,996	333,296	366,625	421,619	
9	Forfeiture/Panalty/Fine /Fee	474,950	69,480	474,950	574,690	632,158	695,374	799,680	
	Total	3,516,131	9,329,781	5,895,100	7,233,071	7,856,378	8,631,016	9,925,668	

Source: Annual Program and Budget, Ministry of Finance, Lumbini Province, for the average calculation for last five year

* It is projected in fiscal year budget speech 2024/25 of Ministry of Economic Affair and Planning

218. In Lumbini Province through the progressive approach own source revenue potentiality is as projected based on a set of presumptions . The total amount of own source revenue (own source revenue (OSR) for the fiscal years 2024-25 through 2028-29 is projected NPR 5,895.10 million, 8,037.23 million, 10,575.91 million, 13,348.65 million, and 17,873.31 million. The detail is shown in the table below.

Table 46: Scenario of OSR (Progressive Approach)

(Amount in NPR 000'

SN	Particulars	Actual Average Amount (Last five year)	Projection of Five Fiscal Year					Remarks	
			Projection 2024/25*	Expected Realization 2024/25	2025/26	2026/27	2027/28		2028/29
1	Property Tax (Property Registration fee)	1,045,354	2,297,500	2,000,000	2,760,000	3,588,000	4,464,400	6,063,720	
2	Vehicle Tax/ Fee	1,724,946	4,752,000	2,000,000	2,762,000	3,588,100	4,464,500	6,063,920	
3	Advertisement Tax	2,748	18,113	2,500	3,450	4,485	5,831	7,580	
4	Agriculture Income Tax	52	5,261	10,000	13,800	17,940	23,322	30,319	
5	Entertainment Tax	1,120	11,293	500	690	897	1,166	1,516	
6	Natural Resources Collection and Selling charges/fees	21,251	595,000	21,740	30,001	39,002	50,702	65,913	
7	Forest Production(Wan Paidawar) sales charges/fee	156,716	1,332,252	1,135,000	1,566,300	2,036,190	2,647,047	3,441,161	
8	Tourism Fee (Business registration, renew, entry fee)	88,994	248,882	250,410	345,566	449,236	584,006	759,208	
9	Forfeiture/Panalty/Fine /Fee	474,950	69,480	474,950	655,431	852,060	1,107,678	1,439,982	
	Total	3,516,131	9,329,781	5,895,100	8,137,238	10,575,910	13,348,652	17,873,319	

Source: Annual Program and Budget, Ministry of Finance, Lumbini Province, for the average calculation for last five year

219. The Lumbini Province can increase OSR even further by strengthening revenue administration, easing restrictions, and strengthening relevant legislation in light of current trends in revenue collection and the additional sources of intervention this study has uncovered. The current rates will be reviewed and readjusted, an enormous tax awareness campaign will be launched to increase the number of taxpayers covered, and this plan proposes increases of 10 percent in the first year and 15 percent in the conservative approach for the fiscal year 2028–2029; a progressive approach of 15 -30 percent recommended. It seeks to support, examine, or change the revenue sharing percentage from F70/P15/L15 to (F50/P25/L25). Other provinces' tax bases with comparable increments may also be considered.
220. The desired growth in OSR promotes accountability to citizens and enhances the scope of fiscal federalism. However, political commitment to implement a revenue improvement action plan is critical to the success rate of mobilizing the potential OSR.

5.10.3. Expenditure Assignment

221. The exclusive and concurrent powers create the basis for the expenditure assignment of provinces. The IGFA Act mandates each level of government to prepare an estimated statement of public expenditure on the subjects under its domain each fiscal year, including a statement of recurrent and capital expenditure as well as fiscal arrangements which are executed through the annual budget.
222. The Lumbini Province is allocating budgetary expenditure to the different sectors for the socio-economic development in the province. The government has allocated its budget to the various sectors such as social security, education, health, public service, etc. by its function. The following table depicts the functional classification in a deep dive. The initial budget allocations were NPR 429.4,427.9 and 406.6 million for the fiscal years 2021-22, 2022-23, and 2023-24, respectively.

Table 47 Functional Classification Budget Allocation and Expenditure (%)

Functional Classification	Initial Budget Allocation			Expenditure (Based on Initial Budget)		
	2021/22	2022/23	2023/24 ¹⁷	2021/22	2022/23	2023/24
1. General Public Service	28.30	28.50	19.10	67.70	67.5	32.1
2. Security (Public)	-	-	-	-	0	0
3. Public Order and Safety	1.00	0.90	0.80	53.40	71.5	46.3
4. Economic Affairs	38.20	37.10	40.50	69.60	73.4	31.9
5. Environmental Protection	2.00	1.80	1.80	86.60	99.5	32.6
6. Housing and community amenities	11.80	13.70	15.20	77.60	77.4	36.1
7. Health	9.20	8.30	11.10	69.70	55.5	47.5
8. Recreation, Culture and Religion	3.50	3.40	2.70	57.50	68.7	15.7
9. Education	5.00	5.20	5.70	82.90	78.6	34.2
10. Social Security	0.90	1.10	3.00	21.00	15.9	35.4

Source: Economic Survey of MoF, The Lumbini Province of FY 2080/81(2023/24)

223. The functional classifications show that the allocation of the total budget for Economic Affairs (which includes general economics, commercial, labor affairs, agriculture, forest, energy and fuel, mines, production, construction, transportation, communication, research and development, etc.) tops the list. The General Public Service ranks second. The Housing & Community Amenities (which include legislative, executive, and judicial entities, foreign affairs, general service and revenue sharing, housing development, community development, drinking water, street electrification, and housing & community amenities, etc.) come in the third, followed by Health and Education respectively.

5.10.4. Intergovernmental Fiscal Transfer (IGFT)

224. Article 60 clause (2) of the Constitution's, clause (2) stipulates that the income collected by the government in Nepal must be divided judiciously among the federal, provincial, and local governments. The Clause (3) of Article 60 states that the provinces and local governments must follow the recommendation of the NNRFC on any financial transfers they receive. As per the Clause (4), the federal government must allocate equalization grants to the local and provincial governments following facts related to the revenue generation capacity and the expenditure needs of local levels and provinces.
225. According to Clause (5), the province must share the revenue it receives from the federal government and its OSR following local government revenue capacity, provincial law, and

¹⁷ Allocation and expenditure figures are only for the mid-March.

spending needs. The Federal Consolidated Fund's conditional, complementary, or special grants all supplied by the Government of Nepal must share by following the federal statutes, according to Article 60 (6). The equitable and transparent distribution of revenue at the federal, provincial, and local levels is specified in Clause (7).

226. Clause (8) provides guidance, stating that federal law should incorporate the revenue sharing, national policy, national needs, province, and local government autonomy, services to be provided to the public and the financial rights granted to them, the possibility and use of revenue, development assistance to be carried out, regional imbalance, poverty, and inequality, the end of deprivation, and the assistance of temporary needs. This section permits the provincial government to obtain grants from the federal government in four different forms, including royalties and revenue sharing.

A) Grants

i) Financial Equalization Grant

Based on the need for expenditure and the ability for revenue collections, and at the NNRFC's recommendation, the Government of Nepal allocates financial equalization grants to provincial and local governments in compliance with Section 8 (1) of the Inter-Governmental Fiscal Arrangement Act, 2074. The provincial government may distribute its source revenue to the local government following Section 8 (2) of the federal government's grant program.

ii) Conditional Grant

The Government of Nepal provides conditional grants to provincial and local governments for implementation of the projects on the specified conditions, as per Section 9 (1) of the Inter-Governmental Fiscal Arrangement Act (IGFA) 2074. According to section 9 (3), the provincial government uses the recommendations of the NNRFC as the basis for distributing conditional grants to the local government

iii) Complementary Grant

As per the provisions of Section 10 (1) of the IGFA, 2074 local and provincial governments may receive matching grants from the federal government to improve infrastructure projects that hold a higher priority.

iv) Special Grant

Grants from the federal and provincial government projects of the special nature, service delivery, balanced development, and the upliftment the marginalized sector/communities are taken as basis of special grants under Section 11 (1) of the IGFA 2074.

The Lumbini Province has been receiving grants on an incremental trend, according to the assessment of grants received. Nonetheless, meeting the predetermined indicators will result in a rise in performance grants. Complementary and special grants have also been awarded less frequently than other grants. Additionally, there is more space for grants, which necessitates the preparation of sector-specific bankable projects and industry-specific initiatives. As a result, there is a great chance to get special and matching grants by developing sector-specific impactful projects and raising performance. The projection of IGFT is given as follows:

Table 48: Scenario of IGFT

Amount in NPR 000'

Types of Grants	Fiscal Year						Remarks
	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	
Equalization Grant :	8,286,400	9,280,768	10,394,460	11,641,795	13,038,810.82	14,603,468	
Minimum Grant	2,405,500	2,694,160	3,017,459	3,379,554	3,785,101	4,239,313	
Formula basis grant	5,637,600	6,314,112	7,071,805	7,920,422	8,870,873	9,935,377	
Performance based grant	243,300	279,795	321,764	370,029	425,533	489,363	
Conditional Grant	4,193,300	4,696,496	5,260,076	5,891,285	6,598,239	7,390,027	
Special Grant	744,600	833,952	934,026	1,046,109	1,171,643	1,312,240	
Complementary Grant	795,000	890,400	997,248	1,116,918	1,250,948	1,401,062	
Total	14,019,300	24,989,683	27,996,839	31,366,112	35,141,147	39,370,850	

Source: Annual program and budget FY 2024-25, MoF

Assumptions: The key assumptions are as follows:

- As the province of Lumbini has begun to establish proper governance structures and practices, a 15 percent performance-based grant is recommended.
- Additionally, projections based on the average rate calculation (last year - first year)/last year X 100 for Equalization.
- At a 12 percent incremental rate, the minimum and formula-based grants are considered.
- The project bank system can improve spending efficiency and increase the inflow of special and matching grants.

B) Revenue Sharing

According to Clause 6 of the IGFA Act, 2074 collection of VAT and Excise duty on domestic production is to be shared on the ratio of 70 percent to the Federal government, 15 percent to provincial government, and the rest 15 percent to local government. The provincial government collects vehicle tax and shares 40 percent to local government.

5.10.5. Mobilization of Natural Resources

- Article 59 (4) of the constitution provides the federation, province, and local level for the equitable distribution of benefits derived from the use of natural resources or development. Article 59 (5) also states that if the local community desires to invest in utilizing natural resources, they shall be accorded priority to invest. The equitable distribution of benefits derived from natural resources, including the royalties and services, between the three levels of government. The ratio of cost and benefit on the investment is fixed at the recommendation of the NNRFC in accordance with the law. The NNRFC is expected to coordinate among the three levels of government and resolve any dispute related to the mobilization and sharing of the costs and benefits of natural resources. The NNRFC is also supposed to recommend measures to minimize the environmental impact of these projects.
- The IGFA Act has provision for the sharing royalties from natural resources, including from water, electricity, forests, mining, mountaineering, and other natural resources, to federal, provincial, and the local governments as per the recommendation of the NNRFC. The IGFA Act stipulates that the federal government shares 50 per cent of the royalty from natural resources, while the provincial governments receive 25 per cent, and local levels receive the rest of 25 percent.

5.10.6. Borrowing

- 229. The public debt system is regarded as the fourth pillar of fiscal federalism. Section 14 (1) of the IGFA Act 2074 states that the all tiers of government may raise internal loans within the parameters suggested by the NNRFC, provided that the State and Local Levels obtain permission from the Government of Nepal before obtaining internal loans. The provincial government may use public debt to fund infrastructure development and budget deficit maintenance.
- 230. In its Article 251 (1) F, the Constitution states that the NNRFC can recommend the limit of internal borrowing for the federal, provincial, and local levels taking into account of the overall economic indicators of the country.
- 231. One financial tool that the federal government may use to mobilize alternative financial resources is subnational borrowing. This can be done by borrowing money from banks and issuing bonds to pay back the debt to finance the construction of infrastructures. For the current fiscal year, the province of Lumbini proposed setting aside NPR 1,250 million initially. It investigates potential future developments in this field. The NNRFC has recommended a borrowing cap of 12 percent of the total amount of OSR and revenue sharing for FY 2024–2025. Still, the percentage of the borrowing limit is a yearly discussion point. Through high-rate-of-return projects, the Province of Lumbini can mobilize debt for revenue generation; it should concentrate on these opportunities.
- 232. The Lumbini Province had set aside NPR 1,585.68 million as its borrowing mobilization total for the fiscal year 2022-2023, which was 12 percent of NPR 13,214 million (OSR + Revenue Sharing). It is estimated that in fiscal year 2023-2024, the province of Lumbini was proposed to mobilize NPR 1,250 million less than the NNRFC cap. It was expected that the borrowing ceiling would remain in place during this window of opportunity for the Lumbini Province to mobilize.
- 233. The proposed borrowing amount could be mobilized if the provincial government developed robust project pipelines in different sectors. The details are provided below:

Table 49: Scenario of Domestic Borrowing

Amount in NPR 000'

Debt	Fiscal Year				
	2023/24	2025/26	2026/27	2027/28	2028/29
Domestic Borrowing	1,250,000	1,250,000	1,250,000	1,300,000	1,300,000

Source: Annual Program and Budget of FY 2023-24 MoF, The Lumbini Province

- 234. In addition to loans, other strategies like blended finance and public-private partnerships (PPP) could be used to mobilize Lumbini Province's alternative resources. To mobilize private investment in the bankable projects needs a PPP investment policy, and PPP restructuring capacity.

5.11. Human Resources of the Province

5.11.1. Education

235. With a literacy rate of more than 95 percent, Palpa District became one of Nepal's first four "fully literate" districts by 2014. Arghakhanchi, Gulmi, Pyuthan, Dang, Parasi, Rupandehi, Rolpa, Bardiya, and Eastern Rukum Districts were declared literate districts of Nepal in 2018. The national average for literacy rates is 76.2 percent, although Lumbini's percentage was higher at 78.1 percent, according to the 2021 census. Data analysis revealed that in the province, the percentage of males with literacy was 85.2 percent, while the percentage of females with literacy was 71.7 percent. With literacy rates of 81.4 percent and 83.7 percent, respectively, Palpa and Dang led the district, while Rupandehi came in second at 81.2 percent. Palpa, along with Kathmandu, Lalitpur, Bhaktapur, and Kaski, was one of the top five districts in Nepal in terms of literacy rate nationwide.

Table 50: Literacy Rate

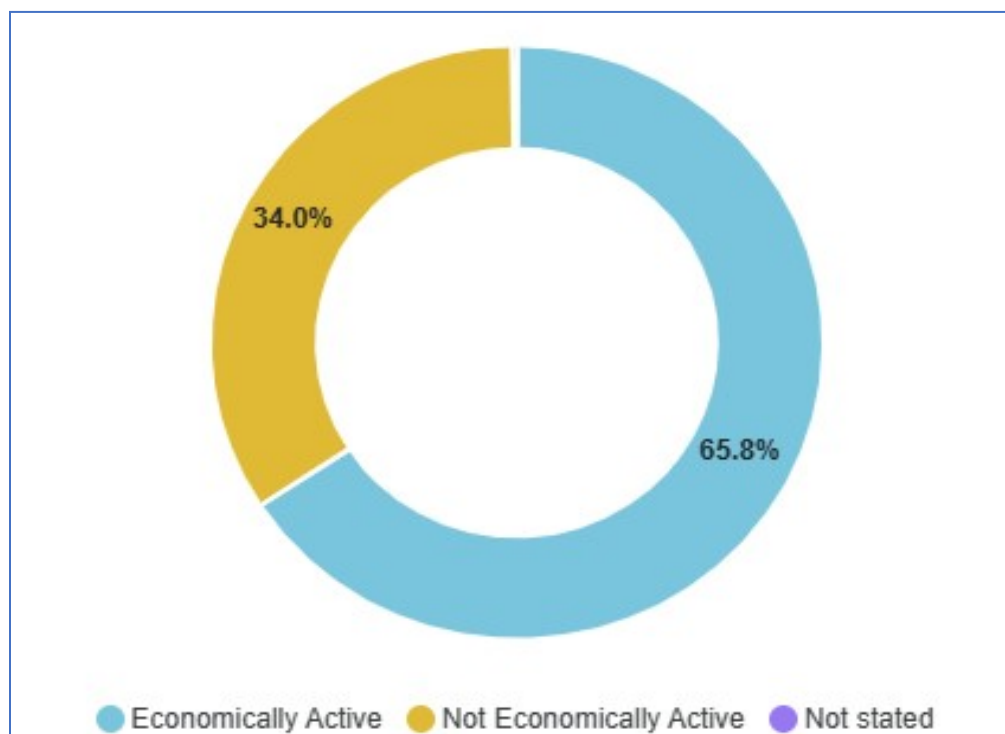
Areas	Male	Female	Total
Nepal	83.6 %	69.4 %	76.2 %
Lumbini Province	85.2 %	71.7 %	78.1 %

Source: Census, CBS (2021).

5.11.2. Economically Active Population

236. About 65.8 percent population of the province is economically active whereas 34 percent of people were found to be not economically active (Census, 2021).

Figure 31. Economically Active Population



Source: NSO, 2023/24

237. Rupandehi district is the lowest (59.9 percent) and Palpa is the highest (79.8 percent) point in terms of economically active population.

5.11.3. Labor Status

238. As in any part of the country, the Lumbini Province has labor shortages, especially in the agriculture sector. The Labor Force Survey (2017-18) revealed that the labor force participation rate in the Lumbini Province was 37.3, with an employed population ratio of 33.1 percent. The unemployment rate was 11 percent, which is equivalent to the national unemployment rate.

Table 51: Labor Force in the Lumbini Province

Indicators	Nepal (%)	Lumbini Province(%)
Labor Force Participation rate	38.5	37.3
Employed population ratio	34.2	33.1
Unemployment Rate	11.4	11.2

Source: Labor Force Survey, CBS (2017/18)

5.11.4. Absentees Population

239. A little over 19.21 percent of the population has left the nation to work or study abroad. The majority of them are in the economically active age group. About 87.35 percent of the absentees are male.

Table 52: Absentees Population (occasionally residing abroad)

Area	Total	Male	Male %	Female	Female %	Total
Nepal	2190592	1799675	82.16	390917	17.84	100.0
Urban/Rural						
Urban	1468517	1186980	80.83	281537	19.17	67.04
Rural	722075	612695	84.85	109380	15.15	32.96
Geographical Region						
Himal	116060	81811	70.49	34249	29.51	5.30
Mountain	990723	787722	79.51	203001	20.49	45.23
Terai	1083809	930142	85.82	153676	14.18	49.48
Lumbini Province	420906	367670	87.35	53236	12.65	19.21

Source: NSO (2023/24)

6. STRATEGIES FOR UNLOCKING THE RESOURCES

240. Based on the mapping of resources, and consultation with key stakeholders, the recommended strategies are as follows.

6.1.1. Releasing Forest Resources

241. Wood demand for furniture has decreased in Nepal due to the increased volume of wood imports from overseas, particularly China and Malaysia. Besides, the contemporary housing construction technology promoted the use of steel, metal, and glass, the amount of wood used in construction has decreased over time. The use of firewood for cooking has declined, with LPG largely taking its place. The province's forest cover has grown, but its commercial use has decreased for several years. The market value of this forest product is expected to exceed NPR 756.734 million per year. The value of the forest resource could reach NPR 14,008.39 per year if the policy encouraging the use of Nepali wood for buildings and furniture is implemented.

242. The Ministry of Forests, Environment, and Climate Change (MOFESC) of the Lumbini Province should collaborate with forest user groups, local governments, and district coordination committees to promote biodiversity and garner economic benefit from the forest resources. The forests are an important resource to the province's socio-economic growth and maintain the natural equilibrium. The Lumbini Province can produce timber and non-timber assets worth 141,771 million rupees on 119,996 hectares in 2021–2022.

243. The Provincial strategies and laws should be incorporated the following elements:

- a) The Lumbini Province in collaboration with federal and local levels, should make mandatory use of forest products for government offices. Individual business, private organization and households should be incentivized through tax incentives on local forest products.
- b) Forest based manufacturing industries (herbal processing, ply-wood factory, furniture industry and woods required for house construction) should be given tax exemptions for certain period and support in establishment and operation of such industries in the province.

6.1.2. Commercialization of Livestock

244. Based on market rates, this quantity of nitrogen can be converted into 6,500 kg of urea fertilizer or NPR 97,500. A cow with annual management expenses of USD 47,000 will yield a USD 50,000 profit from cattle. This potential was used to project an additional revenue of NPR 48,069 million or 85 percent of adult cattle. Therefore, NPR 162,715 million would be the maximum livestock product value could have. Meat and milk make up more than 95 percent of animal products in the province. As of 2021/2022, there were 1,131,041 cattle in the province. Every year, 1,460 liters of cattle urine and 5,475 kg of dung are being used to produce about 2,956 kg of nitrogen. Livestock products are expected to generate NPR 162,715 million yearly and are currently valued at approximately NPR 114, 646 million in 2021–2022.

245. Large scale cow farm, poultry farm, piggery, goat farm, dairy establishment should be in the province by promoting existing or new entrepreneurs, engaging local cooperatives and employing livestock experts in the business through special support program of the provincial and local levels.

246. Livestock product-based manufacturing can be established that promotes industries.

247. Livestock farming promotes organic agriculture in the province and also help promote ecological balance which is being disturbed by urbanization.

6.1.3. Adapting Climate Smart Agriculture (CSA)

248. The primary agricultural product in the Lumbini Province is cereal crops. The cereal crops (rice, wheat, corn, and millet) comprise nearly half of the crop, with cash crops making up the other half. Fruits and spices make up less than thirty percent of total agricultural products. It is estimated that agriculture can be practiced on 21,4831 hectares of underdeveloped land. Growing cereal crops on those underutilized lands could yield 687,459 metric tons of value annually, for NPR 21,775 million.
249. The province's current annual revenue of NPR 21,775 million could rise to NPR 141,771 upon completion of the planned irrigation projects. Spices, grains, pulses, and fruits make up the total values. The climate-smart agriculture (CSA) is important due to the following reasons.
 - a) Firstly, adaptation CSA action is possible only when farmers believe climate change is a threat and the level of impact could severely impact the production in the coming days. Farmers will be willing to take sustainable long-term adaptation measures, farmers need to perceive that the climate is changing or could change, and they need to attribute enough weight to take required action.
 - b) Secondly finding the right climate-friendly technologies and practices is another important factor affecting adopting CSA. The provincial government needs to ensure extension services to the farm level dedicated to combating the situation and farmers should be advised by the agriculture experts in technical areas to install drip irrigation systems that provide the fields with an ample supply of water while conserving water.
 - c) Businesses and organizations lack adequate access to technical support, market information, new technologies, and technical skills for post-harvest handling and marketing. Small agribusinesses, on the other hand, have barely any experience working with market actors in their value chain. Access to finance for them is a great challenge, as is improving their internal business management, expanding commercial relations with smallholder farmers, and attracting the right investors for their business profile.
 - d) Third, well-organized demonstration plots for commercial farming and CSA contribute to the dissemination of information. The information about CSA can stimulate farmers to adopt new innovative ideas and practices to improve farm output and income. This pilot case can be tested using a local land bank model, an area of Chaklabandi, and a model agriculture pocket area.
 - e) Fourth, although farmers operate at multiple scales, their adaptation decisions are primarily driven by short-term on-farm benefits coming from the investment. In a world with perfect information, complete markets, and adequate incentives, the decision to adopt or implement a particular adaptation measure would be a matter of evaluating the net benefits of the technology.
250. Smallholders may find it difficult to adopt CSA technologies due to low financial capabilities. In Nepal, micro-financing the agriculture sector has become a common practice. However, they often experience instances when supplying smallholders do not want to go through the bank lending route (due to lack of trust or complex procedures) and find it difficult to deal with the service provider due to the financial resources required. In this case, the company provides the credit.
251. Furthermore, interest groups, political decision-makers, and regulatory authorities need support identifying and implementing reforms that can benefit smallholder farmer businesses and mid-sized agribusinesses.

6.1.4. Financing Businesses

a) Promotion of Green Financing

252. The province in collaboration with local levels should work with the SMEs and Cooperatives to increase investment in the priority sectors by mobilizing the bankable projects in the priority sectors
253. The province produces a surplus of various agricultural products, but during the past five years, the yield has essentially stagnated. Thus, it is important to encourage contract farming in strategic pocket areas and the commercialization of agriculture using Chaklabandi. Using incentives for seeds, fertilizer, equipment, and extension services under green financing policies, the province should implement climate-smart agriculture (CSA) practices. There is a need for a financing mix using government grants, subsidized loans, and loans from cooperatives.

b) Promotion of PPP

254. Based on the bankability of the projects, the Lumbini Province can prepare bankable project pipelines to promote PPP projects in the agriculture, manufacturing, and services sectors. By addressing the concerns on project discovery, selection, preparation, and prioritization, provincial and local governments can expand the options of involving the private sector through Public-Private Partnership (PPP) initiatives. Gaining the confidence of all relevant government, private, community, and financing entities- is crucial.¹⁸
255. There are numerous possibilities for the province to pool together its resources to obtain private financing for PPP bankable projects. Policies that balance the risk-return framework are important considerations.

6.1.5. Development of Local and Regional Economic Development (LRED) Plan

256. With an average proportion of 30.56 percent of the province's GDP, the sectors with the biggest growth are agriculture, forestry, and fisheries. Comparably, the average GDP contribution from wholesale and retail commerce, auto and motorcycle repair, and public administration and defense is 11.23 percent, with the education sector coming in next level i.e. at 9.99 percent, and the mandatory social security sector at 9.003 percent. The GDP is 7.55 percent contributed by the construction industry. The GDP contribution of the transportation and storage sectors combined is 6.30 percent, while the manufacturing sector comes in second with 6.24 percent.
257. The province can harness the potential of local competitiveness through participatory identification of competitive sectors in agriculture, manufacturing, and service sectors. LRED plans at the provincial government and the Local Levels can support and unleash the economic resource potential of the province. The government must give its approval before taking on any debt. Care must be taken in structuring the project in development or project bank repository.

6.1.6. Promoting Tourism

a) Promotion of Homestays and Eco-tourism

258. In 2023, the tourist landscape in Lumbini changed, with an increase in arrivals of 10.5% Lumbini, the holy birthplace of Lord Buddha, saw an extraordinary surge in visitors in 2023, breaking previous records and confirming its place in the world's pilgrimage calendar. Beyond these great sites of historical and spiritual significance, Lumbini invites those with

¹⁸ Accountability Lab; Policy Paper - The Lumbini Province- Deepening Private Sector Partnership in Lumbini Province, Nepal [ALab] updated[Jan 5] (civacts.org)

a spirit of adventure to discover its virgin villages, where genuine rural life flourishes. Travelers can witness traditional customs, fully immerse themselves in local culture, and take in the pristine beauty of Cisne Himal, Thara village, guerilla trek to many more in different 12 districts of Lumbini province. The Lumbini Province promises an amazing trip, whether you're looking for adventure or enlightenment. The province in coordination with local levels and private businesses should develop a tourism package for each local level.

b) Moving from Lumbini Heritage to Mountains

259. The province can generate NPR 14,809.51 Million as a potential income for businesses in addition to NPR 2,490.37 million. The province should bring tourists to several other important tourist sites of Lumbini and extend the average stay of 1.88 days to 13.1 days (national average of 2022). The Lumbini provincial government, should expand the tourist sites and encourage visitors to travel to several important tourist places of the Lumbini Province moving from the Lumbini heritage site.

6.1.7. Promoting Agriculture and Forest-Based Manufacturing Industries

260. About 14715 companies in this province are registered under the Company Act. There are 68334 cottage, micro, and small-scale businesses in the province. All these companies have generated about 477654 new jobs in the province.
261. The Lumbini Province has a vast deposit of cement-grade lime which has attracted investment of billions in more than one dozen cement factories. There are about 2.5 billion metric tons of cement-grade limestone reserves in Lumbini. More than a dozen cement factories are located in the province. Five billion metric tons of dolomite can be mined and sold. A superior magnetite reserve of about 180 million metric tons is another important reserve in the province. The proper exploration and use of mineral resources in the Lumbini Province will strengthen the economy, generate jobs, and increase exports. The Lumbini Province contains several minerals, including talc, quartzite, granite, marble, coal, and semi-precious stones. There is a lot of industrial potential for the dolomite and limestone in the province. The three tiers of government should work together to locate these hidden minerals through research and excavation as a higher-priority project.
262. Two of Nepal's biggest cement manufacturers are Jagadamba and Brij, while Arghakhachi and Reliance cement factories generate clinker—a necessary raw material for cement production. Rupandehi cement factories are increasing their production capacity by injecting more cement to meet the rising demand.
263. Rupandehi has become the nation's center for cement production since some of the largest cement plants, producing more than 100,000 tonnes of cement daily, are found in the district in western Nepal. Twelve cement plants, including Arghakhachi, Jagadamba, Siddhartha, Brij, Agni, Reliance, Goyanka, Supreme, Ambuja, Pathak, and Bishal, are currently located in the Lumbini Corridor and Dhakdhai of the Rupandehi district. The Department of Industry estimates that these factories produce over 100,000 tonnes of cement a day or roughly 40 percent of the nation's total cement output¹⁹
264. With the largest cement factories in the nation, producing more than 100,000 tonnes of cement per day (or 40% of the national total cement production), Rupandehi has made a name for itself as the center of Nepal's cement manufacturing industry. Twelve cement factories Arghakhachi, Jagdamba, Siddhartha, Brij, Agni, Reliance, Goyanka, Supreme, Ambuja, Pathak, Maruti, and Bishal—are located in the Lumbini Corridor and Dhakdhai of the Rupandehi district.

¹⁹ [Rupandehi turns into cement manufacturing hub \(kathmandupost.com\)](http://kathmandupost.com)

265. Rupandehi factories are investing more money to increase their production capacity. Jagdamba, for example, is constructing a second production facility in Bhairahawa's eastern region that will produce 1,500 tons of cement daily.²⁰
The provincial government should update industry policy to promote environment-friendly cement industries and generate more jobs and royalty for the provincial government and local levels of Lumbini.

²⁰ [Rupandehi Establishes Itself as Nepal's Cement Manufacturing Hub \(techlekh.com\)](http://techlekh.com)

6.1.8. Enhancing Provincial Financial Resources

a) Mobilizing Own-source Revenue Source

266. The projected OSR will be around NPR 5.89 billion in FY 2023–2024. OSR is projected using both the conservative technique and the progressive approach and each projection has different sets of presumptions.
267. The Lumbini Province can increase OSR even further by strengthening revenue administration, easing restrictions, and strengthening relevant legislation in light of current trends in revenue collection and the additional sources of intervention this study has uncovered. The current rates will be reviewed and readjusted, an enormous tax awareness campaign will be launched to increase the number of taxpayers covered, and this plan proposes increases of 10 percent in the first year and 15 percent in the conservative approach for FY 2028–2029; a progressive approach of 15- 30 percent is recommended. It seeks to support, examine, or change the revenue sharing percentage from F70/P15/L15 to (F50/P25/L25). Other provinces' tax bases with comparable increments may also be considered.
268. The provincial government should develop a revenue improvement action plan (RIAP) in consultation with local businesses, taxpayers, and local levels to reach more than 80 percent tax coverage with revised progressive rates.

b) Borrowing

269. Borrowing is a financial tool that the province government can use to mobilize alternative financial resources. This can be accomplished by taking out bank loans and issuing bonds to build critical infrastructures.

6.1.9. Management of Large Assets

a) Irrigation Projects

270. Altogether 541 irrigation systems in the province irrigate over 316,000 hectares of cropland. Another noteworthy project under construction is the Babai Irrigation Project. Just 59 percent of the Bheri Babai Multi-Purpose Irrigation Project has been finished since the government started construction on it eleven years ago. When tertiary canals are not included, the overall length of the two main canals—the Sikta East Canal and the Sikta West Canal—is 160 kilometers. This is achieved by the construction of eight branch canals, each measuring around 20 kilometers. Ensuring that farmers have access to water and increasing agricultural productivity are dependent on these measures. After these massive irrigation projects are completed, almost 140,000 hectares of land will be irrigated, which will be very advantageous for the region.
271. Situated in Surkhet District, Karnali Province, the Bheri Babai Diversion Multipurpose Project (BBDMP) is extremely important to Nepal's development. As the first inter-basin water transfer project, it is intended to irrigate 51,000 hectares of land in the Banke and Bardiya districts year-round. The project aims to address food scarcity and increase agricultural productivity by incorporating irrigation and hydropower generation components. Notably, a 12.2-kilometer tunnel will be built as part of the project using Tunnel Boring Machine (TBM) technology. Currently, 62 percent of the work has been completed; the goal is to complete it in fiscal year 2022/23.
272. An enormously important project for the province is the Babai Irrigation Canal, a National Pride Project. This ambitious 35-year-old project intends to use water diverted from the Babai River to irrigate 36,000 hectares of land. However, a lack of funding has brought up new difficulties. The project's progress is slow even after the revised completion date of the fiscal year 2025–2026. This fiscal year, the government only allocated NPR 630 million, which has an impact on the construction of the canal. The project has already spent Rs 13.14 billion and has made 72.22 percent of its physical progress to date.

Timeliness for completion will be impacted because the remaining funds will mainly pay for fuel and worker salaries.

273. The largest irrigation project in the nation, the Sikta Irrigation Project is located in Banke District, Lumbini Province, Nepal, and is of great significance. Its main goal is to irrigate about 43,000 hectares of land in Banke, which will help the local farmers and increase the productivity of agriculture. The project entails building a 53-kilometer eastern canal that is presently being built and a 45-kilometer western main canal that has already been completed. Notwithstanding the project's strategic significance, delays and financing issues have arisen. Currently, 67 percent of the project is completed, and work is being done to reach its full potential²¹. The project is completed 67 percent in 15 years. The total revised cost is NPR 25 billion. At present, both the eastern and western parts of the canal can irrigate 3200 hectares of land.
274. Despite the time and cost overruns, the aforementioned national projects will significantly boost the province's economic growth. Even strategically significant projects that are finished, like Gautam Buddha International Airport, lack a strategic and operational business plan.
275. The Lumbini provincial government should coordinate with federal government agencies to expedite the already delayed national pride projects related to irrigation to reap the huge benefit of crop yield and production in Bardia and vicinity command areas. The province should work in the development of the value chain of key agriculture and livestock products in cooperation with local levels and farmers.
276. The province should work in the development of the value chain of key agriculture and livestock products in cooperation with local levels and farmers.

b) Exploring Mine and Minerals

277. The resource mapping study has identified that the province has many mines and minerals in addition to limestones. There are many iron and gold mines deposits in the province. The constitution (schedule 6) mandates the exclusive power of exploration and management to the province. Since the province lacks technology and equipment for exploration, it can be done with the collaboration of the Department of Mines and Geology.

6.1.10. Horticulture and Commercial Farming of Herbal Products

278. The geographical and climatic variation of the province shows (especially south-north variations) the wide climatic disparity, allowing for different types of commercial plantation of fruits, flowers, and flora. There are tropical areas, subtropical areas, and temperate areas across south-north directions. These places are suitable for different types of fruits and flowers.
279. Similarly, the province is famous for its herbal products. Given the wide biodiversity, there is ample potential for commercial farming of herbal plants, shrubs, and vegetation. The province should not only focus on plantation but also on processing, packaging distribution, and marketing of such products. These can substitute a large volume of imports by relieving the pressure of foreign currency outflow in Nepal. This can be done with little support from the local communities via collaboration with the local government. The snow-clad mountains are famous for herbal products including 'Yarsha Gumbo'.

²¹ [Sikta Irrigation Project: 67 Percent Complete In 15 Years | Investopaper](#)

Part B: GROWTH DIAGNOSTICS

SECTION 1: GROWTH DIAGNOSTIC FRAMEWORK

1.1. Economic Growth Diagnostic Concept

1. Framework for Growth Diagnostics is a strategy for figuring out the development policy priorities. The strategy is aimed at identifying the most binding constraints on economic activity, and hence the set of policies that, once targeted on these constraints at any point in time, is likely to provide the biggest bang for the reform work (Rodrik, 2007). What keeps growth low in the economy is an important question to answer. The Nepal Growth Diagnostic Report (2014) summarizes that there are four main binding constraints to economic growth in Nepal: policy implementation uncertainty, inadequate supply of electricity, high cost of transport; and challenging industrial relations and outdated labor laws and regulations. Whether these binding constraints are still applicable to the Lumbini Province is an empirical issue.
2. There can be other binding constraints like inadequate access to finance, inadequate return to investment, inadequate private appropriability of the returns, lack of investment in complementary factors of production (that is, human capital or physical infrastructure), and lack of access to appropriate technology. The constraint can be policy uncertainty or political instability. There are proximate constraints to growth in addition to ultimate constraints to growth. By definition, binding constraint to growth is that constraint that, when removed, can give the highest welfare gains. This means that binding constraints exhibit distortion in social and private returns. The principle of growth diagnostic stipulates that if a constraint is binding, then the shadow price of the constraint should be high enough. The focus should be, therefore, on how the constraints can be translated into opportunities for long-run growth. The growth Diagnostic approach gives more weight to the possibility that the determinants of growth are complements rather than substitutes. It is important to study the underlying factors that hold back growth before we talk about the high growth trajectory in the provincial economy. This study will delve into key aspects in detail.

1.2. Objective of Growth Diagnostic Study

3. The major objective of the study is to support the Lumbini Province in identifying economic growth potential and provide a framework focusing on the most pressing economic development and growth obstacles. Using this analysis as a point of departure, policymakers may identify appropriate reforms and economic policies to ease those binding constraints, thereby stimulating economic development and growth of Lumbini Province.

1.3. Scope of Economic Growth Diagnostic

4. This study will provide an overview of the diagnostic approach developed to investigate the **opportunities and constraints to inclusive growth of Lumbini Province**. Growth diagnostics is a method for determining the obstacles preventing a country or a province from developing further. It provides a standard framework for identifying the legally enforceable growth constraints so that development plans may be created.
5. Under the economic growth diagnostic, the following tasks are included in the scope of work: identifying pertinent policies and investment needs as discussed in the national green, resilient, inclusive development (GRID) strategic action plan (currently pending government approval), mobilizing resources for a growth strategy for the province, defining a tentative resource-supported growth path for the province, and presenting policies and

investment areas to promote optimal use of resources for sustainable growth of the province.

6. The Economic Growth Diagnostic Analysis section study covered the following areas:
 - a) Review constitutional/legal mandates regarding the functional assignment, revenue powers, and their scope to accelerate economic activities.
 - b) Assess potential additional economic activities in the province.
 - c) Explore possibilities of mobilization of domestic and external resources for advancing economic growth in the province.
 - d) Assess areas of reforms (institutional, policy, systems and business processes, and capacity) within the provincial government to accelerate economic activities and growth.
 - e) Identify the opportunities for strengthening collaboration between the provincial government, private sector, and civil society that has the potential for economic development and growth.
 - f) Provide an analytical overview of economic growth diagnosis and propose strategies for their implementation by the provincial government.

1.4. Methodology of Growth Diagnostics

1.4.1. Spatial Data

7. The underlying Growth Diagnostic research concentrated on the following areas: a) natural and financial resources, b) social returns, c) success and performance of the government, and d) aggregation of collective knowhow.
 - The sources of growth were computed using the data published by (SNA classification, 2008) the National Statistical Office.
 - The study also used secondary data from various sources of the Lumbini Province, Lumbini PPC, and other surveys.
 - The analysis and compilation of infographics was adopted for the database, and GIS.

1.4.2. FGD and KII

8. The Business Climate Survey Index (BCI)²² of local levels of the Lumbini Province was taken as proxy data for analysis of growth diagnostic. Besides, FGD and KII were used to verify BCI and additional information. District Statistical Offices and other secondary (formal or informal) sources were approached to collect and cross-check data about natural resources.

1.4.3. NSO Data

9. This study diagnosed the province's economic growth following the HRV (2005) framework, considering the province-specific context in addition to other limitations and issues. While diagnosing and estimating the growth sources, this study adhered to the larger macroeconomic categories given by the System of National Accounts (SNA 2008). According to the yearly statistics and methodology published by NSO (formerly CBS), there are now eighteen sectors. These data have been utilized in this work for both growth diagnostics and growth source estimation. Alongside these methods, the study conducted key informant interviews (KII), focus groups (FDGs), and field visits to validate the findings. Together with resource mapping (for natural resources/natural capital) and growth diagnostics, consultations at various levels and in various rounds were conducted. Geographic information systems (GIS) were used for easy visualization.

²² Business Climate Survey, 2020/21

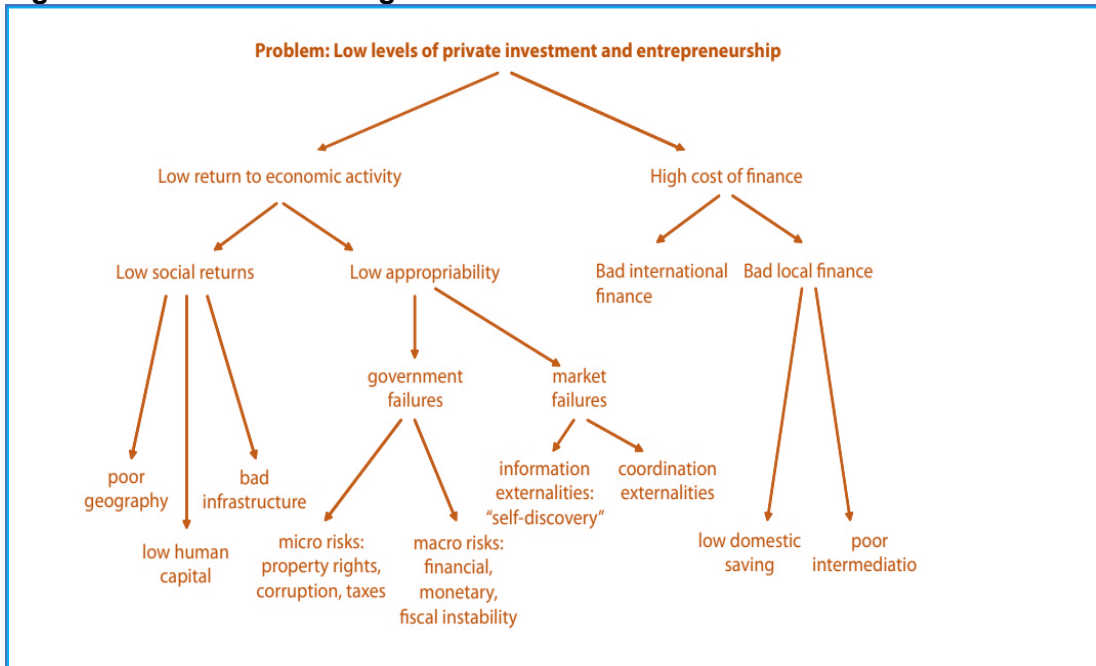
1.4.4. Consultations/Workshop/Meetings

10. The consultation workshops were conducted with the selected stakeholders through the following actions:
 - Organized orientations on economic growth concepts and methodology for key provincial government agencies.
 - Assessed risks and challenges of economic growth including policy enablers and barriers, with a focus on ensuring sustainability of the resource base.
 - Visited/consultations made with relevant individuals/agencies.

1.4.5. Hausmann, Rodrik and Velasco-HRV (2005) Framework

11. The HRV framework is widely used globally in place of various traditional growth models. The main cause of inadequate economic performance, according to the **HRV diagnostic framework** is the low level of private investment and entrepreneurship. This methodology's beginning point is the low level of private investment, which is contingent upon the cost of financing the economic activity and the profits from that activity in any given activity. Therefore, determining which of these two issues is more likely to impede higher growth is the goal of the first step of the growth diagnostics approach.
12. A framework known as Growth Diagnostics is used to analyze the economy in terms of opportunity costs and binding constraints. It is a methodology, a roadmap for resolving issues a country or province faces, and an analytical instrument all rolled into one. The growth diagnostic framework identifies the location-specific potential for productive diversification by using empirical research, case studies, desk studies, or real-world data (they do not adhere to the "one size fits all" idea). It determines whether binding constraints are keeping them from happening and helps develop data-driven or evidence-based policy solutions to remove those limitations and mobilize the possibilities and competitive advantages that are unique to a certain location or region. The idea that the factors influencing growth are complements rather than substitutes is given more weight by growth diagnostics.
13. The growth diagnostics strategy enhances the impact of interventions by directing limited resources towards significant development hurdles, paving the path for optimal resource allocation. Because it is a context-specific study, it avoids taking a "one-size-fits-all" approach and instead acknowledges the particular possibilities and problems faced by each economy. It is a dynamic approach since it considers ongoing strategy revisions and recognizes that economic circumstances and limits change over time. All of this indicates that it is a holistic understanding of the economy as it offers a thorough perspective of economic issues and blends quantitative facts with qualitative views. It promotes evidence-based decision-making by educating policymakers and evaluating the possible effects of policy alternatives, thus in many respects, it is an enhanced method for making decisions. When diagnosing the economy, all stakeholders are included as well. It is also a demand-driven policy prescription and seeks policy ownership, thereby helping contribute to the province's efforts for provincial development in Nepal.

Figure 32. HRV Growth Diagnostic Framework



Source: Adapted from Hausmann et al., (2005).

SECTION 2: REVIEW OF LITERATURE

2.1. Literature Review: Global Context

14. According to a study by Klinger et al. (2023) published in the Harvard University Center for International Development titled "Growth Diagnostics and Competitiveness Study of the Manufacturing Sector in Tanzania," microeconomic failures like labor laws, land access restrictions, and red tape for foreign investors and exporters, as well as a lack of a reliable and quality electricity supply, are the main obstacles to Tanzania's manufacturing sector's growth. They did discover, however, that neither the increasing availability of personnel with the necessary skills nor the ability to acquire financing constituted a legally enforceable limitation. They have prioritized measures to address the most urgent barriers to economic growth by using the Growth Diagnostics Framework approach, which was first put out by Hausmann, Rodrik, and Velasco (2008).
15. The African Development Bank Group (2023)²³ emphasizes the value of the growth diagnostics framework but uses a modified approach to take political stability and conflict into account when identifying the country's main growth impediments in Liberia. In every analytical area (supply, demand, sectoral level—sectoral sources of growth and their obstacles) at both the "micro and macro level," which encompasses sustainable peace as well, the main constraining restrictions have been found. According to the report, the main barrier to growth in Liberia at both the macro and sectoral levels is the country's poor capital accumulation, which is a result of its low rate of return. Additionally, the study concluded that the return on capital is a major macro issue facing the non-service industries.
16. Deng et al. (2022)²⁴ begin with the hypothesis that the main binding restraint on growth is violence in South Sudan. The study addresses the causes of the low rate of capital accumulation (both human and physical) in light of the violence and its effects. It then poses several concerns, such as whether the low growth is brought on by high financing costs, low returns on economic activity, or something else entirely. The study attempts to break down the causes into several parts of these limits by the Hausmann and Velasco (2005) technique, with some additions throughout the discussion, to allow attention to the most binding ones.

2.2. Literature Review: National Context

17. ADB (2009) carried out a noteworthy broad study in Nepal on growth constraints and their diagnosis. Low social returns on investment (and appropriability of investment profits on investment) and the expense of financing were the beginning points. The following critical constraints were found: poor governance, insufficient infrastructure (particularly in the areas of electricity, irrigation, and transportation), labor market rigidities and poor labor market, an inability to address market failure, a dearth of opportunities for productive employment, a sluggish agriculture sector, and insufficient social safety nets.²⁵
18. USA's Millennium Challenge Corporation conducted another study in 2014.²⁶ It identified the following four major impediments to growth: inconsistent implementation of policies, energy shortages, high transportation costs, challenging labor relations, and rigid labor laws. It underlined that the main issues were, peace, government effectiveness, capital expenditures, and political instability.

²³ The African Development Bank Group, 2023. Liberia Growth Diagnostic Study

²⁴ Deng et al, 2022. Identifying Binding Constraints on Growth in the Context of Fragility: The Case of South Sudan

²⁵ ADB/DFID/ILO; Nepal Critical Development Constraints, Country Diagnostic Study. main-report.pdf (adb.org)

²⁶ Millenium Challenge Corporation, USA. [Nepal_CA_withCover.pdf \(mcc.gov\)](#)

19. A study by Ghimire, Schoen, and Khakurel (2024) in 'Business Climate Survey, 2021/22 in Western Nepal' has discovered that major business problems are the price of finance (interest rates), access to markets, price of raw materials, and other input supplies followed by access to infrastructure. Other problems discovered were access to technology, business competition (monopoly, unfair competition), access to raw materials and input supplies, climate change issues, and impact. Similarly, the study identified further that access to business information, exchange rates, level of local taxes, technical problems related to production, access to land and premises, legal predictability, recruiting and retaining qualified staff, recruiting, and retaining unskilled staff, and security of the business. In addition, the same study has identified some infrastructure problems, ranging from basic infrastructure gap (water supply, sewerage), irrigation facilities, transport infrastructure, and electricity/power supply, to solid waste management, storage facilities and physical marketplace, telecommunication, customs, and border checkpoints, and land availability.

SECTION 3: GROWTH DIAGNOSTICS AND COMPONENTS

3.1. National Economy in Nutshell

3.1.1. Growth Trend of National Economy

20. Nepal's economy expanded at an impressive rate of 8.59 percent in FY 2016-17 and 7.37 in the fiscal year 2017-18, but the COVID-19 global impact caused it to decline to 2.42 percent in FY 2019-20. In 2020-2021 and 2021-2022, the economy recovered by 4.49 percent and 5.26 percent, respectively. However, a new global supply chain crisis caused this to be set back once more, to the 2.16 percent level in 2022–2023.

Table 53: GDP Growth Trend

Fiscal Year	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Real GDP (Basic Price)	8.59	7.37	6.39	-2.42	4.49	5.26	2.16
Agriculture	5.17	2.61	5.16	2.43	2.85	2.24	2.73
Industry	17.14	10.36	7.38	-4.02	6.95	10.80	0.59
Service	8.38	9.25	6.76	-4.53	4.71	5.32	2.33

Source: MOF, Economy Survey, (2022/23).

3.1.2. External Trade Scenario

21. India accounted for the largest share of Nepal's trade (64.7 percent) in FY 2018–19, and the age percentage remained relatively stable in prior years. About 13 percent of the trade was with China, and the remaining 23.6 percent was with other countries in FY 2021/22. The imports outweighed the exports during the period.

Table 54: Nepal Trade Statistics

Year	Fiscal	2018/19	2019/20	2020/21	2021/22
Export (Billion Rs)					
Total Export (FOB)		97.10	99.7	141.6	200.00
India		62.73	70.10	106.37	155.20
China		2.19	1.19	1.01	0.80
Other Countries		32.37	26.40	33.73	44.00
Import (Billion Rs)					
Total Imports (CIF)		1418.5	1196.8	1539.84	1920.45
India		918.00	735.30	791.60	1200.00
China		205.50	189.90	233.90	265.00
Other Countries		295.00	279.60	234.30	455.50
Share in Total Trade (percent)					
India		64.7	62.2	64.1	63.9
China		13.7	14.1	14.0	12.5
Other Countries		21.6	23.6	21.9	23.6

Source: Economic Survey, MOF. (2022/23)

3.1.3. Sources of Growth in Nepal

22. The SNA (2008) classifies the whole economic sector into three broad categories, namely, primary, secondary, and tertiary. The primary sector includes the four sub-categories. The harvesting of timber and other plants, the raising and breeding of animals, the harvesting of vegetables and animal products from farms or their natural habitats, and the harvesting of vegetables and animal natural resources are all included in agriculture and forestry. The main economic activities in this category are the production of pond fish and catch from natural rivers and lakes, the farming of animals, the growing of vegetables, horticultural specialties, and nursery products.
23. The economic activities related to mining and quarrying, manufacturing (primarily small-scale, modern, and unincorporated manufacturing), electricity, gas, and water, and construction are classified as secondary sector activities because they involve a higher degree of processing sophistication.
24. Within the tertiary sector, services constitute the majority of activities. Trading activities encompass the exchange of agricultural products, products manufactured domestically, and imported goods. Retail, wholesale, and dealers' trade are further subgroups of the activities. Hotels and restaurants; transportation (air, land, and supporting transport activities); information and communication (telecommunications, postal services, and courier services); storage; financial intermediation (primarily central banks, monetary institutions, financial leasing, credit, insurance services, and auxiliary to financial intermediation); and real estate (purchasing, selling, renting, and managing self-owned or leased real estate activities). The tertiary sector also includes public administration and defense-related activities, primarily related to government services. The two other essential elements are health and education. The education sector includes all levels and types of publicly funded educational services.
25. The coefficient of sources of growth was calculated with the help of the weighted coefficient, which is the composite value of the sectoral share attribution to GDP and its annual growth rate. The weight can be for a single year or weighted average for a multiple number of years, depending upon the requirements of identifying the sources of growth.
26. This study used the data compiled by the National Statistical Office (NSO) for the last 10 years and, averaging thereafter, to identify the sources of growth in Nepal. The following table shows, sector-wise, the sources of growth in Nepal.

Table 55: Sources of Growth in Nepal

Category	ISIC Classification/ Sectors	Growth (%)	Population involved (%)
Primary Sector	Agriculture, forestry, and fishing	18.67	57.31
	Mining and quarrying	0.91	0.18
Secondary Sector	Manufacturing	4.53	3.81
	Electricity, gas, steam, and air conditioning supply	3.60	0.30
	Water supply; sewerage, waste management, and remediation activities	0.64	0.22
	Construction	8.70	8.11
Tertiary Sector	Wholesale and retail trade; repair of motor vehicles and motorcycles	15.90	12.53
	Transportation and storage	5.15	2.23
	Accommodation and food service activities	1.80	1.68

Category	ISIC Classification/ Sectors	Growth (%)	Population involved (%)
	Information and communication	4.11	0.35
	Financial and insurance activities	9.21	1.09
	Real estate activities	4.59	0.15
	Professional, scientific, and technical activities	1.05	0.51
	Administrative and support service activities	1.40	0.34
	Public administration, and defense; compulsory social security	8.02	1.94
	Education	8.86	2.86
	Human health and social work activities, Other Service activities	2.24	1.14
	Arts, entertainment, and recreation; Other service activities; and Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	0.61	4.87

Source: Calculated by the study team based on the NSO data (2024), Census, 2021

27. The table demonstrates that Nepal's primary economic growth engine is still the country's agricultural sector. It contributed 18.67 percent to economic growth, based on the last ten years' annual data. Then, wholesale and retail trade (15.90 %), banking and insurance (9.21%), education (8.86 %), and construction (8.70%) came in order of contribution. On the other hand, art, entertainment, recreation, etc. activities contributed meagerly lowest to economic growth (0.61%), while water supply, sewerage, and waste management contributed (0.6 %), followed by mining and quarrying (0.91 %).
28. The statistics revealed the fact that to promote economic growth in Nepal, constraints faced by the agricultural sector are to be addressed first with due priority. The constraints to agricultural growth are lack of irrigation, lack of mechanization, lack of chemical fertilizer, lack of market information and transportation, lack of agro-processing establishments, rugged topography, and, most of all, the fading interest of general people to select agriculture as a vocation. The contribution of wholesale and retail trade appeared next higher for the simple reason that the Nepalese economy is predominantly import-based. In recent years, remittance has fueled the import surge, but with sluggish export trade. The interest in industrial manufacturing by investors is diverted towards trade, as it has become a means of quick return, and less risky. Furthermore, policy uncertainty in the industrial environment in the country has discouraged investors from long-term investments in heavy industries. Instead, the interest in wholesale and retail trade has ballooned up in recent years. Though the financial and insurance sector has made a mentionable contribution to growth, it is due to the remittance inflow into the economy. It has not, in substance, promoted promote the real sector growth in Nepal. The positive sign is that the construction and education sectors have appeared to helping growth in Nepal. From policy perspectives of growth diagnostics, sectors contributing the highest to growth potential should be taken into account in priority order.

3.2. Potential of Growth in the Lumbini Province

29. This section deals with the potential of growth in the Lumbini Province following the same methodology adopted at the national level. The Province of Lumbini is growing at the

second fastest pace in Nepal, behind Bagmati Province. This represents 14.3 percent of the nation's GDP. In the Lumbini Province, the percentage of people living in absolute poverty is 12.4 percent, while the multidimensional poverty rate is 19.7 percent.

3.2.4.1. Primary Sector of Economic Growth Source

30. The main drivers of the province's agriculture. The productivity of paddy in the province is 3.91 MT per ha, which is higher than the national average of 3.8 MT/ha. In addition, the province produces 24.7 percent of wheat and 13.9 percent of maize. Several irrigation projects, including the Sikta, Babai, and Bheri Babai diversion, are now under construction. A total of 140000 acres will be irrigated after all of these massive irrigation projects are finished.
31. The province's economic prospects are still bright because of continuous initiatives to improve infrastructure, encourage travel, and advance industrial growth. Cross-border commerce and commercial activity are facilitated by its advantageous position close to the Indian border. Siddharthanagar (Bhairahawa) and Nepalgunj, two of the country's principal customs hubs, are located in Lumbini Province. For trade and business in the province's southern region, these sites are essential transit zones. In conclusion, the province of Lumbini is steadily developing, and the region's growth trajectory is being shaped by its varied economic environment.
32. The discussion, as the background of growth potential and constraints, starts with the distributive trade of Nepal and the province. Distributive trade refers to wholesale and retail trade and is defined as purchasing goods and sales without any physical transformation. The distributive trade sector provides substantial employment opportunities to the population and significantly contributes to the GDP. The Survey of distributive trade includes three subsectors (i) wholesale trade, excluding motor vehicles and motorcycles, (ii) retail trade, except motor vehicles and motorcycles, and (iii) wholesale and retail trade and repair of motor vehicles and motorcycles. International Standard Industrial Classifications (ISIC) disaggregates the economic activities into 21 sectors. Wholesale and retail sales are among them.

3.2.4.2. Secondary Economic Growth Source

33. Nepal Distributive Trade Survey (2022), the second in its series (the first being in 2008), shows that it is the highest contributor (15.39 percent) to the Country's GDP. The survey reveals that of the total establishments, the number of registered and unregistered establishments in Nepal is 68.23 percent and 31.77 percent respectively. This ratio is 73:27 in the Lumbini Province. The high proportion of unregistered establishments gives an idea of how the economy is operating informally. The proportion of registered and unregistered establishments, province-wise, is given in the following table. Madhesh Province has the highest proportion of unregistered establishments, followed by Koshi Province.

Table 56: Number of Registered/Unregistered Establishments

Province	Registered (%)	Unregistered (%)	Remarks
Koshi	61.51	38.49	
Madesh	51.77	48.23	
Bagmati	75.30	24.70	
Gandaki	74.90	25.10	
Lumbini	73.14	26.86	
Karnal	66.18	33.82	
Sudurpaschim	71.16	28.84	
National	68.23	31.77	

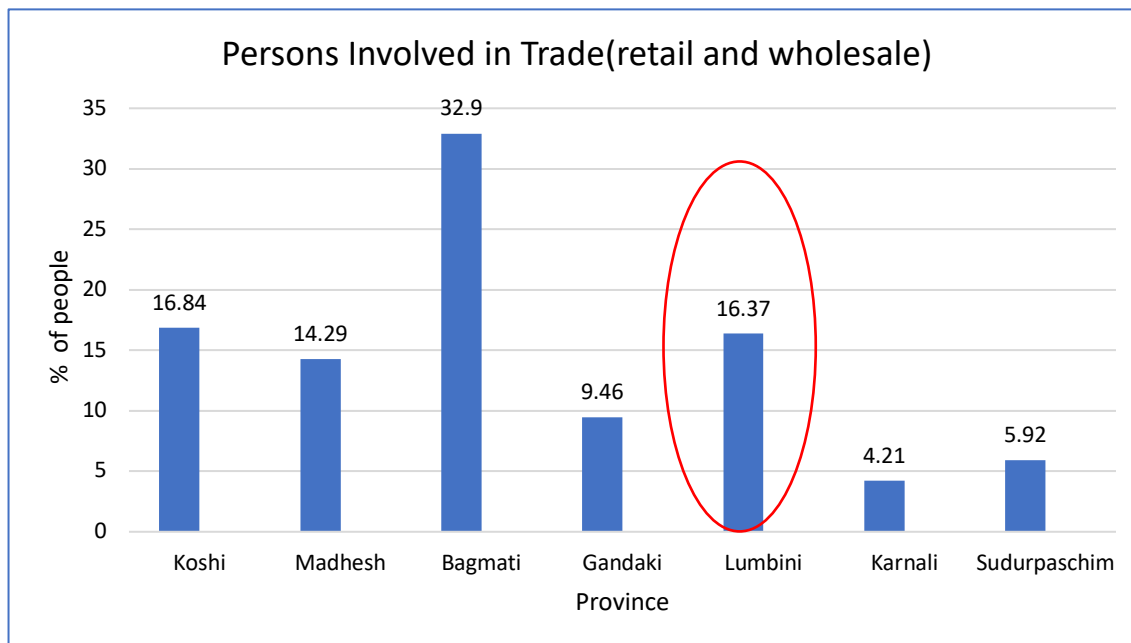
Source: NSO (2022)

34. The Survey also discovered that the establishments related to retail trade dominate the subsectors. It occupies as high as 34 percent of the total establishments. The following table shows the registered/unregistered establishments by type of Trade.

3.2.4.3. Involvement in Retail and Wholesale Business

35. Market Expansion: Distribution networks are established by retail and wholesale companies, facilitating the effective delivery of goods to customers. This encourages economic activity, creates jobs, and strengthens local trade.
36. Supply Chain Efficiency: By combining products from producers, wholesale companies simplify supply chains. Supply chains with high levels of efficiency draw in investment, boost competitiveness, and lower costs.
37. Consumer Spending: By providing direct customer service, retail establishments stimulate regional spending. Demand from consumers drives up production, creates jobs, and boosts the economy as a whole.
38. In summary, Lumbini Province's economic vitality is supported by a thriving retail and wholesale sector. The number of persons engaged in wholesale and retail trade was 11,30,645 (of whom % male and 36 % female). Province-wise, the Karnali Province had the lowest number of persons engaged in the distributive trade while Bagmati Province had the highest (32.9 %). The Lumbini Province had 16.3 percent of persons engaging in distributive trade. The following figure shows detailed information on the proportion of persons engaged in distributive trade in Nepal.

Figure 33. Persons Involved in Trade



Source: NSO (20

Table 57: Climate Change sensitive-budgetary allocations (%)

Fiscal year	Direct benefits	Indirect benefits	Neutral
2020/21	6.00	28.88	65.09
2021/22	9.92	32.10	57.98
2022/23	9.59	33.41	57.01

Source: Ministry of Finance, The Lumbini Province(2023).

39. The allocation is far behind in addressing the climate-sensitive programs. Less than 10 percent of the total budget is allocated to climate-sensitive areas. This indicates that the province is not properly paying attention to climate change. This may make the provincial development unsustainable.

3.2.4.4. Tertiary Sector of Economic Growth Source

3.2.4.1. Access to Finance in the Lumbini Province

40. As banks and financial institutions (FIs) are reluctant to extend credit to the real sector in general, and the agriculture sector in particular, farmers have been facing problems for many years. Project-based lending is limited. BFIs have been urban-centric, resulting in low access to finance in rural areas. Banks charge high interest to the borrowers, demand collateral in advance, and policies are not coordinated to promote the real sector, especially agriculture production. Monetary policy, though promulgated each year, seems to be unable to address the real sector promotion. There are 1150 branches of microfinance financial institutions (NRB). There are 1030 BFI branches in the province to serve about 4930 persons, indicating that access to financial services is still limited.

Table 58: Banks and FIs in the Lumbini Province

Lumbini Province: Banks and FIs						
District	Class A	Class B	Class C	Total	Population	Population per branch
Gulmi	38	15	-	53	246,494	4,651
Palpa	47	11	-	58	245,027	4,225
Rupandehi	222	77	28	327	1,121,957	3,431
Kapilbastu	83	18	6	107	682,961	6,383
Arghakhanchi	21	7	-	28	177,086	6,325
Pyuthan	20	13	-	33	232,019	7,031
Rolpa	21	2	-	23	234,793	10,208
Rukum (East)	8	-	-	8	56,786	7,098
Dang	87	39	3	129	674,993	5,233
Banke	79	29	7	115	603,194	5,245
Bardiya	44	26	-	70	459,900	6,570
Nawalparasi (West)	65	20	3	88	386,868	4,396
Total	735	257	47	1,039	5,122,078	4,930

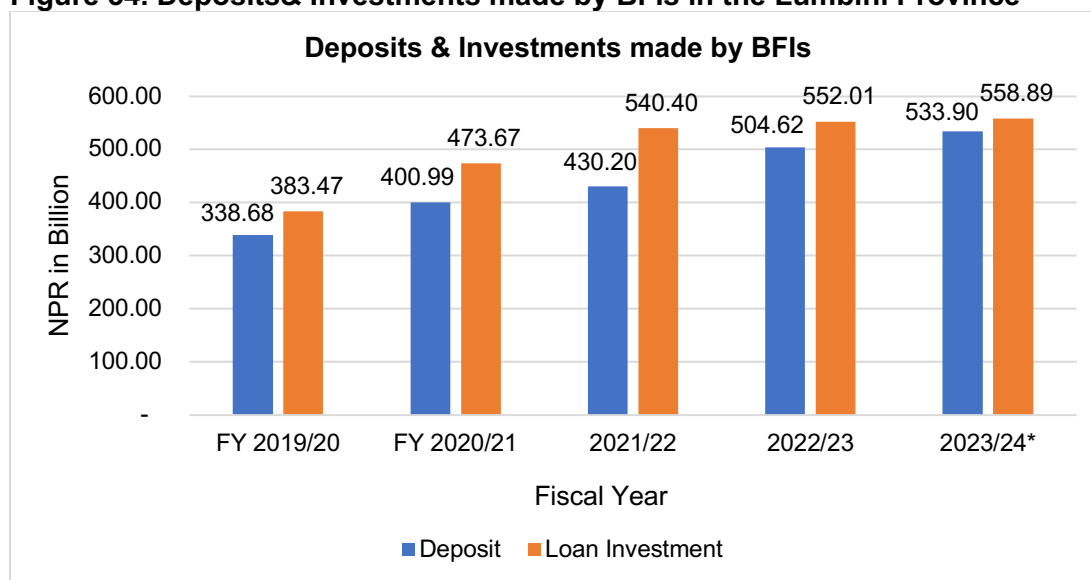
Source: NRB (2024).

3.2.4.2. Investment and Cost of Finance

41. With the current growth rate of 5.8 percent, the total investment by the fiscal year 2023/24 (for the first eight months) has grown to NPR 558.89 billion from NPR 552.01 billion in the previous fiscal year 2022/23. Local people have very limited collateral-worthy property (either land or building), which further denies them from formal source of finance. Due to the high rate of interest and limited access to formal sources of finance, many local farmers turn to the traditional/informal sector for loans and credit. The rate of interest charged by informal sources is even higher. Nationally, the Weighted Average Lending Rate of Commercial Banks in 2022/23 was 12.3 percent whereas the base rate was 10.03 percent in the same year. The following table shows the deposit and loan investment for the last five years.
42. Infrastructure Investment: Building roads, bridges, and utilities is made possible by adequate funding. These expenditures improve connectivity, draw in companies, and stimulate the economy in the province.
43. Private Sector Growth: Companies can grow, innovate, and create jobs when they have access to reasonably priced financing. The Lumbini Province can promote the expansion of the private sector by making loans and investment opportunities easier to obtain.
44. Agricultural Productivity: Cost-effective financing provides credit to farmers for modern techniques, equipment, and seeds. Increased agricultural productivity advances the economy as a whole.
45. Tourism Development: By providing funding for tourism-related projects (such as hotels, resorts, and historical sites), one can draw tourists, bring in money, and create jobs.
46. Human Capital Investment: Training loans and skill-building initiatives improve workers' capacities, which boosts output and spurs economic expansion. In conclusion, the Lumbini

Province's prosperity and sustainable development are guaranteed by affordable financing.

Figure 34. Deposits & Investments made by BFIs in the Lumbini Province



Source: Economic Survey 2023/24, Lumbini Province.

3.2.4.3. State of Cooperatives in The Lumbini Province

47. The Lumbini Province is home to 768 cooperatives of 14 different kinds, according to the cooperative and poverty-related management information system (COPOMIS). Of the 768 cooperatives registered, 442 have received passwords, and 424 have logged in, according to data released by the Ministry of Finance, Lumbini Province. These cooperatives' financial status states that their total savings amount to Rs. 18.82 billion, their share investment to NRS. 3.04 billion, and their loan investment to Rs. 20.18 billion. There are 108349 men and 76035 women among the 184475 members; the remaining members fall into another category. One of the main obstacles is the dearth of business-specific cooperatives, which results in low investment in niche industries such as dairy, ginger, coffee, beekeeping, and animal husbandry. Although general cooperatives are increasingly bigger and more widespread, they still make investments in the housing and consumer sectors. The resource and skillsets of cooperative can be used to commercialize agriculture, and SMEs in the Lumbini Province.

Table 59: Types of Cooperatives in Lumbini Province

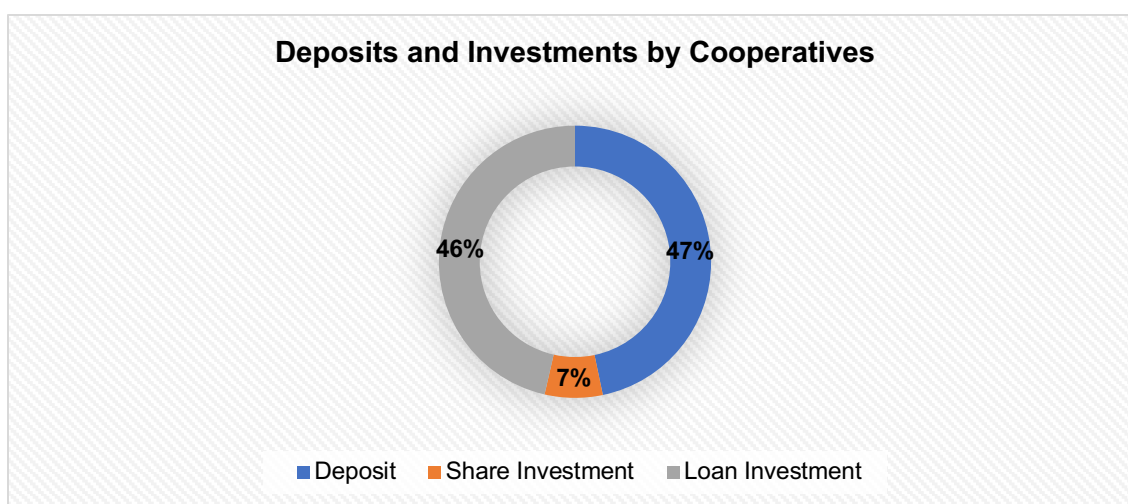
SN	Types of Cooperatives	Number	Remarks
1	Savings and Credit Cooperatives	265	
2	Multipurpose Cooperatives	226	
3	Agriculture Cooperatives	139	
4	Dairy Cooperatives	33	
5	Consumers Cooperatives	13	
6	Communications Cooperatives	12	
7	Ginger Cooperatives	8	
8	Small Agriculture Farmer Cooperatives	8	
9	Coffee Cooperatives	6	
10	Vegetables and Fruits Cooperatives	4	

SN	Types of Cooperatives	Number	Remarks
11	Bee-keeping Cooperatives	4	
12	Electricity Cooperatives	4	
13	Animal Husbandry Cooperative	1	
14	Other Cooperatives	45	
	Total	768	

Source: Ministry of Finance, The Lumbini Province(2023).

48. In recent years, due to the lack of supervision and monitoring by the regulatory agencies, the default cases of cooperatives have surfaced one after another. Many depositors are destined to lose their deposits in the cooperatives. Recently, default issues have emerged as new issues in the cooperative landscape in the country and province. In addition, the savings and credit cooperatives have become dreadfully vulnerable compared to the subject cooperatives, which deal with specific goods and services.

Figure 35. Deposits & Investments made by Cooperatives in the Lumbini Province



Source: Economic Survey 2023/24, Lumbini Province.

49. As of mid-April 2024, the total investment made by Cooperatives was NPR 4.65 billion as share investment and NPR 31.39 as loan investment. The total deposit collected by Cooperatives in the same year was NPR 31.60 billion. Nevertheless, it was discovered through stakeholder consultations that most sectoral cooperatives have not made the required investments in their sectors. Therefore, by putting in place suitable policies and monitoring mechanisms, the provincial and local governments can create an environment that encourages those cooperatives to concentrate on agriculture, dairy, and other economic projects. Cooperatives that invest their capital in profitable industries promote economic growth.
50. Agriculture and Agro-business: By combining resources, exchanging information, and buying inputs like machinery, seeds, and fertilizer as a group, cooperatives can increase agricultural productivity. They make contract farming easier by giving farmers access to markets and enabling them to bargain for better terms. Cooperatives have the potential to help Lumbini Province realize its agro-business development potential.
51. Resource Utilization: Cooperatives can encourage the conservation of soil and the use of water for irrigation, two examples of sustainable resource management. Small-scale

farmers can take advantage of economies of scale and effective resource allocation thanks to them.

52. Financial Inclusion: Rural communities can access savings, credit, and insurance through cooperatives. They support capital formation and investment in provincial projects by mobilizing local savings.
53. Infrastructure Development: Projects involving roads, bridges, and irrigation systems can be worked on by cooperatives. They are essential to enhancing connectivity. They are essential to enhancing accessibility and connectedness throughout the province.
Tourism and Heritage Sites: In order to preserve cultural heritage and make money, cooperatives can assist local tourism initiatives. They can oversee guided tours, homestays, and the manufacturing of handicrafts, which will help both residents and visitors.
Trade and Industry: Small-scale manufacturing, handicrafts, and trade are all possible for cooperatives. They connect producers to markets and make value addition easier.
Building Capacity and Training: Cooperatives offer instruction and the advancement of skills.

3.2.4.4. Issues of Poverty and Inclusion

54. The Nepal Statistical Office (NSO) conducted the Nepal Living Standard Survey (NLSS-IV)²⁷ in fiscal year 2022/23 to find out the Cost of Basic Needs (CBN) and the poverty profile of the country. It considered consumption expenditure on basic food needs and basic non-food needs while doing so. The survey discovered that the annual basic consumption expenditure on the national level, in nominal terms, is NRs 130853 as the mean annual per capita consumption expenditure while for Lumbini Province, it is NRs 95,398 for rural areas and NRs 132,805 for urban areas. The distribution of poor is 13.36 percent for urban areas and 9.40 for rural areas nationally, while the distribution of poor is 22.76 percent in Lumbini Province.

3.2.4.5. Poverty Profile of Nepal and Lumbini Province²⁸

55. Reducing poverty increases consumer demand for goods and services in the province. As the rate of poverty declines, more people have extra money to spend. The increased consumer spending as a result boosts regional markets and companies.
56. Human Resource Development: Programs aimed at reducing poverty improve training and skill acquisition leading the human resource development. Having a skilled workforce promotes creativity and productivity.
57. Entrepreneurship: Encouraging the underprivileged to launch enterprises boosts employment and broadens the economy in LGs of the province.
58. Policies that are inclusive foster social harmony by lowering tensions and disturbances. Investments are drawn to stable environments. By promoting inclusion, marginalized populations—including women, people of color, and people with disabilities—are guaranteed equal access to economic, medical, and educational opportunities.
59. Local Participation: Better policies and more focused development projects result from including a range of perspectives in the decision-making process. In conclusion, inclusion and poverty reduction generate a positive feedback loop that propels Lumbini's economic growth. The poverty gap is one of the highest in Lumbini among all provinces.

²⁷ The earlier Surveys by CBS were NLSS- I (1995/96), NLSS-II (2003/04), and NLSS-III (2010/11).

²⁸ NLSS-IV, NSO, 2024

Table 60: Poverty Profile

Area	Head Count Index	Poverty Gap (percent)	Poverty Gap Squared	GINI Index
Nepal overall	20.27	4.52	1.48	0.300
Nepal Urban	18.34	4.03	1.29	0.308
Nepal Rural	26.66	5.64	1.91	0.287
The Lumbini Province	24.35	5.80	1.99	NA

Source: Source: NLSS-IV, NSO (2024)

Note: If annual per capita total consumption expenditure is less than NRs 72,908, a person is considered 'poor' as per this survey.

3.2.4.6. The Poverty Incidence of Lumbini Province

60. The poverty gap measures the extent to which the mean income of individuals, on average, falls below the poverty line. It ranges between 0 and 100. A zero indicates no one is below the poverty line and 100 indicates that all have zero income, and hence poor. The poverty gap squared is a weighted sum of the poverty gap. It puts more weight on individuals whose observed consumption is farther away from the poverty line. The Survey estimated the following poverty incidence of poverty in the province.

Table 61: The Poverty Incidence: Across Analytical Domain Disaggregation

Lumbini Province	Headcount Index	Poverty gap (%)	Poverty Gap Squared
Urban	24.08	6.31	2.27
Rural	24.73	5.06	1.57
National Average	20.27	4.52	1.48

Source: Source: NLSS-IV, NSO (2024).

61. This shows, very interestingly, that the relative deprivation for the poor individual is less severe (1.57) in rural areas than in urban areas (2.27). This is quite contrary to the scenarios of other provinces in Nepal. Both the poverty gap and poverty gap squared are less severe in the rural area compared to the urban area.

3.2.4.7. Food Expenditure of Lumbini Province

62. The average food share in total expenditure, as the Survey revealed, is as follows:

Table 62: Average Food Expenditure Share in Total Expenditure

Lumbini Province	Q1 (Poorest)	Q2	Q3	Q4	Q5 (Richest)
Urban	57%	54%	46%	41%	35%
Rural	58 %	58 %	55 %	51%	49%

Source: Source: NLSS-IV, NSO (2024).

63. The table shows that the average share of food spending is lower for individuals with a high per capita consumption. This means that the richest people spend only 35 percent of their total expenditure on food consumption in urban areas while only 49 percent in rural areas. This also implicitly corroborates the 'psychological law of consumption', which stipulates that as income increases, the proportion of expenditure (especially food expenditure) decreases accordingly.

3.2.4.8. Mean Annual Per Capita Expenditure of Lumbini Province

64. The table shows that in urban areas the richest have more (as many as five times) consumption expenditures compared to rural areas where the difference was less than four times. Dividing the consumption expenditure into quintiles, the NLSS-IV Survey identified the following scenario for Lumbini Province: The average food share in total expenditure, as the Survey revealed, is as follows:

Table 63: Mean Annual Per Capita Expenditure (NRS) (in expenditure quintiles)

Lumbini Province	Q1 (Poorest)	Q2	Q3	Q4	Q5 (Richest)	Ratio (= Q5/Q1)
Urban	50,688	80,186	110,026	152,949	270,827	5.34
Rural	45,688	65,522	84,390	107,781	174,071	3.81

Source: NLSS-IV, NSO (2024).

Note: Q1 to Q5 represents five consumption expenditure quintiles. These are five equal parts of the population based on annual per capita consumption expenditure. Each quintile is 20 percent of the population.

3.2.4.9. Cost of Basic Needs of Lumbini Province

65. The following table illustrates the high cost of necessities for the 20 percent of the population in the first poorest quintile, both in urban and rural Lumbini. For those in the bottom quintile of income, there is no money left over after meeting basic needs.

Table 64: Cost of Basic Needs (NPR)

Lumbini Province	Food	Non-food	Overall
Urban	34,419	41,049	75,468
Rural	33,415	27,886	61,301

Source: NLSS-IV, NSO (2024).

3.2.4.10. Logistic Performance Index (Cost of Being Landlocked)²⁹

66. The province lacks basic infrastructure, primarily transport-worthy roads, bridges, electricity and telecommunications, and other means of communication and transportation. Connectivity is extremely lacking in the province. Some link roads are in operation in the winter, but not road-worthy in the summer. Agriculture produces are not getting markets, due mainly to the lack of transportation and communications. Storage facilities like cold storage are lacking, and as a result, farmers are forced to sell their products at the time of harvesting. There are two special economic zones in the province bordering India, that are not fully functioning. Dry ports and other facilities for export-import trade are in the southern part of the province, but they are not facilitating the export trade logistic performance indices.
67. The Logistic Performance Index (LPI), is the weighted average of the country's scores on six dimensions: customs performance, infrastructure quality, ease of arranging shipments, logistic services quality, consignments tracking and tracing, and timeliness of shipments as well as practical data measuring logistic efficiency, indicates the relative ease and efficiency with which products can be moved into and inside a country.

²⁹ The World Bank, 2010. The Cost of Being Landlocked: Logistics Costs and Supply Chain Reliability

68. The efficiency of the customs performance is the clearance process (i.e., speed, simplicity, and predictability of formalities) by border control agencies, including customs while infrastructure quality includes the quality of trade and transport-related infrastructure (e.g., ports, railroads, roads, information technology). Similarly, the ease of arranging shipments includes the ease of arranging competitively priced shipments. Logistic service quality includes the competence and quality of logistic services (e.g., transport operators, and customs brokers). The consignment tracking and tracking includes the ability to track and trace consignments whereas the timeliness of shipments in reaching the destination within the scheduled or expected delivery time.
69. The score is measured on a 1– 5 scale. Singapore has the highest score (4.23) while Afghanistan has the lowest score (1.9) in 2023. The South Asian regional average is 2.64 while that of the land-locked countries of South Asia (which includes Nepal, Bhutan, and Afghanistan) is 1.84. The South Asian Coastal countries benefit 43 percent more than that of the land-locked countries in South Asia. It is estimated that the transport cost of land-locked countries is as high as 50 percent of other countries. The following table, exhibiting very slow progress in improving the logistics in trade to compete, shows the LPI trend for Nepal. This severely constrains the export-led growth in Nepal, including the Lumbini Province.

Table 65: Logistic Performance Index (LPI)

Year	Logistic Performance Index	Remarks
2008	2.14	
2010	2.2	
2012	2.04	
2014	2.58	
2016	2.37	
2018	2.51	

Source: The World Bank. (2018)³⁰

3.2.4.11. Human Development Index

70. The human development index (HDI) is rather low in Nepal. Nepal ranks 146/193 in the world presently (2023), the HDI index being 0.601. Hence, Nepal falls in the middle HDI category (0.550- 0.699 range). In 1990, the HDI index was 0.3950. The situation of the Lumbini Province is similar to the national scenario. The following table shows the status of the HDI rank of Nepal for some years.
71. It can be stated that poor geography, bad infrastructure, and low human capital are cumulatively producing low social returns in the province. In other words, low social return is the result of the multiplicative effects of the above factors.

Table 66: HDI Scenario

Year	HDI rank	Remarks
2023	146	
2021	149	
2019	147	
2016	145	
2015	146	

Source: UNDP, HDI Reports.

³⁰ The World Bank, 2018. Connecting to Compete: Trade Logistics in the world economy.

3.2.4.12. Fiscal Responsibility and Discipline

72. The Auditor General of Nepal has pointed out that there are some fundamental growth constraints in the province from the perspective of fiscal discipline, rules compliance, accountability, and fiscal responsibility. Of note are many provincial rules and regulations not yet formulated, existence of the duplication in the rules and regulations between federal and state, organizational duplication, lack of staffing at the province level, many of the programs and policies spelled out in the budget speech not implemented, poorer public service delivery, and poor revenue collection, mostly depending on the federal transfers.
73. In the same vein, other constraints are untimely transfer from the federal government, misallocations of scarcest resources to the unproductive sectors/areas, lack of coordination in the achievement of sustainable development goals (SDGs), allocation to piecemeal activities, project duplication, distributive programs like subsidies and assistance programs, lack of prioritization of the development projects, lack of the consolidated records of the government property, deviation of budget allocation from the medium term expenditure framework (MTEF), and a high proportion of fiscal transfers in the allocation of budget, minimal expenditure compared to the allocations. Similarly, as indicated by the Auditor General's Reports, other constraints are project banks not properly functioning, lack of project prioritization, duplications of many projects and programs, poor internal control system, and lack of unified financial statements relating to allocation, revenue, and resources.
74. Allocating Financial Resources Effectively: Fiscal responsibility guarantees the effective allocation of financial resources. Prioritizing important areas like healthcare, education, and infrastructure will help Lumbini draw in investments and increase productivity.
75. Debt Management: It's critical to borrow responsibly and manage debt. The province has not utilized this window so far.
76. Budget Execution: It is essential that the province's budget be carried out effectively. Economic activity can be stimulated by capital expenditure, targeted spending, and the timely implementation of development projects.
77. Revenue Mobilization: A steady revenue base is ensured by disciplined revenue collection. To finance its development projects, Lumbini should investigate a variety of revenue streams, such as levies, fees, and non-tax income.
78. Accountability and Transparency: Open financial reporting fosters confidence. Lumbini needs to uphold accountability for the public by keeping budgetary procedures transparent.

3.2.4.13. Capacity Utilization of Selected Industries in Lumbini Province

79. Low-capacity utilization has become another cause for low appropriability in the province. Most of the industries in Nepal are operating below 50 percent capacity. The following table shows the capacity utilization of selected industries in Nepal for the last few years. This can also be a proxy for the capacity utilization of the industries located in the province.

Table 67: Capacity Utilization of Selected Industries

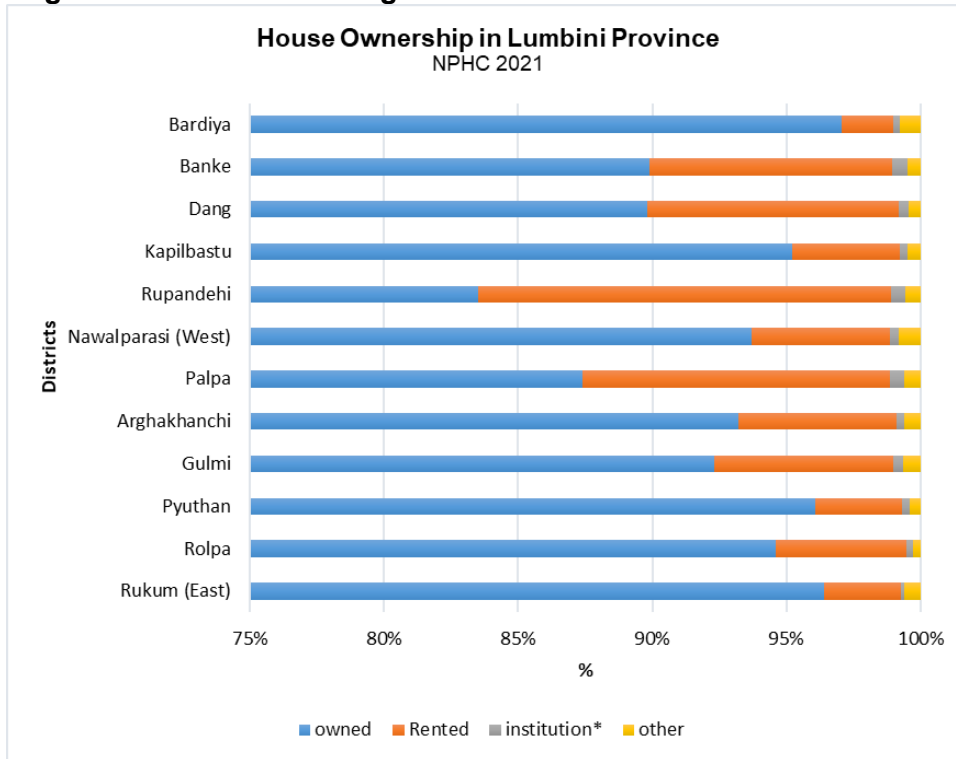
Fiscal Year	No of Industries	Average Capacity Utilization (%)
2017/18	131	59.7
2018/19	131	57.1
2019/20	154	48.7
2020/21	154	52.2
2021/22	154	52.8

Source: NRB (2023).

3.2.4.14. State of Housing in the Lumbini Province

80. The dominant portion of the housing is owner-owned followed by renting out. Urbanization and housing pattern. The ownership of housing patterns shows that the urbanization process is in the initial stage.

Figure 36. State of Housing

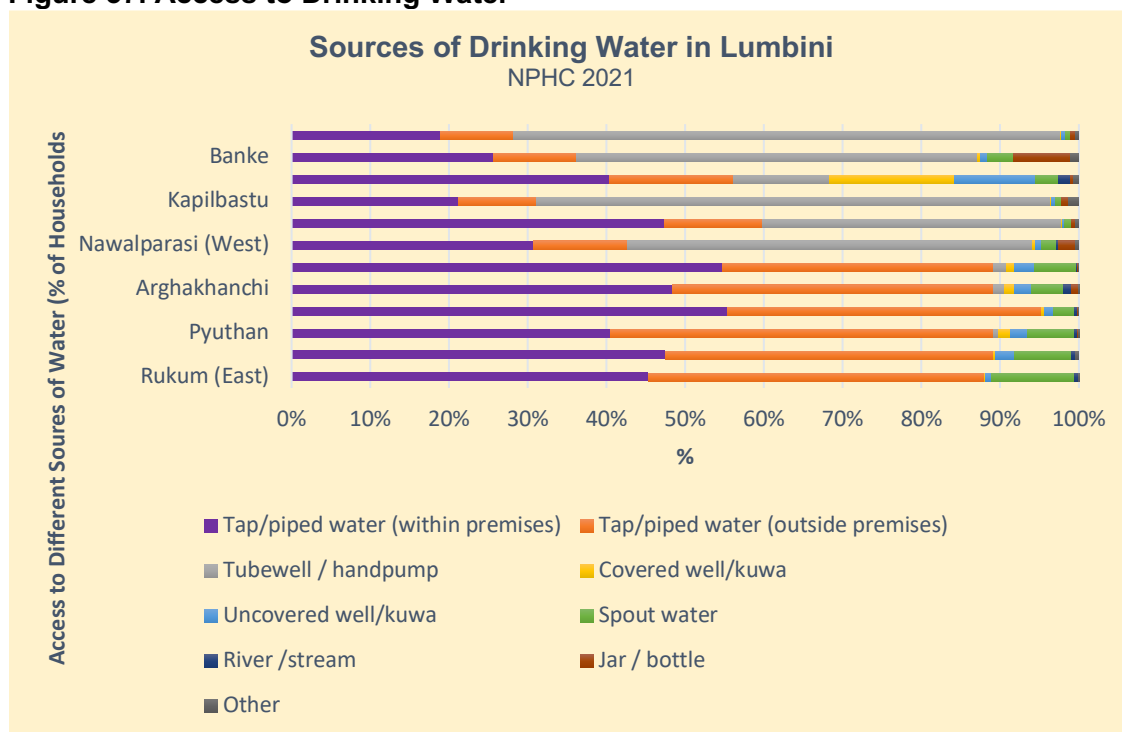


3.2.4.15. Access to Safe Drinking Water

81. Productivity Gain: Communities can carry out productive tasks without being hindered by water scarcity when they have dependable access to clean water. Economic growth results from people focusing on work that generates income instead of spending their time fetching water.

Healthcare Savings: The community and individual healthcare costs are reduced when there is a decrease in waterborne diseases due to clean water. Populations that are in good health are more productive, which benefits the local economy. In conclusion, funding sustainable water solutions promotes economic growth in Lumbini Province in addition to enhancing public health. Banke, Kapilbastu and Nawal Parasi districts still depend on tube well. Only 20-55 per cent people in different districts have access to piped water source within their premises. There is high potential to save household money and time by making full access to safe/piped water at household level.

Figure 37. Access to Drinking Water

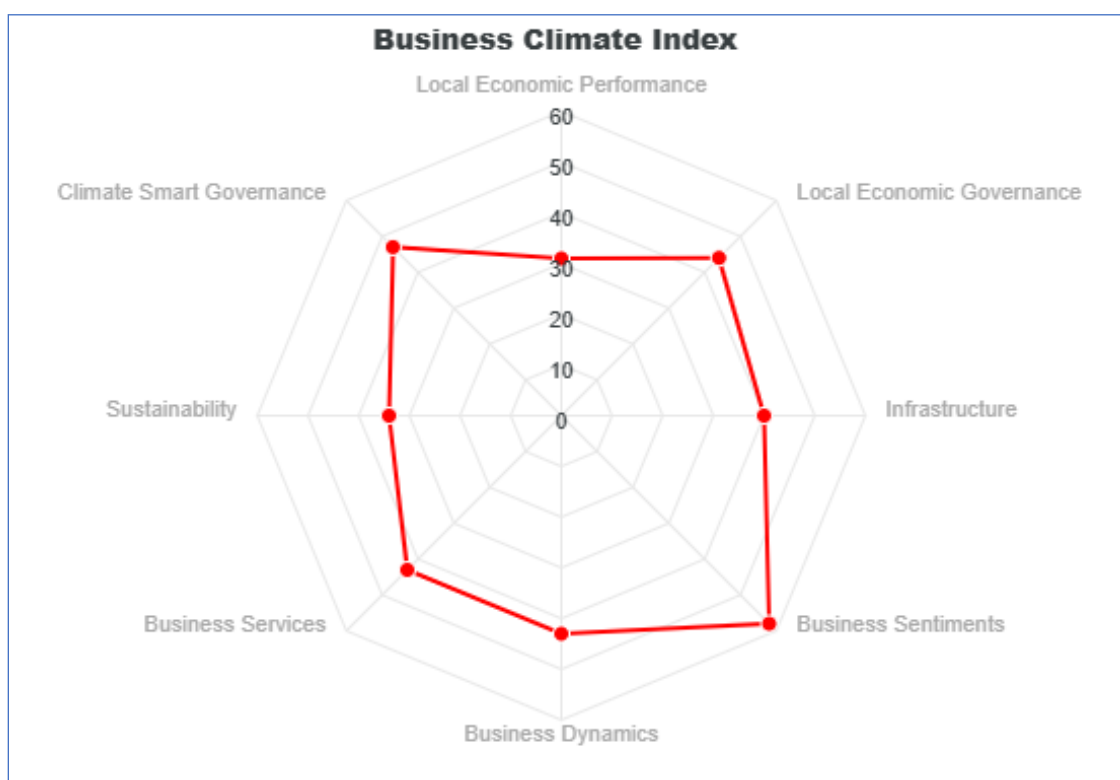


3.2.4.16. The Business Climate Index (BCI) of Lumbini³¹

82. In fiscal year 2021/2022 giz carried out a detailed Business Climate Survey in Butwal, Siddharthanagar, Ghorahi, Tulsipur, Lamahi, Dangaisharan, Kohalpur, Nepalgunj, Rapti Sonari, Rajapur, and Banggadhi covering small, medium, and large businesses. According to survey results, the local economic performance was found to be very low, whereas the business sentiments were found to be relatively high. The survey's findings demonstrate that there is potential for collaboration between the province, local levels, and businesses in the areas of enhancing local economic performance, local economic governance, infrastructure, business services, sustainability, and climate-smart business governance (see the diagram below).

³¹ <https://www.bcsnepal.org/bci>

Figure 38. Business Climate Index of Lumbini



3.3. Sources of Growth in Lumbini Province

83. [The source of growth is estimated based on the five-year average historical data on sectoral decomposition and annual average growth rate. The data sources are from the NSO (2024) and the Economic Survey (2022-23) of the Ministry of Finance, Nepal. As before, the sectors used for calculation are based on the ISIC classifications. With the methodology stated above, the sources of growth calculated are presented in the following table.

Table 68: Source of Growth in Lumbini Province

Category	ISIC Classifications/Sectors	Source of Growth (%)	Population involved (%)
Primary Sector	Agriculture	28.14	60.27
	Forestry		
	Fishing		
Secondary Sector	Mining and quarrying	1.14	0.15
	Manufacturing	3.54	3.29
	Electricity, gas, steam, and air conditioning supply	2.99	0.24
	Water supply; sewerage, waste management, and remediation activities	0.39	1.38

Category	ISIC Classifications/Sectors	Source of Growth (%)	Population involved (%)
	Construction	6.08	9.44
	Wholesale and retail trade; repair of motor vehicles and motorcycles	6.88	11.71
	Transportation and storage	3.38	2.10
Tertiary Sector	Accommodation and food service activities	1.23	1.40
	Information and communication	2.79	0.18
	Financial and insurance activities	10.79	0.73
	Real estate activities	2.58	0.07
	Professional, scientific, and technical activities	0.50	0.30
	Administrative and support service activities	0.36	0.13
	Public administration, and defense; compulsory social security	12.51	1.70
	Education	12.35	2.55
	Human health and social work activities, Other Service activities	3.77	0.88
	Arts, entertainment, and recreation; Other service activities; and Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	0.58	3.48

Source: Estimated by the consultant team. Data NSO (2024), Economic Survey (2022/23), Census 2021

84. As the table reveals, Agriculture (including forestry and fishing) is the dominating source of economic growth in the province. It contributes to as high as 28.14 percent to the growth. The next dominating sectors are education (12.35%), financial and insurance activities (10.79%), wholesale and retail trade (6.88%), and construction (6.08%) respectively.
85. Mining and quarrying contribute only 1.14 percent. Though the province is known for its industry potential zone, the contribution is hopelessly low. There may be many constraints to manufacturing activities, mining, and quarrying. In addition, transport and storage contribute 3.38 percent, health, and social work contribute 3.77 percent, and information and communication contribute 2.79 percent. Strangely, the contribution of water supply, sewerage, and waste management contributes only 0.39 percent to growth.
86. The category-wise decomposition shows that the primary sector contributes 28.14 percent, while the secondary sector contributes 14.14 percent to economic growth. The tertiary sector contributes the rest, namely, 57.72 percent to economic growth in the province. The sectoral decomposition also indicates that the economic activities are still in the rudimentary phases of development, despite having enough plane land, industry potential, and religiously important places. The following table shows the comparative status of the top five contributing sources of economic growth in three provinces, including two neighboring provinces.

Table 69: Ranking of the Top Five Sources of Growth

Province	1st	2nd	3rd	4th	5th
Lumbini	Agriculture, forestry, and fishing (28.14%)	Public Administration, and defense, and compulsory social securities (12.51%)	Education (12.35%)	Financial and Insurance Activities (10.79%)	Whole and retail trade, repair of motor vehicles and motorcycles (6.88%)
Gandaki	Agriculture, forestry, and fishing (19.59%)	Electricity, gas, steam, and air conditioning supply (19.45%)	Public Administration and defense, compulsory social securities (12.20%)	Financial and Insurance Activities (9.77%)	Education (9.45%)
Karnali	Agriculture, forestry, and fishing (27.28%)	Public Administration, and defense, and compulsory social securities (26.53%)	Education (17.60%)	Construction (6.33%)	Human Health and social work activities, other social security (4.82%)

Source: Estimated by the consultant team, Data NSO (2024), Economic Survey (2022/23).

3.4. Review of Growth Policy

87. The current growth policies of the provincial government are as follows.

88. Policies to modernize and commercialize agriculture by enhancing production and productivity to substitute imports will be introduced. Commercially important crop-specific intensive production area development programs will be initiated, under which Nawalparasi (west) is selected for the maize and potato production hub, Rupandehi and Dang districts are selected for oil seeds and vegetable production hub, Kapilwastu as fine rice (paddy) and mango production hub, Banke as mango and lentil pulse, Bardia as oil seeds and lentil pulse, Palpa, Arghakhachi, Gulmi and Pyuthan as citrus fruits and vegetables, and Rukum and Rolpa as apples and summer potato production hub.

89. Expansion of small irrigation projects will be considered, and wherever possible, an intensive farming modality will be supported through larger irrigation projects like Banganga, Praganna, Babai, and Sikta. Focused commercial production area development programs will be initiated. Soil management, testing, and certification will be initiated to maintain the long-term fertility of the soil.

- i. Small processing plants will be established to produce pickles, fermented vegetable leaves, ketchup, wild pepper paste, sugary sweets, milk products, Mauwa whisky, and millet food. They can create local employment and interlink local economic activities. The farming practices adopted by the farmers of Jinwang (Rolpa) will be replicated in other places and areas. The output-based subsidy will be continued. To establish agriculture as a 'decent job' farmers will be honored and felicitated, who contribute outstandingly to production and technology transfer in the areas of agriculture and animal husbandry.

- ii. Access to improved seeds, saplings, and high-breed varieties and fisheries will be ensured. To this end, Krishnanagar of Kapilwastu and Malarani of Arghakhachi will be developed as 'Primary Resource Centers' for horticulture and goat farming respectively.
- iii. Agriculture biodiversity, indigenous products, and native animal species will be protected with due care. Traditional knowledge, skills, and technology will be utilized. Iconic local crops including Bardia (Ghiupuri), Banke, Dang (for local potato and Tilaki), Kapilwastu (Kalanamak), Gulmi (Hansaraj paddy) will be promoted.
- iv. Riverbank farming, farming in the rim (RIM), mushroom framing, and chicken and duck farming (poultry) will be given utmost priority. Open places inside the forest areas will be utilized for gainful employment. Fruit tree plantation and turmeric farming will be given due attention in such areas.
- v. Animal husbandry will also be given equal importance under which Nawalparasi (west) will be considered as buffalo and pig farming, Rupandehi as buffalo and goat farming, Kapilawastu and Banke as buffalos and fishery production hub, Dang and Bardia as buffalos and pig farming, Palpa and Rolpa as pig and goat farming hub, Arghakhachi as cattle and goat farming, Gulmi as buffalo and goat farming hub, Pyuthan as goat farming hub, and Rukum (east) as sheep and goat farming hub.
- vi. Realizing the pain of farmers, a monkey control scheme will be launched with coordination of all political levels.
- vii. Argo-pocket zones will be identified. Touristic spots will be explored. A road safety policy will be launched.
- viii. Cottage industries and micro enterprises will be promoted, an investment-friendly environment will be created, and financial assistance programs will be started with the establishment of the Entrepreneurial Development Fund (EDF).
- ix. River corridor embankment and watershed projects will be initiated to protect local settlements, irrigation facilities, and agricultural land. Attention will be given to exploring hydroelectricity generation and alternative energy sources.
- x. Forest management will be given priority to producing firewood and timbers. Employment creation through forest-based resources will be the highest priority. Herbal production, processing, and storage to revitalize sick forest-based industries will be of immediate priority. Mapping of climate change and integrating watershed management programs will be started simultaneously. Containment of rainfall-prone disasters will be of top priority. Afforestation in public places, riverbanks, and reclaimed land plots will be the immediate priority.
- xi. Districts like Bradia, Dang, and Kapilwastu will be taken as potential areas for 'Mauwa', Gulmi, Arghakhachi, and Palpa for 'Khayar tree', and Pyuthan for sandalwoods plantation. Biodiversity conservation is also a priority. To mitigate 'human-wild animal' conflicts, appropriate mechanisms will be initiated. Practices of environmental impact assessments (EIA) and initial environmental examination (IEE) will be followed to conserve and maintain environmental sustainability.
- xii. Specific areas will be selected for the protection of specific endangered species and professions. Rukum and Rolpa districts will be selected for 'Allo' and 'Kambal', Pyuthan for 'Allo', Dang for leather products and knives (Khukuri), Gulmi as coffee, Palpa as 'Dhaka' and 'Karuwa', Bardia as native bamboos, Nawalparasi (west) as sugarcane and banana and pottery.
- xiii. Harnessing hydro potential will be given due priority. Ground, lift, surface, and other forms of irrigation schemes will be launched to irrigate agriculture pocket zones.
- xiv. A master plan for transport management including a provincial 'Pride Project' that connects Rampur (Palpa) to Jinwang (Rolpa), and other 20 provincial road construction/upgrade programs will be launched with high priority.

- xv. Many circuits will be promoted for religious, adventurous, and cultural tourism. The 'Golden Triangle Circuit' of Lumbini, Swargadwari, and Bardia National Reserve; the 'Tharu Cultural Heritage Circuit' of Dang, Banke, and Bardia; the 'Magar Cultural Heritage Circuit' of Rukum (East), Palpa, and Rolpa; the 'Abadhi Cultural Heritage Circuit' of Kapilwastu, Nawalparasi (West), and Rupandehi; and 'Khas-Arya Heritage Circuit' of Pyuthan, Arghakhanchi, and Gulmi will be developed and promoted. Training tour guides, hoteliers, and transport agents will be accorded added priority.
- xvi. Education will be given due attention by promoting technical and vocational education and building physical infrastructure. The health sector is a fundamental sector that the provincial government will accord the highest priority. To provide quality health facilities, health institutions, workforce, and equipment will be arranged properly. Programs like 'kitchen-reform', 'My health-my Life', and 'Competition for prevention: not for Treatment' programs will be simultaneously launched.
- xvii. Youth employment programs for entrepreneurial development will be initiated. Technical skills, capital, and technology will be made available as concerted efforts through public partnership programs.
- xviii. Disaster risk mapping through the GIS system will be initiated. Larger Buddha Circuit (covering the sites of Debdaha, Ramgram, Sagarhawa, Niglihawa, Kudan, and Tilaurakot) for the promotion of religious tourism will be started with the utmost priority.
- xix. Necessary steps will be taken to develop Lumbini as an 'international reconciliation and peace center'. The soil and water of Lumbini will be branded as 'sacred and pious' things to publicize Lumbini. Other policies will include heritage protection, 'save culture-sale the culture' programs, and religious circles. The international airport will be operated in full-fledged.
- xx. Priority will be given to simplify public service delivery. Skills and capacity development initiatives will be commenced to strengthen the province as an independent, resilient, strong, and prosperous province.
- xxi. Institutional development, human resource management, and capacity building will be accorded the highest priority. Physical infrastructure will be constructed cautiously.
- xxii. PPP modality will be adopted to construct infrastructure in touristic spots. Religious circles will be developed connecting different religious places and spots. Examples include Supadeurali and Panini (Arghakhanchi), Rani Mahal, Bhairabsthan, (Palpa), Swargadwari (Pyuthan), Bageswori (Banke), Thakur Baba (Bardia), Purandhara foundation, Dharapani, Rihar, Ratannath Temple (Dang), Jaljala (Rolpa), Sisne Himal, Kamal Daha (Rukum), Debdaha, Jitgadhi fort (Rupandehi), Ramgram, Nawalparasi (West), Resunga (Gulmi). Importantly, the Ruru Area (Gulmi and Palpa) will be declared as a cultural area to promote religious tourism.
- xxiii. Appropriate policy measures will be adopted to increase public expenditure effectiveness and productivity by installing an automated internal control system. Ways of self-revenue generation will be explored. Regional balance within the province will be maintained in terms of budget allocation, expenditure assignment, and fiscal transfer.

3.5. GESI Contributing to Economic Growth of the Lumbini Province

3.5.1. GESI Analysis

- 90. Violence and inequality based on caste, gender, and ethnicity are still issues in Nepal. Compared to men, women in Nepal have less access to and control over positions that require making decisions. The discrimination against Dalits and Janajatis is rooted in language. The Constitution's pledges to significantly improve Nepal's governance systems, particularly about reducing social exclusion and gender inequality, present

multiple avenues for societal transformation that could advance Nepal's national and international obligations, such as the Beijing Platform for Action (BPfA), the Convention on the Rights of Persons with Disabilities (CRPD), the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), and Agenda 2030 for Sustainable Development, which puts the "leaving no one behind."

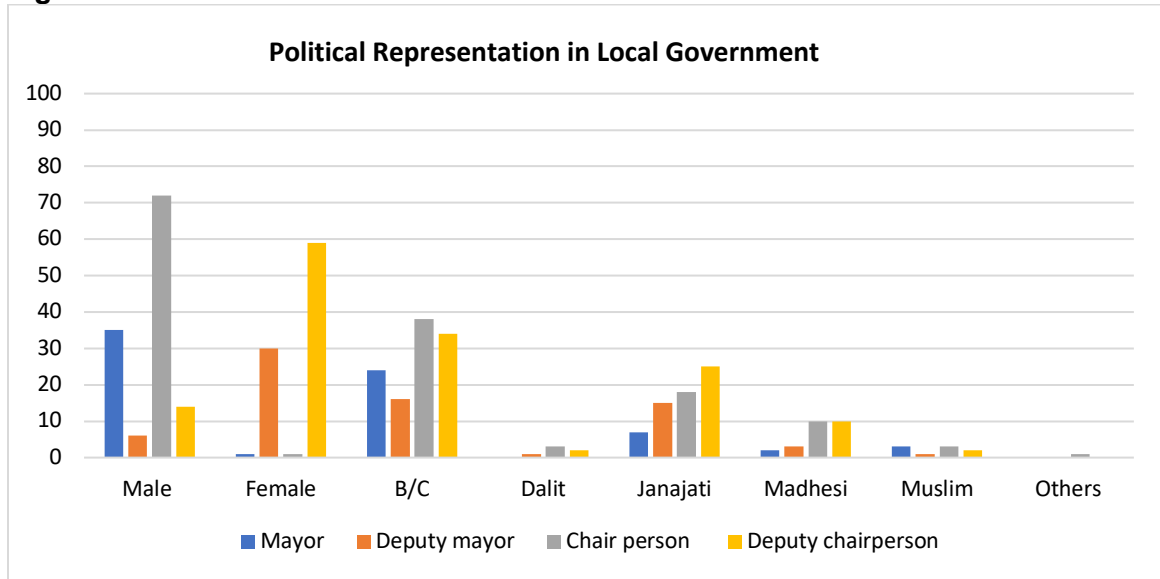
91. The Constitution of Nepal (2015) envisions Nepal as an inclusive state and guarantees the right to equality, social justice, and freedom from discrimination to all. A core aspect of the 2015 Constitution is ensuring that the policies and systems of Nepal are inclusive, particularly of the rights of women and historically excluded groups, calling for 'ending discriminations relating to class, caste, region, language, religion and gender' and to 'create an egalitarian society based on the principles of proportional inclusion and participation, to ensure equitable economy, prosperity, and social justice. The Constitution explicitly provides a broader framework for ensuring GESI, i.e. i) the principle of equality and non-discrimination; ii) Constitutional national commissions and human rights institutions, including the National Women Commission, National Dalit Commission, National Inclusion Commission, National Madhesi Commission, National Muslim Commission, National Indigenous Commission, and National Human Rights Commissions; and iii) various fundamental rights of individuals and groups that address gender inequality and women's empowerment, i.e. Rights to Equality, Rights of women, provisions for positive discrimination towards women and assurance of special measures for women in education, health, agriculture, employment and social security.
92. The women experienced political, economic, and social marginalization. Despite official recognition of sexual and gender minorities by the Constitution (2015) and by government policies, LGBTIQ+ people still face different forms of stigma and discrimination in their families and societies. Gendered social norms that devalue women compared to men remain a critical barrier, severely limiting women's voice and agency, access to and control over resources including knowledge and information. Violence against women and girls (VAW/G) and wage inequality remain high and harmful discriminatory practices such as *Chhaupadi* and other forms of discrimination related to menstruation, child marriage, son preference, sex-selective abortions, higher rates of infant and child mortality for girls, dowry, and accusations of witchcraft and related persecution also remain prevalent throughout Nepal. In addition, the intersectionality of patriarchy with other social and economic hierarchies (based on for example ethnicity, geography, physical ability, sexual orientation, or age) privileges certain groups over others. As a result, many women from excluded groups experience multiple forms and extent of discrimination and face additional barriers in accessing their rights and entitlements, including from justice mechanisms. Men from excluded groups experiencing multiple forms of discrimination also require further consideration and support to ensure social inclusion. The deeply rooted gendered social norms and stereotypes have negatively influenced the meaningful participation of women and excluded groups in governance and decision-making processes. Article 38 (3) of the Constitution ensures the protection of women from physical, mental, sexual, psychological, and other forms of violence, exploitation, or discrimination based on origin, religion, race, caste, tribe, sex, economic condition, language, region, ideology or on other similar grounds. The Constitution identifies specific disadvantaged groups that have the right to participate in the functions of the state and equal access to public services, including socially or culturally backward women, Dalit, Indigenous people, indigenous nationalities, Madhesi, Tharu, Muslim, oppressed class, Pichhada class, minorities, the marginalized, farmers, laborers, youths, children, senior citizens, gender and sexual minorities, persons with disabilities, persons in pregnancy, incapacitated or helpless, backward region and deprived Khas.

93. In this context, though the constitutional and policy provisions for women and excluded groups existing biases and discrimination against women and marginalized groups prevail and face multiple problems of exclusions in public services, unequal wages, GBV and caste-based discrimination, boycotting in public places, agricultural sectors, cooperative sectors. Furthermore, women are suffering from wage discrimination, the high workload in household chores, domestic and gender-based violence, restrictions in women's mobility, severe poverty, and exclusion from meaningful participation in the decision-making level.

3.5.2. GESI Demographics Summary

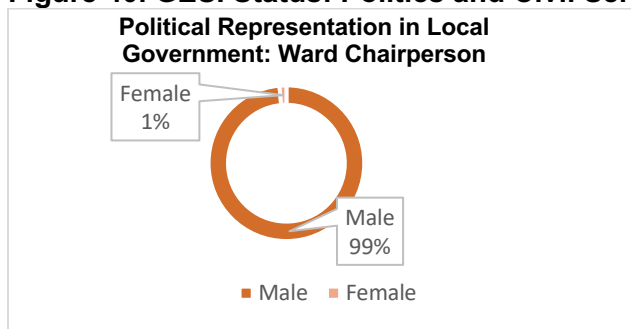
94. The total population of Nepal as of the census day (November 25, 2021) is 29,164,578. Among these, 14,253,551 (48.87%) were males, and 14,911,027 (51.13%) were females, resulting in a sex ratio of 95.59 males per 100 females. In comparison, the 2011 census recorded a total population of 26,494,504 with a sex ratio of 94.16 males per 100 females. The 2021 census also gathered information on individuals identifying as 'other gender' (sexual and gender minorities). Out of the total population, 0.01 percent (2,928 individuals) reported as 'other gender.' Notably, this information was collected separately from the main questionnaire, where individuals from this community were categorized as male or female based on their biological sex. The annual average population growth rate in 2021 was 0.92 percent, a decrease from 1.35 percent in 2011.
95. The population density in 2021 was 198 people per square kilometer, compared to 180 in 2011. In the 2021 census, a total of 142 different castes were documented. Among these, 125 cases had already been recorded in the 2011 census, while 17 new cases were identified in the recent census. The Chhetri ethnicity recorded the highest population percentage at 16.45 percent, followed by Hill Brahman with 11.29 percent while the lowest population was Koiri/Kushwaha which was 1.22 percent of the total population. Nearly 62 percent of Nepal's total population falls within the economically active age group of 15–59 years. The total number of households increased from 5,427,302 in 2011 to 6,666,937 in 2021, a 23 percent rise. Conventional households in 2021 numbered 6,660,841, with an average size of 4.37 persons per household, down from 4.88 in 2011. Of these households, 86.0 percent resided in their housing units, while 12.8 percent lived in rented housing units. Similarly, 0.6 percent of households live in institutional housing units and 0.7 percent of households live in another type of housing units. Ownership statistics revealed that 23.8 percent of households had land or housing units in the name of a female member. Female-headed households constituted 31.55 percent of the total, marking a 5.82 percent increase since 2011. The 2021 census indicated that 2.2 percent of the total population had some form of disability, with males comprising 54.2 percent and females 45.8 percent of this demographic.
96. Muslim, Tharu, Madhesi(Abadhi/Dehati), and other deprived women especially, Muslim women in Tarai of the Lumbini Province face obstacles in family and society. The gender role is shaped by cultural, social, and legal environment. The narrative of gender role impacts the decision-making regarding education, and careers choice. Barriers to accessing quality education, for example, can hinder their personal development, economic opportunities, and overall empowerment. The following figure shows the inclusion of all marginalized groups of society in politics and civil service.

Figure 39. Inclusion in Politics and Civil Service



97. Addressing these obstacles requires a multi-faceted approach, including promoting gender equality challenging discriminatory norms and practices providing access to quality education, and economic opportunities, and ensuring legal frameworks that protect the rights of women and other Minorites. Limited access to resources to land, capital, credit, and other technology can hinder economic development activities for these marginalized groups. The limited resource can restrict their ability to start or expand businesses and engage in productive economic activities.

Figure 40. GESI Status: Politics and Civil Service



98. Discrimination and social exclusion: The marginalized groups faced discrimination and social exclusion at the workplace, which can result in limited opportunities for economic advancement. Discriminatory practices and biases can hinder their access to markets, job opportunities, and fair wages.
99. Inclusivity and Participation: GESI budgeting guarantees equitable access to opportunities for all societal segments, irrespective of caste, language, religion, culture, or geographic location. By addressing the rights of marginalized groups, gender, class, and women's self-determination, it encourages inclusivity and participation. GESI budgeting will benefit the Tharu, Magar, Muslim, and other marginalized groups residing in various districts of

Lumbini Province, and it will enable the efficient mobilization of a sizable portion of the populace's human resources for economic purposes.

100. Equitable Service Provision: Lumbini Province can guarantee equitable access to social welfare, work, healthcare, and education by distributing resources by GESI principles. This promotes prosperity for all and a just society.
101. Affirmative Action: Through GESI budgeting, marginalized groups are given special opportunities that support their economic empowerment and reduce disparities.

3.5.3. Power dynamics of Nepali society

102. Society is a diversity of different castes, classes, religions, genders, and ethnicities where power plays a prominent role in transforming the society. Every society has socioeconomic relations with each other to sustain their livelihood to preserve their cultural practices, social norms, and values. Nepal's ancient history socio-economic relations were dependent on the agricultural system at different times and periods.

3.5.4. Major Issues and Challenges of GESI

In the context of Nepal, women and the Dalit community are the most marginalized segments of the society. According to various research and studies, they have been facing multiple problems of unequal access to means of production (land, off-farm employment opportunity), isolation and lack of access to basic goods and services; and exploitative production relations between different economic and social groups based on class, caste, gender and religious identity. Gender and social inclusion issues include the prevalence of untouchability and caste-based discrimination against Dalits. The issues to be addressed are violence against women (including the culture of Chhaupadi, Badi, early marriage, and domestic violence). The other issues include unequal wages between men and women, isolation, patriarchal domination of women, lack of education and off-farm employment opportunities, restricted mobility due to strict gender norms, increased workload, and differential impact of natural vulnerability.

3.5.5. Involvement of Males and Females in Trade Establishments

103. The second lowest percentage of any province is found in Lumbini Province, where approximately 31 percent of women are employed in the distributed trade sector.

Table 70: Involvement of Male and Female Trade Establishment

Province	Male (%)	Female (%)
Koshi	59.7	40.3
Madhesh	77.0	23.0
Bagmati	61.9	38.1
Gandaki	55.9	44.1
Lumbini	69.0	31
Karnali	54.1	45.9
Sudurpaschim	67.5	32.5

Source: NSO (2022).

3.5.6. Gender-wise Ownership of Trade Establishments

104. In Lumbini Province, males own 78.5 percent of the establishments, while women own 21.5 percent. Interestingly, the highest proportion of women engaged in distributive trade was found in Karnali Province, with Gandaki and Koshi Provinces following closely behind.

Table 71: Gender-wise Ownership of Trade Establishments³²

Province	Male ownership (%)	Female ownership (%)
Koshi	68.3	31.7
Madhesh	89.2	10.8
Bagmati	68.7	31.3
Gandaki	64.9	35.1
Lumbini	78.5	21.5
Karnali	75.2	24.8
Sudurpaschim	81.5	18.5
National	74	26

Source: NSO (2022).

3.5.7. Gender Responsive Budgeting in the Lumbini Province

105. Over the last few years, the gender-responsive budget has increased. The budget share meant to produce direct benefits to gender, which was only 14.28 percent in the fiscal year 2019/20, increased to 38.1 percent of the total budgetary allocations. The neutral budgetary allocations have decreased from 50.51 percent to 34.09 percent, meaning that budget allocations have been channeled to gender-responsive areas. The province has become gender-friendly and inclusive in recent years.

Table 72: Gender-responsive Budgetary Allocations

Fiscal year	Direct benefits (%)	Indirect benefits (%)	Neutral (%)
2019/20	14.28	35.31	50.51
2020/21	21.46	32.73	45.81
2021/22	38.6	29.99	31.41
2022/23	38.1	27.81	34.09

Source: Ministry of Finance, Lumbini Province, (2023).

Table 73: Climate Change sensitive-budgetary allocations (%)

Fiscal year	Direct benefits	Indirect benefits	Neutral
2020/21	6.00	28.88	65.09
2021/22	9.92	32.1	57.98
2022/23	9.59	33.41	57.01

Source: Ministry of Finance, The Lumbini Province(2023).

106. The above table reveals that the annual budget allocation remained far behind in addressing the climate-sensitive programs. Less than 10 percent of the total budget is allocated to climate-sensitive areas. This may make provincial development unsustainable. Hence, such an allocative pattern can be aligned with the adaptation of climate change impact goals.
107. Adaptation and Resilience: The effects of climate change on economic activity are taken into account in climate-sensitive budgeting. Lumbini can increase resilience and safeguard livelihoods by dedicating funds for climate adaptation strategies (such as flood control and drought-resistant agriculture). Investing in Eco-Friendly Methods: Allocating funds for sustainable tourism, renewable energy, and environmentally friendly infrastructure can minimize environmental damage and promote economic growth.

³² Government of Nepal, National Statistical Office. (2022). *Nepal Distributive Trade Survey, 2022*. National Report.

108. Disaster Preparedness: Setting aside money for emergency response and disaster risk reduction helps prevent natural disasters from wiping out financial gains.

3.6. The Growth Constraints Identified

3.6.1. Political Instability

109. The Lumbini Province, as in the federal government, has been subject to frequent political changes and, as a result, is facing political instability. The political parties have different perspectives on development discourses and policy priorities and consider development differently. The frequent changes in political leadership have directly obstructed stable political direction and guidance. In many cases, the preoccupation is that one political party contradicts the policy proposal put forward by another regarding resource mobilization and growth strategies. All these imply that political instability has been a binding constraint to growth in the province and the constraint is binding. Binding constraint, if relieved, can unleash the growth potential in the province.

3.6.2. Policy Uncertainty and Legal Deficiency

110. Frequent policy change, due mainly to political and bureaucratic reshuffles, has created substantial risk in the policy implementation capability of the provincial government. Policies introduced by one group of people are not implemented by another group- either political or bureaucratic- due to a lack of policy ownership under conditions of uncertainty. Evidence shows that there were many good policies introduced in the past but were not put into implementation due to, among others, the lack of commitment on the part of the provincial leadership. There is a gap between policy proposals and reality, and this is reoccurring. When policies are not implemented as envisaged, it creates frustration all over the province.
111. Many rules and regulations according to the spirit of federalism are yet to be formulated. Without legal provisions and clear mandates, it becomes difficult for any policy proposals to be put into implementation. Primarily, the Federal Civil Service Act, Nepal Police Act, National Natural and Fiscal Commission Act, Intergovernmental Fiscal Commission Act, Local Level Government Operations Act, Cooperatives Act, Provincial Financial Procedure Act, Province Fiscal Management Act, and Province Good Governance Act are considered important. But some of the acts are not even promulgated, some are not revised, some are not updated, and some are unimplementable. Laws relating to the Federal Civil Service Act and Federal Nepal Police Act, which govern the bureaucracy and security affairs, are absent and these are the binding constraints.
112. Assuring stability of rules and regulations is a prerequisite for economic growth. To ensure a stable economic environment, legal predictability is a necessity. In some cases, the federal government introduces new acts and rules that encroach on the jurisdiction of the province are also constraints. The federal government often changes many provisions of existing acts and rules, mostly relating to taxes and customs, unpredictably and has inhibited growth prospects.

3.6.3. Road and Transport Network

113. The Department of Road, GON (2020/21) records that the national highway road network in the province is BT 1422.72 KM; GR 165.11 KM ER 789.82 KM; UC 94.33 KM, and PL 72.59 KM, totaling up to 2546.57 KM. Compared to other provinces, the amount of road network is enough in the province. Besides national highways, the provincial and local governments. Have built several sub-roadways, pathways, and link roads have been constructed over the years. though there is skepticism about the quality of roads and

transport networks. The road network can give an extra boost to economic growth by interlinking economic activities locally and provincially. However, the roads are not contributing to economic growth as expected. One example is sufficient to illustrate. Many trucks (most of them are Indian registered) can be seen running even at the mountain tops. These fully loaded trucks are carrying Indian goods to the northern part of the province but return to the Indian border empty-handed. Indian goods are generally cheaper and, as a result, have replaced the local products, including agricultural outputs and inputs. This has discouraged local production and local economic activities. The use of the road is not economically viable for local production and employment generation. In a nutshell, the roads and transport networks are a constraint, but not a binding one.

3.6.4. Electricity Supply

114. In the past, electricity used to be a binding constraint to economic growth. Electricity is the only primary source of energy in Nepal. It has facilitated many processing industries. Now that electricity is available because of the construction of many hydro projects, electricity shortage is no longer a binding constraint, especially in the northern part of the province. However, electricity shortage is still a binding constraint to the southern part of the province adjoining India where many heavy industries are located.
115. As per the record of Nepal Electricity Authority, Provincial Office (2022/23), there are 21 Distribution Centers under the Provincial Office of the Lumbini Province(LPO), Butwal. The distribution loss of LPO was 8.48 percent. In this fiscal year, sales contribution to Nepal Electricity Authority (NEA) from the LPO was 14.04 percent. The energy sales were 13,12,774 MWH. Revenue from these sales was Rs 12,448 million. The number of consumers was 5,32,306.
116. However, the Industry owners complain that electricity shortage is still a problem in the industrial zones and southern corridors of the province. Frequent interruption in the electricity supplies directly disturbs workflows and increases the cost of production. In sum, it can be said that electricity, in the current situation, supply is a constraints but not a binding one.

3.6.5. Lower Level of Investment

117. The provincial economy is very much consumption oriented. Most of the income is spent on consumption, leaving very little income for savings and, in consequence, for investment. The domestic savings in the province are less than ten percent of the gross domestic product (GDP). The gross fixed capital formation is estimated to be less than twenty percent of the GDP. A recent Provincial Economic Survey mentions that the share of the Lumbini Province in national GDP is estimated to be 14.20 percent and per capita income is estimated to be US \$ 1126 vis-v-vis to the national per capita GDP USD 1400. The economic growth is estimated to be around 2 percent. Interestingly, the share of agricultural and non-agricultural contribution to GDP is estimated to be 30 percent and 70 percent, respectively.
118. With a lower level of per capita income and high per capita consumption in proportionate terms, the resources available for investment are limited. Once the investment is low, there is little prospect for further investment and re-investment, forcing the provincial economy to remain at the lower rung of the growth ladder. Thus, a lower level of investment critically retards the growth potential.
119. Furthermore, a lack of investment in complementary factors is also a critical binding constraint. In an economy, economic activities are uniquely interlinked, and a lot of complementarities exist along the growth process. Investment in one sector helps grow another sector faster if economic activities are complementary. Also, domestic value

addition is possible if more and more economic activities exhibit interlinkages and interconnections. The provincial economic growth appears to have been hindered by lower levels of investment and a lack of investment in complementary sectors and factors. Lack of Investment in larger projects and heavy industries are binding constraint.

3.6.6. Inadequate Returns and Private Appropriability

120. Inadequate return is another constraint to holding back the province's growth prospects. Due to the lack of many supplementary factors that facilitate economic activities, likely investors generally shy away from investment and re-investment. Understandably, private investment is driven by returns. The higher the returns, the more likely of further investment in different activities, including long-term project investments. Investment in larger projects is important for a longer-term growth perspective as it creates many rounds of multiplier effects in the economy. Hardcore investment (that is, investment in infrastructure projects) is vitally important to propel the growth process in the economy. Many local entrepreneurs complain that due to many uncertainties, including political and policy uncertainty, it is difficult to be assured of future returns on investment, and compels investors to remain reluctant toward further investment. Human capital investment has not been considered investment by investors.

3.6.7. Lack of Access to Appropriate Technology

121. Lack of access to technology is yet another constraint to growth prospects in the province. The northern part of the province is a region of mountainous peaks and steep hills. Mechanized farming is difficult in these areas. The southern plain land is cultivable and to some extent has been adopting mechanized farming. Traditional agricultural farming, cultivation, cattle rearing, and even processing are done based on conventional methods and techniques that are inefficient and unscientific. Replacing them with new technology is still a distant possibility. Industries located in the southern plainlands are using some new technology, but lots of update is required. This may involve further costs. Entrepreneurs are averse to further investment in new technology. The uplands and highlands of the province are utterly facing the lack of appropriate technology that is suitable for local topography. This has posed a hurdle to extricating the economy from a low-growth reality to a high-growth trajectory.

3.6.8. Challenging Terrain and Topography

122. Geographically, the province is extended from 27° 20' to 29° latitude east to west and from 81° 2 1' to 84°02' south to north longitude, with a total area of 17810 square KM. If conservation areas and national parks are also included, the total area becomes 22288 square KM. The total area of the province is 15 percent of the total national area. Of the total area, about 54 percent of the land is plain land and the rest 46 percent is high uplands and mountains. As per the provincial records, of the total landmass of the province, 3.1 percent of the land is high Himalayan peaks and highlands, 9.1 percent of the land is high hills and mountains, 32.2 percent is medium-high mountains, 27.9 percent is Siwalik and the rest 27.6 percent is Terai plain lands. All these imply that the topography of the northern part of the province is not suitable for large industries, nor is it suitable for commercial farming. It is feasible for cattle rearing and sheep farming. Only the southern plain is suitable for heavy industries and manufacturing establishments. Since the province is far from the seaport, local industry production is costly for exports abroad. If production can be increased, there is some room for these industries to grow in the domestic market. In conclusion, the province's unfavorable geographic location is a limitation but not a legally binding one.

3.6.9. Low Human Capital

123. The human capital is poor in the province. Investment in human capital is considered an unnecessary expense by investors. The low human capital does not possess any skills and experience. The province is being left behind by the high trend of emigration of educated, trained, and skilled human resources. The human development index's education, life expectancy, and income indicators are not up to par. Due to the low level of human development, the growth potential has not been unleashed. The population census (2021/22) has revealed that the number of families in the Lumbini Province was 1141902. This is equivalent to 17.1 percent of the total national figure. The average family size was 5.08.
124. The social indicators are not very promising in the province. The Census (2021/22) has shown that the total dependency ratio was 53.82, of which the child dependency ratio was 43.87 and the old age dependency ratio was 9.95. The potential support ratio was 10. The aging index was 22.69, and the population dividend index was 73.4. The average life expectancy rate was 69.5 years, of which, male life expectancy was 66.10, while it was 72.5 for females. The median age of people in the province was 25 years, of which the male age was 24 years, and the female median age was 26 years. The infant mortality rate was 20 while the child mortality rate (CMR) was 6.7. The crude death rate (CDR) was 7.08, higher than the national average of 6.81.
125. According to Nepal Living Standard Survey IV (2022/23) by NSO, the annual nominal household consumption expenditure (a measure of household welfare in the 12 months that aggregates two main components – food consumption expenditures and non-food expenditures), the ratio of the annual mean per capita expenditure of the richest 20 percent and the poorest 20 percent, (that is, the quintile ratio) has shown inequality in the province. The richest quintile was over five times that of the poorest 20 percent quintile in Lumbini Urban. At the same time, the quintile ratio of Lumbini Rural was only 3.81. This exhibits, surprisingly, the wide disparity in Lumbini Urban.
126. The same survey has revealed that the average food shares in the total annual nominal per capita expenditure were the poorest Lumbini Rural 58 percent and Lumbini Urban 61 percent while the food shares of the richest had 49 percent and 44 percent, respectively. Overall, the spread of poverty in the Lumbini Province was 22.76 percent; the headcount poverty was 24.35, the poverty gap was 5.80 and the poverty gap squared was 1.99. The urban-rural categorization has shown that the poverty incidence (headcount rate) in Lumbini Urban was 24.08 and in Lumbini Rural was 24.73. The poverty gap was 6.31 and 5.06 for Lumbini Urban and Lumbini Rural, respectively. Similarly, the squared poverty gap was 2.27 for Lumbini Urban while it was 1.57 for Lumbini Rural.
127. In sum, many human development indicators are below the national average. A low level of human capital does not contribute to economic activities efficiently. Hence, the lower level of human capital is a constraint, but it is not a binding one.

3.6.10. Lack of Access to Basic Primary Infrastructure

128. Good infrastructure helps encourage economic activities, including production, transportation, storage, distribution, and marketing of goods and services. Lack of such primary infrastructure as roads, railroads, airports, seaports, bridges, telecommunications facilities, electricity, water supply facilities, solid waste management facilities, cold storage facilities, processing plants, etc. may limit the production base of the provincial economy as the costs of production and distribution become high. Investment in such facilities and infrastructure is demanding. These are also constraints, but not binding ones.

3.6.11. Market Imperfection

129. A perfect market paves the way for information symmetry, allows for factor mobility, permits free entry and exit, and creates an environment to sell different products and services. They are price setters. On the contrary, market imperfection has no such features and very little information is available to share with laborers, consumers, and producers. The local market is characterized by many imperfect conditions. Farmers producing agricultural grains and vegetables, milk and milk products, herbal products, and cottage industry products do not find appropriate market for their products to sell. Very little information is available to producers and consumers. The number of brokers and middlemen are exploiting the situation. This has discouraged producers from further production and business expansion. Therefore, market imperfection is a constraint, but it is not a binding one.

3.6.12. Insufficient Local Finance and Poor Intermediation

130. The low level of savings and, as a result, the paucity of investible funds has stifled economic growth. The severity of poverty and deprivation has forced many local people to refrain from investment activities. Formal and informal sectors that lend money for investment are limited. Besides, formal sector sources for finance like banks and financial institutions, there are traditional financiers like indigenous lenders, local merchants, and businessmen who informally lend money to prospective investors at an exorbitant rate. When the interest rate is higher than the potential rate of return, people do not venture into productive investment. The constraint is binding, and it throttles economic growth.
131. Banks and financial institutions play twin roles- accepting savings from local people as deposits and extending those deposits as loans for investment. These institutions, by their very nature, are intermediaries, who connect savers and users of funds. If the function is discharged efficiently, economic growth is very likely. However, in the province, banks and financial institutions are reluctant to extend loans and advances to local entrepreneurs and farmers. Since these financial institutions' lending is based on collateral, particularly keeping physical property/assets as security just to recover loans in case of default, adequate quality property as collateral is a problem. People do not have such magnitude of property that can convince banks and financial institutions to lend. This has indirectly constrained the resource mobilization towards the productive sector at the ground level.
132. At the same time, real estate agents have been encouraged to convert precise agricultural land progressively into plotting for housing construction and human settlements. Therefore, the role played by banks and financial institutions is not conducive to local production and, thereby, to economic growth. Rather they are pushing up consumption by allowing more imports from neighboring countries. Thus, poor intermediation is a constraint, but it is not a binding one.
133. According to A Study on Economic Activities, (2023/24) by Nepal Rastra Bank, by July 2023, the number of banks and financial institutions were found to be 2213 in Lumbini Province. The total deposit lending ratio in the province was 109 percent. Of the total loans and advances by banks and financial institutions in the country, the share of The Lumbini Province is only 11.80 percent. By this period, the total deposit in banks and financial institutions was Rs. 507 billion, the number of depositors being 8021555 in the province. The loan and advances were found to be Rs. 503 billion. About Rs. 42 billion credit was extended to the deprived sector, the refinance credit was about Rs. 409 million, and concessionary loans extended was about Rs. 29 billion. The number of total borrowers was 294,492.
134. Sectoral credit situation and outlook is also nor promising. According to sector analysis, at the end of December 2023, banks and other financial institutions in the Lumbini

Province had extended loans to wholesale and retail sector that accounts for roughly 24 percent of total loans. Similarly, the loans for consumption purposes were equally high. Oddly, the industry sector was expected to receive only 10 percent, the construction sector 2.5 percent, the tourism sector for 4.5 percent, and the agriculture sector for 9 percent. The trend of credit extension in the previous years was also similar. This type of misaligned sectoral credit extension is not propelling growth. The provincial government needs to pay particular attention to the youth and private sector entrepreneurship enhancement programs. Diverting loan flows to the productive sectors like agriculture, tourism, and industry is important. Likewise, it is essential to place special focus on providing supports to newly established startups through the development of innovative knowledge and skills.

3.6.13. Coordination Gap

135. Lack of coordination is a problem for economic growth and development. Nepalese federalism is based on interrelationship, cooperation, coexistence, coordination, and mutual assistance among three tiers of government. To materialize this constitutional mandate, the Federal, Provincial, and Local Level (Coordination and Interrelationship) Act 2077 is in place. The Act has many important provisions to regulate exclusive and concurrent functions of different layers of government. There is a provision for a National Coordination Council (NCC) under the chairmanship of the prime minister to facilitate coordination. There are also provisions for special committees, subject committees, provincial-level coordination committees, and district-level coordination committees. However, the implementation is very weak. The committee rarely meets and lacks initiations for smooth implementation. If timely actions are taken and coordination problems are removed, it can greatly facilitate boost economic growth at the provincial level. Many decisions are not made, and many decisions made are not even implemented due to its reactive stature. The study, based on the discussions with the different representatives and stakeholders, concluded that the coordination failure is a binding constraint.

3.6.14. Human Resources Limitations in the Provincial Government

136. Human resources mobilize all other economic and natural resources. Efficient mobilization of resources is possible once human resources themselves are competent, growth-friendly, knowledgeable, and in sufficient numbers. Due to the long-outstanding issue of the amendment/formulation of the Federal Civil Service Act, the province is unable to assign human resources in the development fields they feel suitable to propel economic growth. Furthermore, there is a lack of training and exposure to provincial civil servants. Federally recruited civil servants have no ownership of the plan, policies, and programs of the province. There are no separate development cadres besides civil service hired by the federal government. The provincial government is not authorized to recruit separate human resources until the formulation of the new Federal Civil Service Act. The number of civil servants is inadequate and are assigned to many functions simultaneously. The federal government, many times, transfers civil servants without consulting the provincial government. This has created a retention problem. Furthermore, there are uncertainties in the career development of civil servants. In brief, human resources are constraints to economic growth.

3.6.15. Unregulated Open Border

137. Nepal's southern border with India is open. The open border allows for cheaper and often low-quality imports into Nepal. Though there are arguments about whether an open border is a boon or bane to provincial economic growth, the discussion with the local people and representatives, unanimously suggested that an open border is not good for long-term

economic growth and development. There were even suggestions that primary agricultural products (including foods, fruits, animals, animal products, fisheries, forests, and related products) import should be strictly under surveillance and discouraged, to the extent possible, from India. The open border has hampered growth, for the simple reason that they have directly displaced indigenous Nepali products. Since agriculture is the backbone of the Nepalese economy, and open borders are not conducive to provincial agriculture growth, it is a constraint to growth. It is a binding constraint.

3.6.16. Youth Migration

138. As in other parts of the country, youth migration (especially for foreign employment) is widespread. The problem is severe in the northern parts of the province. Some brokers and middlemen are actively involved in sending out local youth to foreign countries (in some cases illegally). Northern villages are visibly losing the youth population, who should be economically active locally. The Population Census by NSO (2021/22) has revealed that of the families of 308073, at least one has gone overseas (technically speaking, absentee population), the total number of people being 420906 (19.21 %). Of this, 367670 were male and the rest 53236 were female. The youth (age 16-40) population was 43.11 percent in the province, of which the proportion of males was 40.69 percent, and the female was 45.33 percent, respectively.
139. At the discussions with several stakeholders, it was found a grave concern that male youth are leaving villages. Without youths, local productive resources have remained idle. Many youths have deserted villages for foreign employment creating acute labor shortage problems domestically. It was also suggested that the federal government or provincial government, singly or jointly, should come forward to stop this unwanted outmigration. Though migration, either domestically or internationally, is a globalization phenomenon, this has proved to be a growth constraint to the province. This constraint is binding. If the youth populace can be retained and mobilized locally, it can, for sure, drive further economic growth.

3.6.17. Development as Fatalism

140. The widespread attitude toward prosperity, development, and growth is that it all depends on the mercy of some other external parties (God, government, development agencies, international non-governmental organizations, donor partners, or anybody else at their costs) who should readily gift them 'development'. Some even believe that development is directly functional to fatalism. A free-riding attitude, parasitic behavior, and external dependency assumption were rampantly expressed during the conversations and discussions with local people and even with the lower-level political representatives. Sadly, some even alleged that the government has not come to them to clean their backyards.
141. There should be a change in this mindset. It is the government that must convey the message that development should originate from themselves and for their own very good. In sum, the misleading mindset of fatalism is a constraint to economic growth. This is a binding constraint.

3.6.18. Disaster as a constraint

142. The province is disaster-prone. In the north, there are slopy mountains and high hills which face the problem of landslides and soil erosion. The southern part is prone to flash floods and water logging.

Table 74: Loss Caused by Disaster in the Lumbini Province(2079)

District	No of events	Death of people	Missing	Injured	Effected family	House damage	Animal shed	Effected livestock	Estimated loss (NPR)
Arghakhanchi	13	0	2	2	31	24	4	12	200,000
Banke	17	2	0	1	19	12	0	2	2,389,500
Bardiya	46	2	0	23	66	47	7	14	4,579,500
Dang	71	9	0	21	100	60	5	16	20,178,000
Gulmi	15	2	0	3	14	4	5	18	7,530,000
Kapilbastu	41	7	0	5	40	22	10	8	3,436,100
Nawalparasi	25	1	0	2	25	21	3	2	5,445,000
Palpa	15	5	0	4	15	6	2	6	2,100,000
Pyuthan	41	15	2	10	50	32	10	73	10,938,000
Rolpa	41	4	0	8	27	14	2	15	13,379,000
Rukum East	13	0	0	0	8	8	0	0	3,041,150
Rupandehi	17	1	0	2	17	4	0	1	14,987,000
Total	355	48	4	81	412	254	48	167	88,203,250

Source: Ministry of Home Affairs, 2079

143. The Siwalik range is now facing a drought, drying out the water sources and natural springs. The high Himalayan is facing the problem of snow melting and bursts. Overall, the province has faced a disaster problem, that hinders smooth growth. This is also a constraint, but not the binding one. In summary, the constraints have the following effects:

Table 75: Binding and Nonbinding Constraints of Economic Growth

Constraints	Constraints Type	
	Binding	Nonbinding
1. Political Instability and Policy Implementation	—	
2. Infrastructure		—
3. Electricity supply		—
4. Lower Level of Investment and lack of investment in complementary factors	—	
5. Inadequate returns and private appropriability	—	
6. Lack of access to appropriate technology	—	
7. Challenging Terrain		—
8. Low human capital	—	
9. Lack of access to basic primary infrastructure		
10. Market imperfection		—
11. Insufficient local finance and poor intermediation		—
12. Coordination failure	—	
13. Human resources limitations in the provincial government		
14. Open Southern border	—	
15. Youth migration	—	
16. Development as 'fatalism' and external 'gift'		
17. Disaster as Constraint	—	

SECTION 4: STRATEGIC RECOMMENDATIONS FOR UNLEASHING GROWTH

144. Economic growth not only depends on the availability of resources, but their proper utilization and sustainable use matters much while adopting green, resilient, inclusive development (GRID) strategic plan of action. With the vast potential resources, the tentative resource-support growth path for the province is easily discernable. The growth policies proposals of the provincial government have some consideration on GRID strategic plan of action. But they are not enough. The Constitution of Nepal (Article 51) has postulated many state policies regarding economic growth, industrial development, public private partnership (PPP), land reforms, agriculture development, natural resources utilization and social inclusion. The following practical recommendations to mobilize and manage the identified resources are worth pursuing to unleash the growth potential.

4.1. Promotion of Green and Resilient Agriculture

145. Agriculture, forestry, and fisheries (the primary sector) are still the highest contributing sectors to economic growth in Lumbini Province. The analysis revealed that 28 percent of economic growth is occurring from agriculture, forestry, and fisheries. Small businesses (basically businesses that are oriented towards agro-processing, agro-product transportation, and agro-product storing), subject-cooperatives, and farmers' groups can develop regional value chains that are both economically viable and climate change resilient. Policies to address these concerns are important.

146. Traditionally, cattle rearing (farming) was considered as an integral part of the livelihoods and supplementary to the farming system in Nepal, including in the province. It was essential for sustainable agriculture in a country like Nepal where the ecosystem was to maintain by balancing cattle farming, crop farming, and off-farming activities. Now people have left cattle rearing for agriculture purposes, and one of the important input components, animal manure is lacking, resulting in low productivity for almost all food and cash crops. It has caused an excessive dependence on imported chemical fertilizers (often of low quality). Thus, the neglect of cattle farming as an integral part of the mountain economy has become a growth constraint. The policy reorientation towards cattle farming is essential to unleash the growth potential of the provincial mountain economy.

147. The Constitution of Nepal (Article 51) mentions that reforming land and increasing agriculture production and productivity is the fundamental state policy. To this end, absentee tenancy will be abolished, and land plots will be integrated (land pooling system will be introduced). The constitution also states that agriculture extensive services will be expanded, price mechanism will be made transparent and market access will be guaranteed to increase value chain in the agriculture sector. Through orientation programs and agricultural extension services, farmers can adopt various methods, including agroforestry, organic farming, crop rotation systems, integrated crop management, and water resource management. The programs also help local communities induce initiatives to climate change in their crop planning. By utilizing collaborative action research and fostering multi-actor engagement, the endeavor may assist local stakeholders in promoting climate-resilient agriculture and co-creating and co-sharing relevant expertise. Policies should address these concerns.

148. The growth contribution of financial and insurance activities is about 11 percent in Lumbini Province. However, the activities are urban-centric and less employment-intensive. Financial activities like advancing bank credits, loans and insurance (crop, animal, life, property, etc.) schemes can be directed toward the agriculture sectors.

149. The contribution of education to growth is 12.35 percent. Hence, education can be one of the potential areas for economic growth. Provincial policies should be geared towards

- education, especially vocational education that imparts skills and innovative ideas related to resilient agriculture.
150. The manufacturing sector contributes only 3.54 percent to economic growth. Although the province has full potential for industrial development, both heavy and light industries, the contribution is not encouraging. The industry sector may be facing many problems, including the ones that were discussed in the HRV framework above. Targeted industrial policies, aligned with the federal policies, should be introduced. However, environmental concerns should be given due consideration.
 151. The wholesale and retail trade sector contributes about 7 percent to economic growth. However, the sector is mostly involved in dealing with imported goods, their distribution and marketing. With appropriate policy intervention, the wholesale and retail trade sector can be made more supportive to boost agricultural products and have access to due prices and timely markets.
 152. Transportation and storage contribute to the extent of 3.5 percent to economic growth. However, as wholesale and retail trade sector, imported goods dominate the sector. If policies to incorporate agricultural items (inputs and outputs) ranging from farms to marketing outlets can be introduced, this sector can be instrumental to economic growth.
 153. The contribution of construction to economic growth is only 6 percent. It indicates that investment made in construction activities is not connected to other productive sectors. Hence, strategically important, economically viable, and environmentally friendly infrastructure construction policies should be formulated.
 154. Compulsory social securities and public administration contribute to the extent of 12.5 percent. However, the contribution is only from the government side due to mandatory social safety net expenditure. Policies that link social safety net to agricultural productive activities can be thought of henceforth.
 155. Health and social work activities, which contribute about 4 percent to economic growth, are other areas to address while devising policies. Policies to expand health programs down to the remotest level can support further green growth. The high occurrence of women-related diseases, ill health, malnutrition, lack of access to immunization, caste, exclusion, and gender discrimination have collectively prevented women from involving in economic activities. Social policies to mainstream women are important.

4.2. Development of Project Bank and Project Pipeline

156. Well-prepared projects ensure timely implementation and viable returns. A thorough assessment of community needs must precede before preparing a project list. The list of bankable project pipelines related to promoting agro-based manufacturing, commercial agriculture, and tourism promotion will be a starting point to make the project viable and impactful. The process of developing a project concept note or project ideation involves a methodical examination of the requirements and priorities followed by an exploration of projects in the important areas (such as infrastructure, education, health, and agriculture) that facilitate development.
157. Better project ideas that uncover the growth potential can be obtained by interacting with local government agencies, community leaders, non-governmental organizations, local people, and other stakeholders. An extensive feasibility assessment of the projects related to technology, finances, social, and environmental concerns. Analyzing the potential risks, the accessibility of resources, and the viability gap funding (VGF) are important considerations before project implementation. Constructing a project bank will culminate in the project design and planning stage, and provide thorough project designs including timetables, financial estimates, and engineering drawings. It also collaborates with experts in adjacent fields (such as civil engineering and urban planning) to create comprehensive

project blueprints. Establishing relevant data or evidence, such as project descriptions, budget estimates, expected outcomes, and financial possibilities, such as grants, loans, government budgets, and private-public partnerships, helps ensure project implementation. Thus, policies that help avoid ad-hoc project selection and implementation are essential.

158. Ill-prepared project selection is to be strictly avoided. Enough budget should be ensured before starting a project. Project managers should be given full responsibility without undue intervention. Policies to guarantee sound project management are important. Risk-return trade-off is to be maintained.
159. Land acquisition for mega-projects has been a stern problem for growth in the province. Excessive land prices (values of land) demanded by local communities have made development projects uneconomic and investment unfriendly. This has also discouraged foreign direct investment (FDI). Policies related to land acquisition should be compatible with infrastructure development. Pipelines for well-structured projects help resolve obstacles in mobilizing the province's potential resources or assets and ensure future financial requirements for supplementary project activities. Hence, project bank policies are desirable.

4.3. Promotion of Eco-Tourism

160. The province has full potential for a variety of tourism, namely, religious tourism, alpine tourism, mountain tourism, village tourism, cultural tourism, historical tourism, archeological tourism, and adventurous tourism. The province can emerge as the number one destination if proper attention is given. Provincial policies and laws should guarantee the representation of women and marginalized groups, including indigenous groups, to promote tourism for the growth of the economy.
161. Native places that have natural, archeological, religious, and historical potential, have not yet been identified, developed, or operated properly. Most of the eco-tourist places have been unintentionally abandoned or have remained in dilapidated conditions. Thus, policy initiatives of identification, repair, maintenance, and bringing them into eco-friendly operation are justified for local employment and income generation.
162. Additionally, policies supporting tourism within nature should be emphasized that facilitate small business spurs, creating jobs, and preserving the region's unique cultural heritage can add collaborative effort to strengthen the sustainable local economy. The main objectives of such policies are to safeguard the natural and cultural riches and ensure the tourism industry develops in a fair, sustainable, and advantageous manner.
163. The Constitution of Nepal (article 51) states that sustainable and environmentally friendly policies will be pursued to maintain balance between development and environment. Thus, the rationale for eco-tourism promotion can be justified.

4.4. Commercial Use of Forest Product

164. A study that used Landsat images from 1996 to 2016 found that there was a 199 km² (2.1%) increase in the total forest area during this time. Projections highlight the need for sustainable forest management by recommending additional expansion. The forests of Lumbini Province are essential to local livelihood support, biodiversity preservation, nature conservation, and sustainable development. It is high time to introduce policies that allow the use of timber and non-timber products for economic development.

165. Massive replantation and afforestation programs are to be initiated as a campaign to keep forest coverage intact. Policies to expand forest coverage with plants of flowers, fruits, herbal nuts, spices, and vegetables in the mountain/hill and strong woods in the plain land need to be introduced with people's participation.
166. Private land parcels can be utilized for commercialization of forest products. The lease land holding system for plantation and afforestation can be introduced with the cooperation of local levels.
167. The Constitution of Nepal (Article 51) stipulates that conservation, promotion and utilization of natural resources will be the state policy. The constitution permits commercial use of the forest resources in the province as well.

4.5 SMEs and Processing Industries

168. The contribution of manufacturing sector to economic growth in the province is 3.54 percent, while 3.29 percent of the people are involved in the sector. Similarly, the contribution of mining and quarrying is 1.14 percent, being people's involvement only 0.15 percent. Even though, the province is a potential zone for industrial development, the contribution to growth appears rather low. Heavy industrial establishments for growth promotion are very unlikely in Nepal, particularly given the context of neighboring giant countries and their economies of scale in production. It appears therefore that export-led growth strategy is difficult, if not impossible, for Nepal. Hence, the small and medium scales processing industries (SMEs) are the viable options. Processing industries generally related to agriculture (crops, vegetables, fruits, animal products etc.) forest, fishing, herbal/spices products can be viable options for Nepal. Such small and medium scale industries are within the financial reach of local investors and provincial government. These industries should be strategically located/relocated along the production-distribution-market corridors. The PPP modality also works for these industries. The value addition to local products can be ensured and supply chain can be maintained once SMEs are located along the corridors. The Constitution of Nepal (Article 51) states that sectors of comparative advantages will be selected for industrial development in Nepal.

4.5. Strengthening Institutions and Bureaucracy

169. The province needs to strengthen the administrative and financial management capacities of its ministries in general. Policies that permeate effectiveness in preparing and appraising bankable projects, delivering public services, and implement those public policies are demanding. Hence policies that strengthen public institutions and bureaucracy should be emphasized.
170. The bureaucratic machinery, instrumental in implementing government plans and policies, should be sharpened in terms of training, incentives, and exposure. The policies that ensure professionalism can encourage to prepare, implement, and evaluate projects in time, and organize development plans and annual programs accordingly.
171. The administrative mechanism, which is supposed to provide efficient and effective public service delivery permanently, has been impermanent and lackluster due to political instability, lack of legal provision to ensure career progression, and an unscientific evaluation system. Also, the deficit of number of government employees has posed hurdle to growth constraint. Appropriate human resource policy initiatives are essential. Related acts and rules are to be introduced on time.

172. Lack of coordination or coordination failure at federal, provincial, or local levels has been a constraint to growth. The coordination failure has induced duplication and overlapping in project design, confusion in implementation, and the creation of multi-door outlets even for service delivery. Bureaucracy can play an instrumental role to this end. Hence interpersonal, institutional, and implementation coordination policies are felt urgently required. Policies to hire specialists like project managers, contract administrators, statisticians, economists, IT experts, environmentalists, urban planners, and financial specialists are necessary. Traditional bureaucratic modality is not enough to deliver development in modern times. Policies to periodically conduct organization and management (O&M) surveys of provincial institutions to address peoples' expectations in service delivery are important. Policy dedicated to the use of information technology (IT) and transparency is essential.

4.7 Protection of Indigenous Technology and Resources

173. Policies of promoting traditional technology, especially related to growing and processing of agricultural and animal products, and natural resources, are to be given due priority. Indigenous technology is economical, environmentally friendly, and suitable for the local geography. Protection of traditional lakes, ponds, springs, waterfalls, and waterspouts is essential as they not only supply water for drinking and irrigation but also serve as a natural source of recharge in neighboring places and help maintain the soil fertility and ecological balance. Kamal Tal (Lotus Pond) of East Rukum is a case in point. Traditional mini-irrigation and drinking water projects can be better vehicles for economic development in the mountainous area, as they are economical and less prone to disaster. Policies to protect indigenous vegetation, plants, and medicinal species are important.

4.6. Accommodate Local and Follow Circuits Approach for Economic Linkages

174. The isolationist policy is prone to failure and less participatory by nature. A case in point is Lumbini Development Fund (LDF). The LDF is isolated from the local community. There are no linkages between LDF and local economic activities. It appears that the boundary of LDF precludes local people from the benefit of world-famous tourist destinations. The LDF should reconsider involving local people in its planning, approach, and style. The provincial government should take the lead in close coordination with the federal government to integrate the local economic activities. Federal and provincial policies should address local realities.
175. Lumbini and its surrounding areas (Ramagram, Panditpur, Debadaha, Halidabasan Nagar, Kakarpatta, Kundia, Koliya, Rohininagar, Anoma Ghat, Shajjanel, Sayuga, Satpttaraknagar Tilaurakot etc.) are to be connected by spiritual circuits and declared it a 'World Spiritual Destination' to attract more visitors. Constructing circuits approach can lengthen visitors' stay. Hence, policies related to promoting spiritual awareness through circuits approach are essential. Tourism education is lacking in the surrounding Lumbini area. It should be taken as a priority policy proposal. Policy and programs related to educating, awareness creating, and valuing tourists are necessary.

4.7. Disaster Resistant Infrastructure and Early Warning System (EWS)

176. Physical Infrastructures to control floods, water logging, landslides, and soil erosion, (especially along the river corridors and riverbanks) should be of priority concern, given the topography and landscape of the province. Watershed management in the mid hills and Siwalik area, and river embankment in the plain areas, should be a high policy priority. It helps protect precise land and natural resources and increase agriculture production.

Hence, infrastructure-building policies should consider GRID strategic approach to mitigate the likely extent of the destruction, and install promptness for rescue, relief, and recovery activities. The neglect of watershed management, and river embankment/land reclamation along the big rivers, has not got proper attention. This has caused irreparable losses annually to humans, soil, and the physical environment. The problem is severe in the western part of the province- Banke, Bardia, Rupandehi, and Dang. The landslide problem is rampant in the mountainous part of the province. Policies of in-built GRID approach can address these concerns.

177. Technically and economically non-feasible road construction should be discouraged, especially in the high hills and mountains. Road construction has not been economically viable in the province, though the road network has facilitated the movement of goods and people. Oddly, the road network has displaced local agro-farming, undermined indigenous species, and destroyed traditional eco-agriculture systems. The unidirectional flow of goods (full trucks of imported items reach the hills and mountains but return empty) should be discouraged by introducing road tolls, road-cess, and user charge policies and charging maintaining expenses.
178. Road networks have not been able to connect linkages between farming/agriculture and off-farm opportunities, agro-processing, storehouses, urban markets, and local enterprises. Furthermore, road construction has been extremely expensive in the mountain region. The financial cost does not justify the return. Hence, GRID approach with full cost-benefit analysis policies should be made mandatory.
179. Frequent road accidents in the mountains of the Lumbini Province have caused many deaths of innocent people. This is because of poor road designs, broken road surfaces, grade inconsistency, and bad vehicle conditions, among others. Hence road-building policies that give proper attention to this end seek extra consideration.
180. The policy of regular repair and maintenance of dams, bridges, canals, and other heavy infrastructure with enough budget allocations should be given priority. Policy to create awareness of quack-resistant residential houses, community properties, and governmental structures should also be considered. Repair and maintenance should be a regular function, not a sporadic attempt. Random approach of road construction (by using dozer and excavator) in the hills and Siwalik area should be strictly avoided. Policies for resettlements of the villages that are prone to disaster are to be of immediate priority. Overuse of natural resources and mines, inadvertently, have invited many disasters in the province.
181. Disaster management policies (including readiness, support system, manpower, and equipment) and early warning systems (EWS) should be a part and partial of the development policies.

4.8. Protection of Traditional Water Sources

182. The traditional water sources lakes, ponds, natural springs, hot springs, stone spouts, and wells are slowly drying up due to neglect, over-exploitation, a lack of renovation, encroachment, inadequate preservation, and the effects of climate change. They could play an important role in supplying drinking water, irrigation, and most importantly, recharging surrounding places. In a mountainous place, such water containment measures are vitally important. Thus, policies to protect such natural water resources are

urgently needed. Plantation along the riverbanks would also be helpful to maintain the local hydrology. The Constitution of Nepal (Article 51) stipulates, as state policy, that conservation, promotion and utilization of natural resources will be given proper attention. Therefore, the protection of natural water sources is justified.

4.9. Addressing Human and Animal Conflict

183. The conservation areas, national parks, and preservation zones in the province where wildlife and human conflict is an issue. Conservation areas, preservation zones, and national parks are habitats of wild animals. People living in the adjacent areas depend on the forest products and grasslands along these protected areas. Hence, conflicts between wild animals and humans are frequently discernable. In addition, there are new problems of wild animals (monkeys, deer, wild pigs, porcupines, etc.) repeatedly destroying local food crops in mountain areas. Many villagers are forced to leave villages due to these emerging problems. A policy to reconcile animal habitats and human settlements is necessary.

4.10. Open Border: Boon or Bane

184. The open Southern Border and unchecked agricultural imports (fruits, vegetables, fish, food grains, flowers, animal, and animal products, etc.) have displaced local production of every sort. This is a growth constraint in the province where economic growth is primarily driven by agriculture and its subsidiary activities. Though the border regulation is beyond authority of the province, some efforts to limit the unchecked inflow of agro-items are essential to unleash growth. Policy coordination with the federal government is to be ensured.

4.11. Changing in the Mindset

185. Low productivity in agriculture, non-availability of necessary inputs (basic agricultural inputs, like credits, irrigation, fertilizers, tools and equipment, seeds, extension services, etc.), and lack of processing mechanisms cumulatively have created the feeling of indifference, disorientation, and confusion toward agriculture. Removing a negative mindset and apathetic attitude, and re-orienting local people is necessary. Lack of interest has not only caused the failure to transform agriculture into high-value crops and value chains but also adversely impacted the ecosystem. The presence of provincial government along the transformation process (at least one strong supportive intervention from production planning-pre-production-production & harvesting-processing-marketing-value addition) can help reorient the attitude towards agriculture. A policy of government involvement to facilitate awareness creation is to be ensured.

186. An outward-looking approach to development is pervasive in the villages. People have the false impression that development comes from outside. Undermining indigenous products and methods (like food, fruits, flowers, animals, farming systems, local strength, traditional knowledge, and technology) has shrouded the mindset of local people that development is something that is to be given by outsiders, either by national or international sponsors. This mindset must be changed to unleash the growth potential. A policy of '*our land: our responsibility to take ownership*' is required.

4.12. Mainstreaming GESI

187. Rolling out the GESI policy and strategy within the provincial government, and projects will ensure the removal of the constraint. The GESI inclusion can be further strengthened by forming a gender working group and focal point for this purpose together with sectoral

- programs and organizations. For the government institutions to be GESI-friendly, mandatory provisions in Acts and legislation should be in place and made operational.
188. Maintaining a disaggregated level of data and establishing a baseline indicator to plan, implement, and monitor activities specific to different social groups will ensure the GESI implementation. Such disaggregation should include information related to economic poverty, caste identity, ethnic identity, religious identity, gender identity, and specific social groups of high hill, mid-hill, and Terai regions of Lumbini province.
 189. The GESI issue should be an agenda of regular discussions, reflections, reviews, and discourses at an institutional level from the federal, provincial, and local levels, while making local and provincial level periodic plans, MTEF, annual budget, and project bank.
 190. The Constitution of Nepal (Article 51) states that social justice and social inclusion will be the state policy of Nepal. In line with the constitutional provision, Policies and laws at the provincial level should guarantee the representation and active involvement of women, marginalized groups, and indigenous groups in all spheres of life, including politics, the economy, and business.

References

1. Accountability Lab; Policy Paper - The Lumbini Province- Deepening Private Sector Partnership in Lumbini Province, Nepal [ALab]_updated[Jan 5] (civacts.org)
2. ADB, (2019). Governance and Institutional Risks and Challenges in Nepal
3. ADB/DFID/ILO; Nepal Critical Development Constraints, Country Diagnostic Study. main-report.pdf (adb.org)
4. African Development Bank Group (2023). Liberia Growth Diagnostic Study. Abidjan.
5. Calvo, S. (2006). *Applying the Growth Diagnostics Approach in the Case of Bolivia*. The World Bank.
6. Calvo, A. (2006). *Applying the Growth Diagnostics Approach: Bolivian Case*.
7. CDIA, (2015). Moving from strategies to bankable investment projects: City Infrastructure Investment Programming & Prioritization Toolkit User Manual
8. Chapagain & Ghimire (2019), extracted from Natural Resource Revenue Sharing in the Federal Context of Nepal. The Sambriddhi Foundation, Kathmandu.
9. Chapagain, P. S., & Ghimire, P. K. (2019). Ekta School Atlas. Kathmandu: Ekta Books.
10. Deng, L.A., Ali Hussien, A., & Mayai, A.T. (2022). *Identifying Binding Constraints on Growth in the Context of Fragility: The Case of South Sudan*. AER Working Paper FW-014, African Economic Research Consortium, Nairobi.
11. Ghimire, I., Schoen, C., & Khakurel, D. (2023). *Business Climate Survey 2021/22 in Western Nepal*. GIZ, GmbH, Germany.
12. GoN, 2019/20, *Economic Survey*
13. Government of Nepal, National Statistical Office. (2022). Nepal Distributive Trade Survey, 2022. National Report.
14. Habermann, H. and Padrutt, P (2011). *Growth Diagnostics: Strength and weakness of a creative analytical framework to identify economic growth constraints in developing countries*. *Journal of Knowledge Management, Economics, and Information Technology*. Issue 7, December 2011.
15. Ianchovina E., & Guptu, S. (2007). *Growth Diagnostics for a Resource-Rich Transition Economy: The Case of Mongolia*. Policy Research Working Paper, 4396. The World Bank.
16. International Finance Corporation, (2013). *Doing Business, 2013: Smarter regulations for small and medium-sized enterprises*.
17. JICA, 2018. Public Investment Management Handbook for Capacity Development
18. Jyotiraj Patra, Anika Terton, 2017, CARIAA Working Paper: Review of Current and Planned Adaptation Action in Nepal
19. Kannan E. and Pohit S.(nd) *Agricultural Growth Diagnostics: Identifying the binding constraints and policy remedies for Bihar*, India.
20. Kavita Rai, Susmita Sharma Updated: (March 2021). *Gender equality and social inclusion Str*
21. Lisa Junghans & Lukas Dorsch, Arne Brandschwede & Robert Sakofski, 2015. Handbook for Policy Makers
22. Millenium Challenge Corporation, USA. [Nepal CA with Cover.pdf \(mcc.gov\)](#)
23. [National Data Portal-Nepal](#)
24. NRA/ICNR, 2021. Evaluation of Socio-economic Impacts of Reconstruction in Nepal.
25. PPPC, 2017. National Review of Sustainable Development Goals
26. PPPC, 2078/79-80/81. MTEF
27. Rodrik, R. (2008). A Practical Approach to Formulating Growth Strategies. In N. Serra, & J. Stiglitz(des.), *The Washing Consensus Reconsidered: Towards a new global governance*, (pp.356-366). Oxford University Press.

28. Tevdovski, D., Filidovski, V., & Ivanovski, I. (2014). *A Diagnostics Approach to Economic Growth in Small Open Economies: The Case of the Republic of Macedonia*. *Review of Economics & Business Studies*, Vol. 7 Issue 1, pp 47-68.
29. The African Development Bank Group, (2023). *Liberia Growth Diagnostic Study*
30. The World Bank Group (2021). *Namibia: Systematic Country Diagnostic*. Washington DC.
31. The World Bank Group, (2018, 2020), IFC (2013). *Doing Business, Comparing Business Regulation in 190 Countries*
32. The World Bank Group. (2020). *Doing Business Reforming to Create Jobs: Comparing Business Regulation for Domestic Firms in 190 Countries*.
33. The World Bank, (2010). *Global Good Practice in Incubation Policy Development and Implementation*. Washington DC.
34. The World Bank, (2010). *The Cost of Being Landlocked: Logistics Costs and Supply Chain Reliability*
35. Todaro, M. and Smith, S, C. (2020). *Economic Development*, (13th ed.). Pearson Education Limited, UK.
36. United Republic of Tanzanian Government & MCC (USA). (2011). *Tanzania Growth Diagnostic: Partnership for Growth*, A Joint Analysis for the Governments of the United Republic of Tanzania, and the United States of America.
37. GoN, 2022/23. *The Economic Survey*.

ANNEX 1: Laws Enacted by The Lumbini Province

- i. Act Relating to Legislative Process of Rural Municipal Assembly and Municipal Assembly, 2075
- ii. Act Relating to Province Assembly Secretariat, 2075
- iii. Act Relating to Remuneration and Facilities of Chief Minister and Minister, 2075
- iv. Act Relating to Remuneration and Facilities of Office Bearer and Members of Provincial Assembly, 2075
- v. Act Relating to Power, Duties and Functions and Other Terms of Service of Chief Attorney, 2075
- vi. Act Relating to Equitable Security, Treatment and Facilities of Inter Provincial Residents, 2075
- vii. Act Relating to Operation of District Assembly and District Coordination Committee, 2075
- viii. Rural Municipal Assembly/ Municipal Assembly (Operation of Business) Procedure, Act, 2076
- ix. Province Public Service Commission Act, 2076
- x. Act Relating to Facilities of Office Bearers and Members of Local Levels, 2075
- xi. Investigation Commission Act, 2075
- xii. Province Financial Procedure Act, 2075
- xiii. Public Documents Authentication (Procedure) Act, 2075
- xiv. Province Fiscal Management Act, 2075
- xv. Act Relating to Province Tax and Non-Tax Revenue, 2075
- xvi. Administrative Procedure (Regulating) Act, 2075
- xvii. Archive Protection Act, 2076
- xviii. Province Emergency Fund Operation Act, 2075
- xix. Province Decorations Act, 2076
- xx. Province Good Governance Act, 2076
- xxi. Act Relating to Remuneration, Benefits, and Terms of Service of the Officials of Province Public Service Commission Act, 2076
- xxii. Media Act, 2079
- xxiii. Province Police Act, 2079
- xxiv. Associations Registration Act, 2075
- xxv. Province Cooperatives Act, 2076
- xxvi. Province Medical Institutions Incorporation, Operation, Renewal and Upgradation Act, 2076
- xxvii. Road Traffic Transportation and Transit Act, 2076
- xxviii. Market Regulation and Competition Promotion Act, 2077
- xxix. Province Tourism Act, 2076
- xxx. Act Relating to Excavation and Enterprise of Mines, 2075
- xxxi. Seeds Act, 2075
- xxxii. Animal Health and Livestock Service Act, 2075
- xxxiii. Province Butchery and Meat Inspection Act, 2075
- xxxiv. Grains Act, 2075
- xxxv. Fertilizer Act, 2075
- xxxvi. Environment Protection Act, 2076
- xxxvii. Province Forest Act, 2078
- xxxviii. Industrial Enterprise Act, 2075
- xxxix. Private Firm Registration Act, 2076
- xl. Partnership Act, 2076
- xli. Information and Technology Academy Act, 2076
- xlii. Statistics Act, 2075
- xliii. Province Building Act, 2075
- xliv. Act Relating to Children, 2076
- xlv. Province Sports Development Act, 2076
- xlvi. Welfare and Rehabilitation Fund Act, 2077
- xlvii. University Act, 2078
- xlviii. Province Infrastructure Development Authority Act, 2077
- xlix. Province Road Act, 2077
- Province Civil Service Act, 2080