Province of Camarines Norte

DRR/CCA ENHANCED

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN

2012 - 2033

ADB

Formulated with technical assistance from the National Economic and Development Authority and the Asian Development Bank using the Guidelines on Strengthening Provincial Local Planning and Expenditure Management

Republic of the Philippines
PROVINCE OF CAMARINES NORTE
-Daet-

Provincial Development Council

EXCERPTS FROM THE MINUTES OF THE MEETING ON FEBRUARY 9, 2010 AT THE SESSION HALL, Provincial Capitol, Daet, Camarines Norte.

ATTENDANCE

Present:

Hon. Jonah Pimentel	-	Chairman, SP Committee on Finance and Appropriation, Acting Presiding Officer
Hon. Edgar Ramores	-	Municipal Mayor, San Lorenzo Ruiz
Mr. Leopoldo R. Del Pilar	-	Provincial Federation President, Federation of Senior Citizens Association of the Philippines, PDC-NGO Member/RDC-Private Sector Representative
Mr. Benigno Elevado	-	RDC-PSR Private Sector Representative
Mr. David L. Serrano, Jr.	-	Vice Chairman, Basud Development Cooperative, PDC-NGO Member
Mr. Efren Mago	-	Chairman, Provincial Agriculture and Fishery Council, PDC-NGO Member
Mr. Elmer Bacuño	-	Kiwanis Club of Daet, PDC-NGO Member
Engr. Gerardo Quinones	-	Executive Assistant IV, representing Hon. Jesus O. Typoco Jr, Governor
Mr. Eulogio S. Coreses Sr.	-	Administrative Assistant II, representing Hon. Mayor Silverio Quinones III, Basud
Engr. Evaristo Pandi	-	MPDC, representing Hon. Mayor Winifredo Oco, Labo
Mr. Macario B. Totanes	-	MPDC, representing Hon. Mayor Pepito Lo, Mercedes
Engr. Gil B. Salen	-	MPDC, representing Hon. Mayor Romeo Y. Moreno, Paracale
Mr. Jessie Ricerra	-	Representing Hon. Mayor Dominador G. Mendoza, Sta. Elena
Ms. Rosario G. Maesa	-	MPDO, representing Hon. Mayor Rodolfo Gache, Talisay

Engr. Rosalino Juan Jr.	-	MPDC, representing Hon. Mayor Oliver Ferrer, Vinzons

Absent:

Hon. Ernesto M. Jalgalado	-	Municipal Mayor, Capalonga
Hon. Tito S. Sarion	-	Municipal Mayor, Daet
Hon. William Lim	-	Municipal Mayor, Jose Panganiban
Hon. Stanley G. Alegre	-	Municipal Mayor, San Vicente
Representative	-	Lone District of CN, House of Representative
Fr. Edwin M. Visda	-	Executive Director, SPACFI, NGO-PDC Member
Ms. Erlinda Ilustre	-	Manager, Country Side Multi-Line Cooperative PDC-NGO Member

Others:

Mr. Ramon B. Avila	-	Education Program Supervisor -1, DepEd
Ms. Mercedes Juan	-	Provincial Health Office
Mr. Raphy Belardo	-	PO II, Office of the Provincial Agriculturist

Resolution No. 01 - 2010

A RESOLUTION APPROVING THE PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP) OF CAMARINES NORTE, CY 2008-2033 AND RESPECTFULLY ENDORSING TO THE HON. SANGGUNIANG PANLALAWIGAN FOR ITS ADOPTION

WHEREAS, The Provincial Land Use Committee and its Provincial Technical Working Group (PLUC-PTWG), has presented to this body the Provincial Development and Physical Framework Plan (PDPFP) of Camarines Norte. CY 2008-2033;

WHEREAS, Joint Memorandum Circular No. 1 series of 2007 of NEDA-DILG-DBM-DOF dated March 8, 2007 provides the Guidelines in the Harmonization of Local Planning, Investment Programming, Revenue Administration, Budgeting and Expenditure Management;

WHEREAS, the approved Provincial Physical and Framework Plan (PPFP) 2003-2033 has been updated and aligned to the Guidelines on Provincial/Local Planning and Expenditure Management(PLPEM) by the National Economic and Development Authority (NEDA) and Asian Development Bank;

WHEREAS, the various components of the PDPFP have been subjected to various multi-sectoral consultations and integration workshops, carefully studied and analyzed and prepared in accordance with the PLPEM Guidelines;

WHEREAS, the PDPFP, is a document which integrates physical and sectoral concerns of the province and provides mechanism to resolve land use and land resources management conflicts and endeavors to achieve efficient and equitable spatial relationship among the twelve (12) municipalities of the province for overall provincial development;

WHEREAS, a motion made by Mr. Eulogio Coreses, Administrative Assistant II, representing Hon. Mayor Silverio Quinones III of Basud duly seconded;

NOW THEREFORE, Be it, as it is

HEREBY RESOLVED, to approve the Provincial Development and Physical Framework Plan(PDPFP) of Camarines Norte, CY 2008-2033 and respectfully endorsing the same to the Hon. Sangguniang Panlalawigan for adoption;

RESOLVED FURTHER, to forward this Resolution to NEDA RO V and other concerned agencies/entities for their information.

UNANIMOUSLY APPROVED.

I hereby certify to the correctness of the foregoing

MADONNA A. ABULAR
Provincial Planning and
Development Coordinator/
PDC Secretary

ATTEST:

JONAH G. PIMENTEL
SP Committee Chairman on Finance & Appropriation/
Presiding Officer

Approved:

JESUS O. TYPOCO, JR.
Governor/PDC Chairman

Republic of the Philippines
Province of Camarines Norte
DAET

OFFICE OF THE SANGGUNIANG PANLALAWIGAN

EXCERPTS FROM THE MINUTES OF THE 127th REGULAR SESSION OF THE HONORABLE SANGGUNIANG PANLALAWIGAN HELD ON MARCH 1, 2010 AT 9:45 A.M. AT THE PROVINCIAL CAPITOL SESSION HALL, DAET, CAMARINES NORTE.

PRESENT: Hon. Joeffrey B. Pandi
Temporary Presiding Officer

MEMBERS

Hon. Ronnie P. Magana
Floor Leader

DISTRICT 1	DISTRICT II
Hon. Jonah G. Pimentel	Hon. Teresita DL. Malubay
Hon. Ruth F. Herrera	Hon. Arthur Michael G. Canlas
Hon. Jose T. Segundo	Hon. Pamela P. Pujalte
Hon. Romeo R. Marmol	Hon. Joeffrey B. Pandi
Hon. Ligaya L. Pedron	Hon. Elpidio E. Tenorio

Hon. William Carlo R. Avila, Ex Officio, LNB
Hon. Mark Julius D. Litana, Ex Officio, SK

ABSENT: Hon. Vice-Gov. Roy A. Padilla, Jr.

RESOLUTION NO. 055-2010

A RESOLUTION APPROVING RESOLUTION NO. 01-2010 OF THE PROVINCIAL DEVELOPMENT COUNCIL

Sponsor: Hon. Jonah G. Pimentel

WHEREAS, received by this Body was Res. No. 01-2010 dated February 9, 2010 of the Provincial Development Council;

WHEREAS, Res. No. 01-2010 entitled "A Resolution Approving the Provincial Development and Physical Framework Plan (PDPFP) of Camarines Norte, CY 2008-2033 and Respectfully Endorsing to the Hon. Sangguniang Panlalawigan for its Adoption", was presented for deliberation in a regular session assembled;

WHEREAS, after due deliberation and finding the same to be in order;

NOW THEREFORE, on motion of Hon. Jonah G. Pimentel, seconded by Hon. Kgds. Teresita DL. Malubay and Ronnie P. Magana;

BE IT, as it is –

Res. No. 055-2010
Page 2
- - - - - - - - - - - - - -

HEREBY RESOLVED: To approve Resolution No. 01-2010 of the Provincial Development Council.

RESOLVED FURTHER: To furnish copies hereof, all concerned for their information, guidance and record.

CARRIED UNANIMOUSLY.

I hereby certify to the correctness of the foregoing.

REBY JARDIN-CUAÑO
Secretary to the SP

ATTEST:

JOEFFREY B. PANDI
Temporary Presiding Officer

APPROVED BY HIS HONOR, THE GOVERNOR, THIS 8th **DAY OF** March **2010.**

JESUS O. TYPOCO, JR.
Governor

Josie/

Republic of the Philippines
PROVINCE OF CAMARINES NORTE
Daet
Office of the Provincial Governor

MESSAGE

The Provincial Government of Camarines Norte presents this Provincial Development and Physical Framework Plan (PDPFP) CY 2008-2033. This document is the updated and aligned Provincial Physical Framework Plan (PPFP) CY 2003-2033 based on the Guidelines on Provincial/Local Planning and Expenditure Management (PLPEM) by the National Economic and Development Authority (NEDA) and the Asian Development Bank (ADB). The various components of this document have been subjected to various multi-sectoral consultations and integration workshops, carefully studied and analyzed.

The physical and sectoral concerns of the province has been integrated in this document which also provides the mechanism to resolve land use and land resources management conflicts and endeavors to achieve an efficient and equitable spatial relationship among the twelve (12) municipalities of the province.

We also encourage all local government units to prepare their respective land use plans as this is our mandate under the Local Government Code of 1991 (RA 7160). It is also our commitment to pursue a more decisive action in response to the urgent need for a more rational and physical development of the province. As part of this mandate, the Province, in reviewing the Municipal Comprehensive Land Use Plans (MCLUPs), shall ensure that the preparation is in accordance with the PDPFP.

The PDPFP shall also be the bases in the formulation of comprehensive development plans and other sectoral plans in the province, to ensure that the concept and principles of sustainable development are integrated in all provincial plans.

The Provincial Government shall ensure that the implementing mechanism of the PDPFP is through the Provincial Development Investment Plan (PDIP) which shall be translated into the Annual Investment Plan (AIP).

I also enjoin the support and cooperation of government units both local and national to ensure that this Plan will be a working document and not just land on tables and cabinets of local officials and agencies but see to it that the framework/policies, programs and projects herein are words as basis for planning and accordingly implemented.

EDGARDO A. TALLADO
Governor

A C K N O W L E D G M E N T

The Provincial Land Use Committee (PLUC) and its Provincial Technical Working Group (PTWG) with the Provincial Planning and Development Office as Secretariat and overall Technical Coordinating Staff, prepared this Provincial Development and Physical Framework Plan (PDPFP) 2008-2033. This very important document was completed with the assistance, cooperation, involvement and participation of various government agencies data local and national, through its officials and technical staff, and representatives of the different private sectors, non-government organizations and the academe.

The PLUC and its PTWG would like to extend their deepest and sincere gratitude and appreciation to the following:

- The National Economic and Development Authority (NEDA) Central Office and the United Nations Development Program (UNDP) for providing the Guidelines on Provincial / Local Planning and Expenditure Management (PLPEM) and for their funding support for the printing and reproduction of this document.

- The National Economic and Development Authority (NEDA) Regional Office V through Director Romeo C. Escandor, Regional Director for the technical support and assistance.

- All other contributors and supporters, who in one way or another, contributed to the preparation and completion of this document.

Most importantly, the PLUC and its PTWG would like to convey their heartfelt gratitude to the Provincial Government through Governor Edgardo A. Tallado who provided the necessary support and assistance, manpower and financial support which facilitated the preparation of this Plan on schedule.

LIST OF ABBREVIATIONS

%	-	Percent
E	-	East
Fig.	-	Figure
ha.	-	Hectare
km	-	Kilometer
KV	-	Kilovolt
LM	-	Linear Meter
m	-	Meters
MT	-	Metric Ton
Mt.	-	Mount
MVA	-	Mega Volt Ampere
N	-	North
n`	-	Minutes
n^0	-	Degrees
P	-	Philippine Peso
S	-	South
sq.km.	-	Square Kilometer
W	-	West

LIST OF ACRONYMS

A&D	-	Alienable and Disposable
AUSAID	-	Australian Assistance for International Development
BOT	-	Build-Operate-Transfer
CNCCI	-	Camarines Norte Chamber of Commerce and Industry
CNCSD	-	Camarines Norte Committee for Sustainable Development
CANORECO	-	Camarines Norte Electric Cooperative
CADC	-	Certificate of Ancestral Domain Claims
CADT	-	Certificate of Ancestral Domain Title
CCA	-	Climate Change Adaptation
COA	-	Commission on Audit
CENRO	-	Community Environment and Natural Resources Office
CARP	-	Comprehensive Agrarian Reform Program
CLUP	-	Comprehensive Land Use Plan
DTRIS	-	Daet Talisay River Irrigation System
DENR	-	Department of Environment and Natural Resources
DOJ	-	Department of Justice
DPWH	-	Department of Public Works and Highways
DRA	-	Disaster Risk Assessment
DRR	-	Disaster Risk Reduction
DRRM	-	Disaster Risk Reduction Management
EERMD	-	Ecosystem and Environment Resource Management Division
ENRO	-	Environment and Natural Resources Officer
ECC	-	Environment Clearance Certificate
EIA	-	Environment Impact Assessment
EPMS	-	Environment Performance Monitoring Stations
ECAs	-	Environmentally Constrained Areas
EFA	-	Epiphytic Filamentous Algae
EO	-	Executive Order
FLA	-	Fishpond Lease Agreement
GIS	-	Geographic Information System
GAM	-	Goal Achievement Matrix
HLURB	-	Housing and Land Use Regulatory Board
HRM	-	Human Resource Management
IP	-	Indigenous People
IPRA	-	Indigenous People's Rights Act
IEC	-	Information Education Campaign
IRA	-	Internal Revenue Allotment
LINDGC	-	Legazpi-Iriga-Naga-Daet Growth Corridor
LEDAC	-	Legislative-Executive Development Advisory Committee
LA 21	-	Local Agenda 21
LGC	-	Local Government Code
LGU	-	Local Government Unit
MGB	-	Mines & Geo-Sciences Bureau
MSD	-	Mainstreaming Sustainable Development
MSFR	-	Mangrove Swamp Forest Reserve
M & E	-	Monitoring and Evaluation
MVUC	-	Motor Vehicle Users Charge
MCSDS	-	Multiple Centers Spatial Development Strategy
MCLUP	-	Municipal Comprehensive Land Use Plan

NEDA	-	National Economic Development Authority
NEA	-	National Electric Administration
NGAs	-	National Government Agencies
NPFP	-	National Physical Framework Plan
NIPAS	-	Network of Integrated Protected Areas System
NPAAS	-	Network of Protected Agricultural Area System
NGO	-	Non-Government Organizations
ODA	-	Official Development Assistance
PO	-	People's Organization
PA 21	-	Philippine Agenda 21
PAMB	-	Protected Area Management Board
PCDP	-	Provincial Comprehensive Development Plan
PCLUP	-	Provincial Comprehensive Land Use Plan
PDC	-	Provincial Development Council
PDIP	-	Provincial Development Investment Plan
PDCC	-	Provincial Disaster Coordinating Council
PENRO	-	Provincial Environment and Natural Resources Office
PIC	-	Provincial Industrial Center
PLUC-TWG	-	Provincial Land Use Committee – Technical Working Group
PMRB	-	Provincial Mining Regulatory Board
PDPFP	-	Provincial Development and Physical Framework Plan
RIL	-	Rainfall Induced Landslide
RLUC	-	Regional Land Use Committee
RPFP	-	Regional Physical Framework Plan
RA	-	Republic Act
SP	-	Sangguniang Panlalawigan
SALT	-	Sloping Agricultural Land Technology
SWIP	-	Small Water Impounding Project
SEZ	-	Special Economic Zone
SAFDZ	-	Strategic Agriculture and Fishery Development Zones
TAPP	-	Technical Assistance to the Physical Planning
UNDP	-	United Nation Development Program

LIST OF TABLES

		PAGE
Table 1	Core Elements and Sectors	A – 7
Table 2	Data Requirements	A – 8
Table 3	Land Area and Number of Barangays by Municipality	C – 14
Table 4	Region V Population, Annual Population Growth Rate, Area by Province, Philippines, CY 2000 & 2007	C – 16
Table 5	Population by Municipality, CY 2000 & 2007 Province of Camarines Norte	C – 17
Table 6	Population Growth Rate by Municipality Province of Camarines Norte	C – 21
Table 7	Population by Municipality: CY 2007 Province of Camarines Norte	C – 23
Table 8	Projected Total Fertility Rates: CY 2000-2040 Philippines, Bicol Region and Its Provinces	C – 24
Table 9	Annual Population Growth Rate, Density, and Doubling Time by Municipality: CY 2000 & 2007 Province of Camarines Norte	C – 26
Table 10	Camarines Norte Population Shares by Municipality CY 2000 & 2007 Province of Camarines Norte	C – 27
Table 11	Possible Relationships: Densities vis-a-vis Growth Rate CY 2000-2007	C – 27
Table 12	Estimated Population and Density Philippines, Bicol Region and Provinces, CY 2033	C – 30
Table 13	Estimated Population and Density by Municipality CY 2033 Province of Camarines Norte	C – 31
Table 14	Urban and Rural Population by Municipality CY 2000 & 2007 Province of Camarines Norte	C – 33
Table 15	Urban and Rural Population Growth Rate By Municipality CY 2000 & 2007 Province of Camarines Norte	C – 34
Table 16	Sex Distribution by Municipality CY 2000 & 2007 Province of Camarines Norte	C – 36

PAGE

Table 17	Sex Distribution of Population by Age Group CY 2000 & 2007 Province of Camarines Norte	C – 36
Table 18	Actual and Estimated Number of Women Population By Municipality & Additional Women Population CY 2000, 20007 and 2033 Province of Camarines Norte	C – 37
Table 19	Estimated Number of Pregnant Women (pre-natal period) By Municipality & Additional Population CY 2000, 2007 and 2033 Province of Camarines Norte	C – 38
Table 20	Actual and Estimated Number of Children Population 0-7 Years Old by Sex and By Municipality and Additional Population CY 2000, 2007 and 2033 Province of Camarines Norte	C – 39
Table 21	Actual and Estimated Number of Children 0-2 Years Old by Sex, By Municipality and Additional Population CY 2000, 2007 & 2033 Province of Camarines Norte	C – 40
Table 22	Actual and Estimated Number of Children 3-5 Years Old by Sex, By Municipality and Additional Population CY 2000, 2007 & 2033 Province of Camarines Norte	C – 41
Table 23	Actual and Estimated Number of Children 6-12 Years Old by Sex, By Municipality and Additional Population CY 2000, 2007 & 2033 Province of Camarines Norte	C – 42
Table 24	Actual and Estimated Number of Children 13-17 Years Old by Sex, By Municipality and Additional Population CY 2000, 2007 & 2033 Province of Camarines Norte	C – 42
Table 25	Criteria – Hierarchy of Centers Province of Camarines Norte	C – 44
Table 26	Summary of Scalogram Functions by Municipality Province of Camarines Norte	C – 47
Table 27	Hierarchy of Centers CY 2008 Province of Camarines Norte	C – 48
Table 28	Existing Built-Up Areas by Municipality CY 2008 Province of Camarines Norte	C – 49
Table 29	Elevation by Municipality Province of Camarines Norte	C – 54

PAGE

Table 30	Slope Categories by Municipality Province of Camarines Norte	C – 56
Table 31	Geomorphology/General Land Forms by Municipality Province of Camarines Norte	C – 58
Table 32	Comparative Land Area, Camarines Norte to Other Bicol Provinces, Philippines	C – 60
Table 33	Land Area and Number of Barangays by Municipality Province of Camarines Norte	C – 60
Table 34	Areas of Municipal Waters and Number of Coastal Barangays By Municipality Province of Camarines Norte	C – 62
Table 35	Geological Areas by Municipality Province of Camarines Norte	C – 65
Table 36	Summary of Estimated Reserves of Metallic and Non-Metallic Mineral Resources Province of Camarines Norte	C – 68
Table 37	Historical Temperature Records: CY 1971-2000 Province of Camarines Norte	C – 70
Table 38	Historical Rainfall Data: CY 1971-2000 Province of Camarines Norte	C – 70
Table 39	Projected Temperature Increase (in ^{o}C) Under High-Range and Medium-Range Emission Scenarios in CY 2020 Based on 1971-2000 Normal Values	C – 71
Table 40	Projected Temperature Increase (in ^{o}C) Under High-Range and Medium-Range Emission Scenarios in CY 2050 Based on 1971-2000 Normal Values	C – 71
Table 41	Projected Temperature Increase (in ^{o}C) Under Low-Range Emission Scenarios in CY 2020 and 2050 Based on 1990-2000 Normal Values	C – 72
Table 42	Projected Rainfall Change (in %) Under High-Range and Medium-Range Emission Scenarios in CY 2020 Based on 1971-2000 Normal Values	C – 72

PAGE

Table 43	Projected Rainfall Change (in %) Under High-Range and Medium-Range Emission Scenarios in CY 2050 Based on 1971-2000 Normal Values	C – 73
Table 44	Status of Land Classification by Municipality Province of Camarines Norte	C – 75
Table 45	Land Cover by Municipality Province of Camarines Norte	C – 77
Table 46	Approximate Areas of NIPAS, Non-NIPAS and IPRA Categorized Areas Province of Camarines Norte	C – 83
Table 47	Geological Areas by Municipality Province of Camarines Norte	C – 84
Table 48	Geohazard Impact Areas by Municipality Province of Camarines Norte	C – 85
Table 49	Environmentally Constrained Areas (ECAs) by Municipality Province of Camarines Norte	C – 87
Table 50	Network of Protected Agricultural Area System (NPAAS) Be Level of Restrictions Province of Camarines Norte	C – 90
Table 51	Network of Protected Agricultural Area System (NPAAS) By Municipality Province of Camarines Norte	C – 91
Table 52	Area Used for Agriculture and Fishery By Municipality CY 2009 Province of Camarines Norte	C – 94
Table 53	Population 15 Years Old Over by Sex and By Employment Status Province of Camarines Norte	C – 97
Table 54	Production Forest by Municipality Province of Camarines Norte	C – 98
Table 55	Data Matrix Employed Persons by Type of Industry, By Province Region V: April 2001 & 2003	C – 100
Table 56	Data Matrix Employed Persons by Major Industry Group Camarines Norte CY 2006	C – 101

PAGE

Table 57	Concentration Employed Persons by Type of Industry, by Province Region V: April 2001 & 2003	C – 102
Table 58	Concentration Employed Persons by Major Industry Group by Province Region V: April 2001 & 2003	C – 103
Table 59	Employed Persons by Major Industry Group CY 2006 Province of Camarines Norte	C – 105
Table 60	Joint Probability Employed Persons by Major Industry Group CY 2006 Province of Camarines Norte	C – 106
Table 61	Concentration Employed Persons by Type of Industry Region V: April 2001 & 2003	C – 107
Table 62	Specialization Employed Persons by Major Industry Group CY 2006 Province of Camarines Norte	C – 107
Table 63	Location Quotient Employed Persons by Type of Industry Region V: April 2001 & 2003	C – 108
Table 64	Location Quotient Employed Persons by Major Industry Group CY 2006 Province of Camarines Norte	C – 109
Table 65	Identification of Local – Based Industries Province of Camarines Norte	C – 111
Table 66	New Establishments: Industry and Service Sectors By Municipality CY 2005-2007 Province of Camarines Norte	C – 121
Table 67	Road Inventory By Classification CY 2008 Province of Camarines Norte	C – 124
Table 68	Inventory of National Road By Classification CY 2008 Province of Camarines Norte	C – 125
Table 69	Inventory of Provincial Road By Classification CY 2008 Province of Camarines Norte	C – 125

PAGE

Table 70	Inventory of National Bridges By Classification CY 2008 Province of Camarines Norte	C – 126
Table 71	Inventory of Provincial Bridges By Classification CY 2008 Province of Camarines Norte	C – 127
Table 72	Comparative Labor Force Participation Rate (LFPR) Employment and Unemployment Rate By Province, Region V, Philippines CY 2001, 2002 & 2003	C – 132
Table 73	Population 15 Years Old and Over by Employment Status CY 2006 Province of Camarines Norte	C – 133
Table 74	Total and Average Income by Province Region V, Philippines CY 1997-2000	C – 134
Table 75	Total and Average Household Income by Municipality Province of Camarines Norte	C – 134
Table 76	Annual Per Capita Poverty Thresholds and Poverty Incidence of Families CY 2000, 2003 and 2006	C – 135
Table 77	Annual Per Capita Poverty Thresholds and Poverty Incidence of Population CY 2000, 2003 and 2006	C – 136
Table 78	Municipal Level Small Area Poverty Estimates CY 2003 Province of Camarines Norte	C – 136
Table 79	Income Gap, Poverty Gap and Severity of Poverty by Province Region V, Philippines CY 2000, 2003 and 2006	C – 138
Table 80	Human Development Index (HDI) Bicol Provinces CY 1997, 2000 and 2003	C – 138
Table 81	Human Development Index By Province By Components CY 2003	C – 139
Table 82	Gini Coefficient, Bicol Provinces CY 1997, 2000 and 2003	C – 139
Table 83	Hospital Bed-Population Ratio CY 2007, 2008 and 2009	C – 140
Table 84	Number of Health Personnel by Municipality CY 2007 Province of Camarines Norte	C – 141
Table 85	Health personnel – Population Ratio CY 2008 Province of Camarines Norte	C – 142

PAGE

Table 86	Leading Causes of Morbidity CY 2007 Province of Camarines Norte	C – 142
Table 87	Leading Causes of Mortality CY 2007 Province of Camarines Norte	C – 143
Table 88	Number of Live Births By Sex and By Municipality CY 2006-2007 Province of Camarines Norte	C – 143
Table 89	Maternal Mortality Rate per 1,000 Livebirths By Municipality CY 2005-2007 Province of Camarines Norte	C – 144
Table 90	Infant Mortality Rate By Municipality CY 2005-2007 Province of Camarines Norte	C – 145
Table 91	Underfive Mortality Rate By Municipality CY 2005-2007 Province of Camarines Norte	C – 146
Table 92	Percentage of Fully Immunized Children CY 2005-2007 Province of Camarines Norte	C – 147
Table 93	Percentage of Underweight Pre-School Children By Municipality CY 2005-2007 Province of Camarines Norte	C – 147
Table 94	Percentage of Underweight School Children By Municipality CY 2005-2007 Province of Camarines Norte	C – 148
Table 95	Children with Early Childhood Care and Development SY 2005-2006, 2006-2007 and 2007-2008 Province of Camarines Norte	C – 148
Table 96	Public Elementary School Enrolment By District SY 2007-2008 Province of Camarines Norte	C – 149
Table 97	Private Elementary School Enrolment SY 2007-2008 Province of Camarines Norte	C – 150
Table 98	Performance Indicators in Public Elementary School SY 2005-2006 & 2006-2007 Province of Camarines Norte	C – 151
Table 98	Enrolment in Public and Private Secondary School SY 2006-2007 & 2007-2008 Province of Camarines Norte	C – 151

PAGE

Table 100	Performance Indicators in Public Elementary School SY 2005-2006 & 2006-2007 Province of Camarines Norte	C – 152
Table 101	Existing Tertiary Schools/Colleges CY 2007 Province of Camarines Norte	C – 152
Table 102	Literacy Status CY 1994, 2000, 2003 & 2007 Province of Camarines Norte	C – 153
Table 103	Occupied Housing Units, Number of Households, Household Population and Ratio of Households and Household Population to Occupied Housing Units By Type of Building CY 2000 Province of Camarines Norte	C – 154
Table 104	Housing Backlog CY 2008 Province of Camarines Norte	C – 155
Table 105	Future Housing Needs By Municipality CY 2033 Province of Camarines Norte	C – 155
Table 106	Summary of Total Coverage of Water Supply System CY 2008 Province of Camarines Norte	C – 156
Table 107	Household Served By Level III Water Supply Facilities By Municipality CY 2008 Province of Camarines Norte	C – 157
Table 108	Households with Sanitation Facilities By Municipality CY 2005-2009 Province of Camarines Norte	C – 159
Table 109	Number of Energized Barangays, Signed-Up Members and House Connections by Municipality CY 2008 Province of Camarines Norte	C – 160
Table 110	Barangays with Solar System Province of Camarines Norte	C – 161
Table 111	Inventory of Flood Control and Drainage Structure CY 2008 Province of Camarines Norte	C – 162
Table 112	Existing Liquid and Solid Waste Disposal System Province of Camarines Norte	C – 163
Table 113	Potential and Irrigated Area by Municipality CY 2007 Province of Camarines Norte	C – 165

PAGE

Table 114	Total Population Estimates By Municipality CY 2033 Alternative Strategies Province of Camarines Norte	C – 170
Table 115	Urban Population Estimates By Municipality CY 2033 Alternative Strategies Province of Camarines Norte	C – 171
Table 116	Rural Population Estimates By Municipality CY 2033 Alternative Strategies Province of Camarines Norte	C – 171
Table 117	Employment Estimates By Sector CY 2033 Alternative Strategies Province of Camarines Norte	C – 172
Table 118	Hierarchy of Center CY 2003 & 2033 Alternative Strategies Province of Camarines Norte	C – 173
Table 119	Network of Protected Agricultural Area System with Severe and Tidal Flooding By Municipality Province of Camarines Norte	C – 190
Table 120	Network of Protected Agricultural Area System with Severe Erosion By Municipality Province of Camarines Norte	C – 193
Table 121	Modified Land Use By Municipality Province of Camarines Norte	C – 195
Table 122	Land Suitability By Municipality Province of Camarines Norte	C – 197
Table 123	Land Sustainability By Municipality Province of Camarines Norte	C – 199
Table 124	Suitability of Identified Sustainable Areas By Municipality Province of Camarines Norte	C – 200
Table 125	Suitability of Identified Over-Used Areas By Municipality Province of Camarines Norte	C – 200
Table 126	Suitability of Identified Development Opportunity Areas By Municipality Province of Camarines Norte	C – 202
Table 127	Palay Production Targets By Municipality CY 2013, 2023 & 2033 Province of Camarines Norte	C – 205

PAGE

Table 128	Palay Planting Target Areas CY 2013, 2023 & 2033 Province of Camarines Norte	C – 206
Table 129	Fish Production Targets By Municipality CY 2013, 2023 & 2033 Province of Camarines Norte	C – 207
Table 130	Livestock and Poultry Production Target CY 2013, 2023 & 2033 Province of Camarines Norte	C – 210
Table 131	A & D Suitable for Forest Plantation Province of Camarines Norte	C – 214
Table 132	Sustainability of Production Forestlands By Municipality Province of Camarines Norte	C – 214
Table 133	Projected Timber Consumption CY 2013, 2023 & 2033 Province of Camarines Norte	C – 217
Table 134	Projected Fuel Consumption CY 2013, 2023 & 2033 Province of Camarines Norte	C – 217
Table 135	Projected Bamboo Consumption CY 2013, 2023 & 2033 Province of Camarines Norte	C – 218
Table 136	Projected Rattan Consumption CY 2013, 2023 & 2033 Province of Camarines Norte	C – 219
Table 137	Employment Projections By Sub-Sector Province of Camarines Norte	C – 222
Table 138	Structural Change – Likely Directions By Sector Province of Camarines Norte	C – 223
Table 139	Rural Population Impact on Protected Areas By Municipality Province of Camarines Norte	C – 228
Table 140	Hierarchy of Centers 2007 and 2033 The Multi-Center Development Strategy Province of Camarines Norte	C – 229
Table 141	Total Population Estimates By Municipality Multi-Center Development Strategy Province of Camarines Norte	C – 232
Table 142a	Urban Population Estimates By Municipality Multi-Center Development Strategy Province of Camarines Norte	C – 233

PAGE

Table 142b	Rural Population Estimates By Municipality Multi-Center Development Strategy Province of Camarines Norte	C – 234
Table 143	Land Requirement for Future Development Multi-Center Development Strategy Province of Camarines Norte	C – 235

LIST OF FIGURES

		PAGE
Figure 1	Regional Location Map: a map of administrative region showing the location of province with referent insert map of the Philippines	C – 17
Figure 2	Province Map: a map of the province, showing provincial, district and municipal boundaries, major water features (lakes, streams, coastal areas), major roads, the capital town and other settlement centers	C – 17
Figure 3	Map of Annual Population Growth Rate CY 1995-2000 Province of Camarines Norte	C – 22
Figure 4	Map of Annual Population Growth Rate CY 2000-2007 Province of Camarines Norte	C – 25
Figure 5	Density Map CY 2000 Province of Camarines Norte	C – 29
Figure 6	Density Map CY 2007 Province of Camarines Norte	C – 32
Figure 7	Age-Sex Population Pyramid CY 2007 Province of Camarines Norte	C – 35
Figure 8	Children Population Pyramid by Life Cycle & Sex CY 2007 Province of Camarines Norte	C – 39
Figure 9	Scalogram Province of Camarines Norte	C – 46
Figure 10	Map of Existing Built-Up Areas Province of Camarines Norte	C – 50
Figure 11	Map of Existing Built-Up Areas and Hierarchy of Settlements Province of Camarines Norte	C – 51
Figure 12	Elevation Map Province of Camarines Norte	C – 55
Figure 13	Slope Map Province of Camarines Norte	C – 57
Figure 14	General Land Forms Map Province of Camarines Norte	C – 59
Figure 15	Geologic Map Province of Camarines Norte	C – 66

PAGE

Figure 16	Map of Mineral Resources Province of Camarines Norte	C – 69
Figure 17	Climate Map Province of Camarines Norte	C – 74
Figure 18	Land Classification Map Province of Camarines Norte	C – 76
Figure 19	Land Cover Map Province of Camarines Norte	C – 78
Figure 20	Map of Network of Integrated Protected Area System (NIPAS) Province of Camarines Norte	C – 82
Figure 21	Erosion Map Province of Camarines Norte	C – 86
Figure 22	Flooding Map Province of Camarines Norte	C – 88
Figure 23	Map of Network of Protected Agricultural Area System (NPAAS) Province of Camarines Norte	C – 92
Figure 24	Map of Production Forest Province of Camarines Norte	C – 99
Figure 25	Pie Chart Showing Shares of Employed Person Bicol Region CY 2003	C – 101
Figure 26	Share Diagram Showing Share of Employment By Type of Industry, By Province CY 2003	C – 104
Figure 27	Histogram Specialization: Camarines Norte Share of Employment By Industry Group CY 2003	C – 104
Figure 28	Map of External Linkages and Internal Circulation Routes Province of Camarines Norte	C – 130
Figure 29	Map of Location of Water Services and Facilities Province of Camarines Norte	C – 158
Figure 30	Map of Location of Solid Waste Disposal Projects Province of Camarines Norte	C – 164
Figure 31	Map of Location of Government Buildings and Other Facilities Province of Camarines Norte	C – 168

PAGE

Figure 32	Settlement Trend Do Nothing Strategy Province of Camarines Norte	C – 174
Figure 33	Settlement Trend Core Metro Strategy Province of Camarines Norte	C – 178
Figure 34	Settlement Trend Bi-Polar Strategy Province of Camarines Norte	C – 181
Figure 35	Settlement Trend Multi Center Development Strategy Province of Camarines Norte	C – 185
Figure 36	Map of Network of Protected Agricultural Area System (NPAAS) Affected by Severe and Tidal Flooding Province of Camarines Norte	C – 191
Figure 37	Map of Network of Protected Agricultural Area System (NPAAS) Affected by Severe Erosion Province of Camarines Norte	C – 192
Figure 38	Modified Land Use Map Province of Camarines Norte	C – 194
Figure 39	Land Suitability Map Province of Camarines Norte	C – 196
Figure 40	Sustainability Map Province of Camarines Norte	C – 198
Figure 41	Map of Suitability of Identified Sustainable Areas Province of Camarines Norte	C – 201
Figure 42	Map of Suitability of Identified Development Opportunity Areas Province of Camarines Norte	C – 204
Figure 43	Map of Suitable Area for Forest Production within A & D Province of Camarines Norte	C – 213
Figure 44	Sustainability Map of Plantation Forest Province of Camarines Norte	C – 215
Figure 45	Map of Future Settlement Development Areas Province of Camarines Norte	C – 237
Figure 46	Map of Infrastructure to Support the Spatial Strategy and Equalize Access Between Areas Province of Camarines Norte	C – 241

PAGE

Figure 47	Map of Location of Health Facilities Province of Camarines Norte	C – 244
Figure 48	Map of Location of Education Facilities Province of Camarines Norte	C – 246
Figure 49	Map of Location of Housing Projects Province of Camarines Norte	C – 247
Figure 50	Map of Location of Solid Waste Disposal Projects Province of Camarines Norte	C – 250
Figure 51	Location Map of Communication Facilities Province of Camarines Norte	C – 253
Figure 52	Location Map of Government Buildings and Other Facilities Province of Camarines Norte	C – 254
Figure 53	Infrastructure Map to Support Tourism Development Province of Camarines Norte	C – 256
Figure 54	Infrastructure Map to Support Production Province of Camarines Norte	C – 257
Figure 55	Infrastructure Map to Reduce Vulnerability to Disaster Province of Camarines Norte	C – 258

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)

EXECUTIVE SUMMARY

The Provincial Development and Physical Framework Plan (PDPFP) CY 2008-2033, is the updated and aligned Provincial Physical and Framework Plan (PPFP) 2003-2033 based on the Guidelines on Provincial/Local Planning and Expenditure Management (PLPEM) by the National Economic and Development Authority (NEDA) and the Asian Development Bank (ADB).

The PDPFP is a document which integrates physical and sectoral concerns of the province and provides mechanism to resolve land use and land resources management conflicts and endeavors to achieve efficient and equitable spatial relationship among twelve (12) municipalities of the province for overall provincial development.

Various national and regional policies which are applicable to the province has been considered in the preparation of the Provincial Development and Physical Framework Plan to include legal mandates for the formulation of the PPFP in the Local Government Code such as Sec. 20 (c) which provides that Local Government Units, shall in conformity with existing laws, continue to prepare their respective comprehensive development plans enacted through zoning ordinances which shall be the primary and dominant bases for the future use of land resources; LOI 1350 which provides institutional framework for National Physical Planning; EO No. 72 which provides the preparation of comprehensive land use plans of LGUs; AO No. 20 which provides the interim guidelines on land conversion; Charter on Agricultural Land and Policy of the State in the Implementation of the Agrarian Reform Program as provided for in Sec. 4 Article XIII of the New Constitution.

BASES OF THE PLAN

In the formulation of the Plan, the provincial physical characteristics and the development constraints and challenges were used as the bases of the plan.

The province's land area of 232,007 hectares is roughly 13% of the region's total land area and 0.077% of the Philippine's land area. This is inclusive of the 8,762 has. of land disputed by the Province of Camarines Norte and Quezon which was finally awarded to the Province of Camarines Norte by the Supreme Court in 1989.

It is composed of twelve (12) municipalities Labo having the largest share and Talisay with the least area comprising about 25.4% and 1.33% respectively of the province's total land area. Of these municipalities, nine (9) are coastal to include Vinzons, Jose Panganiban, Paracale, Sta. Elena, Capalonga, Daet, Basud, Talisay and Mercedes.

The province has an A&D lands of about 144,705.14 hectares or 62.37% while forestlands has an area of about 83,587.33 has. or 36.03% of the total land area. Unclassified lands consists of about 3,714.53 has. or 1.6% with the municipality of Labo having an A&D land and forestlands of about 33,402.65 has. and 25,533.35 has respectively.

In terms of land cover categories, brushwoodcoco is the most dominant in the province, followed by coconut areas, rice lands, second growth forest, residual forest and built-up areas.

Camarines Norte is endowed with aesthetic environment ideal for tourism development and with mineral resources both metallic and non-metallic found in commercial quantity such as gold, silver, iron, lead, zinc, bull quartz and iron.

The province's population is evenly distributed at the municipal levels and varies in terms of growth, some are growing fast with growth rates higher than the regional and national averages, while others are gaining minimally and some diminishing. These factors can be attributed to the physical characteristics, geographic location and socio-economic development particularly in the municipalities of Daet, Sta. Elena, Jose Panganiban, and Paracale. In terms of urban population, the capital town of Daet has been consistent in having the highest urban population share of 80,632 in 2000 to 94,184 in CY 2007. The total rural population of the province in 2000 is about 284,759 and reached to about 310,093 in 2007 or about 60.40% of the total population. Of these, the rural population is still concentrated in the vast agricultural lands of Labo at about 72,412. Of the municipalities, Daet emerged as the most populous municipality in the province with a density of 1,753 persons/ sq.km.

In terms of employment, majority of the people in Camarines Norte were employed in the service sector which accounted to almost 88,000, followed by agriculture sector of 68,000 and industry sector of about 30,000.00

Analysis of the economic structure of the region shows that agriculture is the dominant sector which also shows that the regional economy is still under developed wherein the province of Camarines Norte is second to the lowest in employment among the provinces.

The economy of the province can be further described through the analysis of the industries through the 2006 Community-Based Monitoring system (CBMS) survey on the number of employed person by major industry group. The service sector absorbed the majority of the employment with about 66,816 or 48.55%, closely followed by agriculture with 47,375 or 34.42%, and industry sector with 23,437 or 17.03%. This shows that the province has started to shift from agriculture towards the service sector, where most of the people are employed in the wholesale and retail trade, transportation, storage and communication, and community, social and personal services.

On the hierarchy of settlements, the large towns are its capital town of Daet and the municipality of Labo. The rest of the municipalities included in the medium town category are Basud, Mercedes, Vinzons, Paracale, Jose Panganiban, Capalonga and Sta. Elena. San Vicente, San Lorenzo Ruiz and Talisay are identified as small towns.

The Province of Camarines Norte has an aggregate area of 105,277.61 hectares for agriculture and 3,064.42 for fishery production excluding municipal waters. The supply and demand analyses of basic commodities, the province exhibited a surplus in fruits, beef, and fish and deficit in the production of other commodities such as rice, corn, vegetables, root crops, chicken meat, carabeef and pork. Majority of the province's land area is suitable for forest plantation which is about 64,384.20 has. or 27.75%, 47,831.05 or 20.62% is suitable for rice and 42,852.74 or 18.47% for cultivated crops. Under the land sustainability categories 43,447.86 has. or 25.16% are being used in accordance with its suitability, 82,123.58 has. or 25.98% are being used at a level of intensity that is in excess of its suitability and about 47,120.92 or 48.86% are development opportunity areas. The Protection Lands in the province categorized under the NIPAS Law (RA 7586) consists of NIPAS areas of secondary growth forests, watershed areas, the Bicol Natural Park and the mangrove and swamp forest reserve. Total NIPAS areas in the province comprises 5.42% of the total land area. Non-NIPAS areas are mangrove areas, forest with slope >50% and >1,000 elevation and proposed watershed. Mangrove areas covers 5,376.47

has. located in the coastal municipalities of the province and Watershed Forest Reserve covers 610.91 has. Total land area under Non-NIPAS areas is accounted to 15,286.38 has. or 6.58% of the province's total land area. Areas under the Certificate of Ancestral Domain Claims (CADC), which covers an area of 5,663 has., is located in the municipality of Capalonga. The natural hazard areas consisting of severe erosion, flooding and earthquake induced hazard areas. Severe erosion areas were found to be predominant in the hilly and mountainous areas which runs along the municipality of Labo, flooding being found to be predominant in the coastal municipalities of the province and severe seasonal flooding running along Barangay Singi areas in the municipality of Vinzons. The earthquake induced hazard areas as shown by the thrust fault and strike/cliff fault line runs along portions of Labo to Capalonga and Sta. Elena and the other running along portion of Paracale to Jose Panganiban.

Road transport is the primary mode of transportation in the province particularly in the urban areas with approximately 157,711 kms. or 10.46% of concrete roads, 327.188 km or 21.71% of asphalt road, 476.233 kms. or 31.59% of gravel roads and 546.178 kms. or 36.24% of earth roads. On the other hand, of the 201.474 kms. of national roads 51.982 kms. (25.80%) are concrete and 134.759 kms. or 66.89% are asphalt. The Daang-Maharlika, which is part of the national road, has a total length of 123.650 kms. There is a total of 2,435.29 LM of national bridges of which 2,385.79 LM is concrete and 49.50 LM is steel. Such condition will require for the rehabilitation/ improvement of gravel surfaced roads and upgrading of asphalt road to concrete. Other infrastructure utilities such as water, power, communications, health, education, waste disposal, housing, irrigation, flood control and administrative support infrastructure shall necessitate expansion, improvement and development.

The development constraints and challenges involving the disposition of settlements include slow-paced development in the rural areas or development bias in favor of urban areas; unplanned expansion of settlement areas; weak institutional linkages; inefficient delivery of services due to poor/ slow implementation of infrastructure support facilities and insufficient local funds for the local infrastructure projects and social services; lack of urban planning and management, outdated land use plans and lack of environmental awareness, capability building programs and technology adoption.

The production lands constraints and challenges include, low farm productivity; declining soil fertility; lack of infrastructure support for production and distribution; insufficient/ poor farm to market roads and bridges; absence of trading centers; highly perishable farm/fishery products; presence of flooding areas; declining fish catch and prevalence of pest and diseases in seaweeds and lack of proper cultural management in the commodity.

Alienable and disposable lands declared as forestlands and forestlands declared as A&D (misclassified lands), erosion, presence of over-used and underused areas are among the constraints within the production forest.

In mining, unregulated small-scale mining resulting to overused lands and lack of value-added for mineral products were identified.

There are also lack of appropriate tourism facilities and activities that cater to a wide range of market coupled with negative image as typhoon frequented area and far distance from Manila, which impede the development of tourism in the province.

Affecting the provincial economy are the limited number of establishment in the industry and service sectors, inadequate economic infrastructure support, low family income, low

productivity, lack of entrepreneurial spirit, limited access to financing and weak LGU, NGAs and business sector linkages.

Protection lands are faced with the presence of environmentally constrained areas such as erosion, flooding as well as the presence of fault lines, the conversion of mangrove forest into other uses.

Issues confronting infrastructure sector in the province include absence/ insufficient infrastructure to support growth and development of urban centers and municipalities, lack of inter municipal roads to equalize access between municipalities and the need for the maintenance and improvement of provincial, municipal and barangay roads, lack of infrastructure to improve quality of social and basic services, absence of infrastructure to reduce vulnerability to disasters, inadequate irrigation facilities, undeveloped government facilities and encroachment of infrastructure in highly restricted areas.

VISION AND PRINCIPLES

The province's development vision states that: " The Province of Camarines Norte is a richly endowed natural environment and has a vibrant economy serving as vital link between the growth corridors of Southern Tagalog and Bicol regions, with empowered citizenry, living in a well-planned settlements, where the local leadership is transparent and accountable and everyone adheres to the principles of sustainable development".

The perceived role of the province as vital link to the Bicol and Southern Tagalog Regions include the following:

a. Transshipment point of different products for distribution inside and outside its influence area.

b. Center of excellence for fisheries.

c. Commodity champion for queen pineapple.

d. Transport node of Metro Manila-Daet-Legazpi bus and trucking system.

e. With the declaration of Jose Panganiban Ecozone, can provide inter regional air and sea transport links and establishments of industries and other light to medium industries within the province that will promote employment opportunities, food security and poverty reduction.

f. Provider of tertiary educational services to its nearby provinces.

g. Meal/rest stop of passenger buses/motorists and cargo trucks plying the Metro Manila-Bicol-Visayas route.

h. Site of the research and experimental station of the Department of Agriculture.

i. The pursuit of the four strategic interventions in the Provincial Strategic Plan such as: 1) development of key agribusiness commodity systems; 2) mineral industry development; 3) tourism development; 4) infrastructure support development and their activities shall

serve as strong foundation for the development of the province and deem to transform Camarines Norte as growth corridor for Bicol and Southern Tagalog Regions.

j. Hub of the tourist destination cluster around the region.

k. The mining and industrial center in the region and one of the mining provinces and industrial centers in the country in view of the comparative advantage in terms of mineral and agricultural resources.

ALTERNATIVE SPATIAL STRATEGIES

Four (4) alternative spatial strategies were generated: 2008 Trend Alternative, Core Metro, Bi-Polar Strategy and Multi-Center development Strategy, The Provincial Land Use Committee- Provincial Technical Working Group have studied and evaluated each alternative and was further subjected in a consultative process with different sectoral groups using the Goal Achievement Matrix as an evaluation tool. The criteria used in the evaluation were the basic elements of the vision. Under each criterion are the descriptors which were also considered in assigning weights. The sum of sectoral scores produced the rating for each alternative and based on these, the alternatives were ranked to determine the preferred strategy.

THE PREFERRED STRATEGY

Camarines Norte shall adopt the Multi-Center Development Strategy with Agri-Industrialization as its Development Strategy towards the attainment of socio-economic and physical development. This involves the creation of a dispersed but closely integrated system with four activity centers as focal points of growth in the province.

The identified growth areas are:

	Role
1. Daet	City and Commercial & Business Center
2. Labo	City and Institutional & Government Centers
3. Jose Panganiban	Special Economic Zone
4. Sta. Elena	Transshipment Point

They are expected to analyze the socio-economic development of its satellite municipalities and shall be supported with varying types and levels of investments, for them to provide district roles and functions in the provincial development.

As integrated approach in the selection of programs/projects has been adopted as a strategy so that all programs/projects for implementation in the growth areas are interrelated and mutually reinforcing of complementary to each other.

PLAN COMPONENTS

Settlement Plan

Settlement development is concerned with the spatial distribution of the population; identification of the roles and functions of the urban centers in the hierarchy and the determination of the relationships among settlement areas. The settlement plan shall complement the proposed production and protection land use plans with the primary objective of promoting the orderly and efficient development of human settlement system.

The guiding principle of settlements plan is dispersed concentration of urban population and economic activities, delineation of four (4) growth centers in the province with each growth center having satellite municipalities. By the year 2033 the City of Daet shall continue to function as commercial and business center and also the center for commerce and trade, servicing the large towns of Talisay, Mercedes, Vinzons, Basud and medium towns of San Lorenzo Ruiz and San Vicente. As satellites of Daet, Talisay and Vinzons shall serve as rice production areas and center for cultural and religious heritage; Mercedes as tourism hub and center of excellence for fishery products; Basud as production area and extension of 'bedroom community' and San Vicente and San Lorenzo Ruiz as commodity champion for queen pineapple and food basket zone. Along the capital town of Daet is Labo, also perceived to be a city servicing the lower levels

of urban centers composed of the municipalities of Vinzons, new tows of Bagong Silang and Tulay na Lupa with interconnection to the Jose Panganiban Economic Zone. The identification of the city of Labo as growth center will effectively spread development towards the rural areas and its large area will generally provide the space requirements for industrial development primarily being the Provincial Industrial Center and Institutional Center for Research and Development. Identified as conduit of development shall be the municipality of Jose Panganiban, being proclaimed as the Special Economic Zone and is expected to contribute to the development of investments and settlements growth of the province. Other municipalities which showed potential for urban growth are the municipalities of Talisay and Vinzons because of their strategic location to the growth centers of Daet and Labo. The municipality of Sta. Elena shall serve as the transshipment point for all commodities and agri-industrial center for Capalonga and Bagong Silang and other municipalities of the Bicol Region. Similar to Mercedes, Capalonga and Sta. Elena can also be suppliers of fishery products. The influx of visitors during the feast of Black Nazarene in Capalonga will also make it as a center for cultural and religious heritage. The small town of Tulay na Lupa will be the province's center for forest research and development and Bagong Silang will serve as junction of the economic zone to Maharlika highway.

Major growth movements in the growth centers are expected to give the socio-economic potentials and strategic location of the area that can contribute greatly to the development of surrounding areas. By the year 2033 the municipality of Daet shall have the largest population of 164,165 or 23.09% of the total population followed by Labo, Paracale and Jose Panganiban with a share of growth of 16.46%, 9.37% and 8.61% respectively. In terms of urban population, Daet shall have the highest percentage of urban share of about 168,725 or 26.96% followed by Labo with 93,179 or 14.89%, Sta. Elena with 88,874 or 14.20% and Jose Panganiban with 74,464 or 11.90%. The municipalities with the least urban share are the new towns of Tulay na Lupa and Bagong Silang.

In terms of the needed land requirement vis-à-vis the increase in population, the municipality of Sta. Elena has the highest land requirement of 809 has. to 1,011 has. All municipalities is expected to expand with San Vicente estimated to have the lowest land requirement of a range of 103 has. to 129 has. Provincewide, the total land requirement is accounted to 4,315 has. to 5,394 has.

Production Land Use Plan

The Province of Camarines Norte has about 154,089 has. or 66.42% of the province land area categorized as Network of Protected Agricultural System (NPAAS) with highly restricted areas of 11,976 has. or 5.14%. Moderately restricted is 103,288 has. or 44.51% while conditionally restricted areas is accounted to 38,924 has. or 16.77%. Severe flooding occurs in Vinzons particularly in Barangays Contod and Guinacutan while moderate flooding occurs in Sta. Elena, Labo, Vinzons, Daet and Basud. Extent of NPAA affected by flooding consists of about 6,053 has. while those affected by erosion cover 2,536 has. Majority of the province's land area are used for perennial trees and vines which covers 136,869 has. or 59% followed by plantation forest with 24,727 has. or 10.7%, 9,309 has. or 3.9% for rice, 3,324 has. or 1.43% for pasture and 2,665 has. or 1.14% for fishpond. The province's land area suitable for forest plantation is accounted to 64,384 has. while those identified suitable for rice is found to be 47,831 has. and 42,853 has. for cultivated crops.

With regards to sustainability of land use, 43,448 has. or 25% are being used in accordance with its suitability. About 82,124 has. or 26% is over-used and 47,121 has. or 49% are considered to be development opportunity areas of the province. These development areas are

suitable for cultivated crops, rice, forest production and trees and vines. All coastal municipalities have development opportunity areas suitable for fisheries. Among the municipalities, Labo has the biggest development opportunity areas of 23,427 has. followed by Basud with 15,847 has., San Lorenzo Ruiz with 6,645 has. and Jose Panganiban with 6,471 has.

In terms of priority commodities, rice shall be given utmost importance to attain the targeted production of 126,247 MT in 2013, 196,017 MT in 2023 and 272,021 MT in 2033. Irrigation development shall be highly considered particularly in the 16,869 has. potential irrigable areas. Cropping intensity shall be two (2) croppings for irrigated areas and one (1) for rainfed areas.

For coconut, cutting of coconut trees shall be regulated and implementation of replanting and fertilization program shall be pursued. Planting of macapuno is recommended and crop diversification shall be enhanced. The establishment of coco coir processing in Labo is recommended in support to the industry.

Target production for fishery is 31,960 MT in 2013, 48,568 in 2023 and 71,079 MT in 2033. This is in consideration of the 1,734 has. of sustainable fishpond areas and 1,876 development opportunity areas for this commodity. Fresh water areas and marine waters of the province comprise about 199,238 has. Development efforts will be directed towards sustained environmental protection, maximum production in developed fishpond areas and development of suitable areas for fishpond. Mini-food Terminal will be established in Sta. Elena as well as fish/ crab hatchery and demo farm will be established. Existing hatchery projects in Mercedes and Basud will be upgraded to provide readily available quality fry/ fingerlings and fish canning/ processing facilities will be established in Sta. Elena and Mercedes. All existing fish ports shall be maintained and upgraded and ice plant and cold storage shall be established. Rehabilitation of coastal management through fish sanctuaries and marine reserves and reforestation of denuded mangrove areas and abandoned fishpond areas shall be vigorously undertaken. Continuous research and development coupled with intensified technical assistance shall be undertaken to developed the seaweeds industry in the province and a seaweeds processing plant in Calaguas Group of Islands shall be established.

Cassava shall be continuously grown in commercial quantities both for food and animal feeds and cassava processing centers shall be expanded.

Pineapple is recommended to be concentrated in the northwestern portion of Basud, northeastern and southeastern portion of San Lorenzo Ruiz, Daet and Southern portion of San Vicente and eastern portion of Labo. Basud shall be the site for pineapple dehydration and processing center and two packing houses will be established.

For livestock and poultry, there shall be expansion and production of sources of feeds and existing pasture areas shall be improved. Genetic breed of cattle shall be upgraded by establishment of a stock farm in Sta. Elena and Artificial Insemination (AI) centers in production areas. Livestock auction market cum slaughterhouses and meat processing shall be established in Sta. Elena.

The commercial production of citrus and mango shall be expanded in Sta. Elena and Capalonga and production of watermelon shall be intensified in the municipalities of Basud, Labo, Talisay and Vinzons. Production of fruit trees shall be encouraged as an intercrop and vegetable production as diversified crops. Pili industry shall be continuously developed.

Abaca production shall be intensified in San Lorenzo Ruiz, Labo, Jose Panganiban and Capalonga.

Corn and soybeans shall be grown in commercial quantities to support the livestock and poultry industry.

A total of 32,581 has. of A&D lands are suitable for forest plantation. All development opportunity area for forest plantation shall be developed and the existing brushwood and coconut areas within the production forest shall be reverted back to plantation forest. Eroded and degraded area shall be rehabilitated and A&D lands suitable for forest plantation shall be established into private forest plantation.

With regards to mining, small-scale mining shall be regulated. IEC in laws and guidelines and new technologies in mineral processing shall be intensified. The Provincial Mining Regulatory Board shall be strengthened, multi-sectoral monitoring team shall be adopted and research and development shall be continuously undertaken. New sites shall be developed for extraction and processing plants for mineral resources shall be established without sacrifice to the environment. Abandoned and extracted areas shall also be rehabilitated.

For tourism development, nature-based attractions shall be enhanced and developed, trails shall be established to support eco-tourism activities, dive sites shall be identified and marked, and big waves shall be capitalized for surfing, body boarding and related activities. Existing parks shall be further developed and establishment of tree parks, botanical garden, mini zoo, ecological garden, wild life sanctuary and butterfly garden shall be undertaken. The province's ancestral buildings, landmarks, churches, monuments and shrines shall be preserved to showcase the culture and history. Other industry that support tourism industry which include mining at Paracale and Jose Panganiban, pineapple plantation, and fishing at Mercedes shall be enhanced and developed for agricultural tourism. To sustain festivals and events, revision, enhancement, and incorporation of new programs and activities shall be undertaken. Linkages between private sector and concerned entities shall be established for the establishment of resorts, restaurants, and accommodation facilities which shall be coupled with training of staffs on new techniques and procedures on safety and services. To mitigate the impacts of tourism activities, measures on waste disposals, sanitation and sewerage shall be put in placed. A full blown tourism office shall be created and capability building for staff shall be provided.

The province's estimated employment by 2033 is 474,300 or 155% increase over 2002 employment of 186,000. The highest growth rate is on industry at 8.6% annual growth rate, services sector at 6% per annum and agriculture with 2.15% employment growth. The sectors under services, which are expected to provide employment are tourism, wholesale and retail trade, transportation, communication and community of private services. Light to heavy manufacturing industries, mining and quarrying including constructions are the sources of employment for industry. Agriculture showed a change due to expected shift from production to agro-processing. Major industries and services establishments are identified per municipality to provide economic/ job opportunities to the populace.

Protection Land Use

All development interventions shall adhere with the existing laws and policies governing protected areas and there shall be identification and demarcation of new protected areas. In the province, there are 12,589 has. of protected areas, categorized as natural parks, natural biotic area, proclaimed watershed and mangrove swamps.

Priority interventions include the protection of watersheds, timberlands between the Bicol Natural park in Basud and Mt. Balagbag in Mercedes and said sites shall be categorized as "Critical Habitat Area". Strict protection policies shall be enforced in the watershed areas and biodiversity conservation shall be one of the priority projects. All municipalities shall be encouraged to allocate funds for establishment of their own reforestation projects to cope with the demand of the increasing population and as support to agri-industrialization. Environmental laws shall be strictly enforced with the expansion of upland agriculture in Mt. Cadig. With the declaration of Jose Panganiban as Economic Zone, the Dahican and Jose Panganiban Watershed shall be guarded to avoid hazardous effect of contamination of chemicals and toxic wastes from industries and processing plants, EIA shall be strictly enforced and multi-sectoral environmental performance team shall be created and mobilized. Small watersheds such as Paltik and Busik shall be demarcated and applied for proclamation. Protected Area management Board (PAMB) in each protected areas shall be formed and activated. The proclamation of Mt. Cadig in Labo as watershed shall be sought. Irrigator's Associations shall be forced to establish their own forest plantation in their water sources within the watershed to sustain water quality. Fish sanctuaries and marine reserves shall be identified and demarcated to avoid encroachment of illegal fishers and fish wardens shall be deputized in protected fishery areas. Mangrove areas and nipa plantations shall be rehabilitated to expand breeding grounds of fisheries. Regular coral reef assessment shall be done, segment mapping of river and creeks shall be undertaken and integrated land and water information system shall be established to facilitate performance monitoring of river system. Regulation of sea-based products shall be strictly implemented and in adherence with the Fishery Law.

Tenurial instrument for CADC shall be issued to ensure protection of the area from encroachment. Land utilization within the CADC areas shall be in accordance with all other land use policies and shall adhere to the principles of sustainable development. Members of the IP community shall also ensure ecological balance and restore denuded areas within the territory.

Infrastructure Plan

The Infrastructure Plan is primarily directed in support to the attainment of the proposed land use and settlement plan component of the PDPFP. The infrastructure plan highlighted the construction of new roads to connect the four (4) growth centers to the different satellite municipalities. A road connecting Capalonga to Sta. Elena shall be opened for easy access and transport of people and products. Bagong Silang shall be connected to the Special Economic Zone of Jose Panganiban in Brgy. Larap. A new road to connect the municipality of Tulay na Lupa to Talobatib shall be constructed for easy and fast access to Jose Panganiban and/or Sta. Elena. Roads connecting the mining areas of Paracale and Jose Panganiban shall also be constructed which shall pass through its coastal barangays of Pulang Daga, Gumaus, Luklukan Sur and Osmeña. The plan shall also focuses in the upgrading, expansion and improvement of airports, ports and terminal facilities.

Infrastructure to equalize access between areas will be made available and physical integration of the municipalities from other municipalities and into the province shall be given priority. This can be achieved through construction of roads that will connect towns of San Vicente and San Lorenzo Ruiz and other another road network to link San Lorenzo Ruiz and Basud. Roads that will facilitate transport between the growth center and satellite municipalities and accelerate development specifically those link to the Special Economic Zone. Opening of coastal road which shall link Mercedes and provide easy transport of agriculture and fishery products from coastal towns and will boost the tourism industry of the province through its

beaches and resorts shall be looked into. Construction of coastal road interconnecting Mercedes to the adjacent coastal municipalities of Camarines Sur will facilitate transport of fishery products of these municipalities.

Infrastructure to improve quality of services include construction of telephone exchange and cell sites and improvement and rehabilitation/ upgrading of all existing public calling offices and post offices/ postal stations in different municipalities.

For power supply, construction of 5 MVA substations and a 69 KV transmission line in Larap shall be pursued to be complemented by 5 MVA substation and 69 KV transmission lines in Bagong Silang. Potential alternative sources of energy shall likewise be developed.

The existing Level III Water System shall be expanded and a feasible water source for construction of a Municipal Water System shall be identified in Capalonga. The construction and improvement/ rehabilitation of Levels I and II water supply facilities in different municipalities shall be undertaken.

For liquid and solid waste disposal, acquisition of sites and establishment of appropriate/ standard disposal system is four (4) growth centers shall be a major concern of the infrastructure plan. A solid waste management plan must be prepared by each LGU.

The construction, modernization, expansion and improvement of the Camarines Norte State College will be undertaken. The existing tertiary schools in Sta. Elena and Capalonga shall require improvement and expansion. The construction of additional classrooms and school buildings in all public elementary schools shall also be required.

Health and hospital infrastructure and facilities in the Camarines Norte Provincial Hospital, Labo District Hospital, Capalonga Medicare and Community Hospital, Sta. Elena Municipal Hospital, Jose Panganiban Cooperative Hospital and Rural Health units shall be upgraded, modernized, improved and rehabilitated.

Socialized housing units and core shelter projects will be constructed/ established and expanded in all municipalities in accordance with the identified settlement areas.

To reduce vulnerability to disasters, structures/ facilities for protection from natural hazards shall be constructed and improvement and rehabilitation of existing flood control, seawall and drainage system projects in the different municipalities shall be done.

Infrastructure to support production include irrigation and production support facilities , manufacturing/ processing and trading centers. Focus on irrigation shall be in rehabilitation and maintenance of existing systems and construction of new communal irrigation systems and small water impounding projects. Post harvest facilities shall likewise be established.

In support to tourism development, major concerns include the improvement / enhancement of existing sites/ tourism areas and to establish and develop the potential tourism area/ sites. Various eco-tourism areas are also proposed to be developed.

In support to public administrative and government services, construction of new public centers and structures shall include Camarines Norte Sports Complex which shall have modern facilities and equipment.

The establishment of a new Provincial Government Center in Labo shall provide central location for all government offices and agencies especially those, which have no permanent offices in Daet. The new towns of Tulay na Lupa & Bagong Silang shall also require construction of Municipal Government Centers.

Existing major government facilities and structures shall also be improved, upgraded and expanded.

IMPLEMENTATION STRATEGY

The approved PDPFP, as a planning framework at the provincial level is expected to be replicated in detail at the municipal level through the municipal comprehensive land use plans (MCLUPs). The PDPFP shall be implemented through the Provincial Comprehensive Development Plan/ Provincial Development Investment Plan (PCDP/PDIP) as medium term plan and can be regarded as an action plan and an implementing instrument and shall undergo updating and revision corresponding to the tenure of local officials. The PDIP shall further be translated into an Annual Investment Plan. Every succeeding Comprehensive Development Plan should be consistent with the PCLUP/ PDPFP.

The PCDP/PDIP is an action plan derived from the policy recommendations and an implementing instrument of the PDPFP. Each component was further translated into specific programs / projects / activities.

Programs and projects, which were identified by national agencies in accordance with their agency goals and objectives, must also be in support to the vision set forth by the province. Concerned agencies must therefore see to it that their programs, projects and activities are consistent with the Plan.

In same manner that zoning ordinances and investment programs of municipalities for capital investment projects and activities to cater the needs and aspiration of the locality, must be supportive to the PDPFP.

Some sectoral policies and programs that cannot be fully implemented by means of projects alone will be enacted by the Sangguniang Panlalawigan specially those areas that need new legislations, ordinances or resolutions.

Since the PDPFP is indicative in nature in the sense that the provincial government does not have the same statutory land use regulatory powers that cities and municipalities have, the MCLUP shall interpret and adopt the provincial policies to the physical and environmental conditions of the respective municipalities. The MCLUP shall define production areas including settlements and infrastructure to areas outside of the protection areas and shall adopt the role that has been identified for the municipality in the PDPFP. Local infrastructure projects identified in the MCLUP shall be linked and aligned with that of the PDPFP. Section 1 (b) of EO 72 states that the comprehensive land use plans of component cities and municipalities shall be formulated, adopted or modified in accordance with the approved provincial comprehensive land use plan.

Enforcement of Land Use Policies shall, likewise, be implemented to include the following:

a.) The Provincial Land Use Committee and its Technical Working Group (PLUC-TWG) will walk through the Comprehensive Land Use Plan (CLUPs) of the municipalities.

b.) The Sangguniang Panlalawigan shall review the Comprehensive Land Use Plans and Zoning Ordinances of component municipalities to ensure compliance with national standards and guidelines and conformity with the PDPFP.

c.) Assistance will be provided by the PLUC and its TWG to the LGUs in the formulation of their respective CLUPs.

TABLE OF CONTENTS

	PAGE
Provincial Development Council Resolution Approving the PDPFP of Camarines Norte	i
Sangguniang Panlalawigan Resolution Approving the PDPFP of Camarines Norte	iv
Message	vi
Acknowledgment	vii
List of Abbreviations	viii
List of Acronyms	ix
List of Tables	xi
List of Figures	xxi
Executive Summary	xxv
A INTRODUCTION	
1. Historical Background	A – 1
1.1 Brief Historical Background	A – 1
1.1.1 Origin	A – 1
1.1.2 Year Founded	A – 1
1.1.3 Etymology or Origin of the Name of the Province	A – 1
1.2 Number of Municipalities and Total Population	A – 1
2. Plan Objectives and Context	A – 2
2.1 Objectives of the Plan	A – 2
2.1.1 Vision of the Province	A – 2
2.1.2 Analytical Basis for Understanding Existing Conditions and Identifying Key Development Issues, Goals and Objectives and Targets of the province	A – 2
2.2 Context of the Plan	A – 3
2.3 Key Policy and Legislative Mandates of the Plan	A – 4
2.4 Constitutional Basis, National and Regional Policies Applicable to the Province	A – 5
3. Coverage of the Plan	A – 7
3.1 Historical Coverage of the Plan	A – 7
3.2 Geographical Coverage of the Plan	A – 7
3.3 Sectoral Coverage of the Plan	A – 7
4. Mainstreaming Disaster Risk Reduction / Vulnerability Assessment in the Plan	A – 9

PAGE

B VISION (2008 – 2033) B – 11

1. Role of the Province in the Region/Nation B – 11

2. Vision Elements, Descriptors and Success Indicators B – 11

C THE PLANNING ENVIRONMENT C – 16

1. Location, Land Area and Political Subdivision C – 16
   - 1.1 The island and administrative region where the province is located C – 16
   - 1.2 The Location and Boundaries of the Province C – 16
   - 1.3 Political Subdivisions and Total Number of Barangays C – 16
   - 1.4 The Location of the Capital Town and Other Landmark Features C – 17

2. Population and Settlements C – 18
   - 2.1 Population: Regional and National Context C – 18
   - 2.2 Provincial Population, Annual Growth Rate, Density by Municipality C – 19
     - 2.2.1 Size and Distribution C – 19
     - 2.2.2 Growth Rate C – 20
     - 2.2.3 Density and Urbanization C – 28
     - 2.2.4 Sex and Age Distribution C – 34
     - 2.2.5 Children and Women Population C – 37
     - 2.2.6 Children Population C – 38
   - 2.3 Settlements C – 43
     - 2.3.1 Criteria for Hierarchy of Settlements C – 43
     - 2.3.2 Centrality of Functions and Hierarchy of Centers C – 45
   - 2.4 Disaster Risk Reduction/Climate Change Adaptation (DRR/CCA) Evaluation C – 52
     - 2.4.1 Risk Evalution C – 52
     - 2.4.2 Exposure and Vulnerability Condition C – 52

3. Physical Resources C – 53
   - 3.1 General Land and Water Characteristics of Resources C – 53
     - 3.1.1 Topography C – 53
     - 3.1.2 Slope C – 56
     - 3.1.3 Geomorphology / General Land Forms C – 58
     - 3.1.4 Land and Water Resources C – 60
       - 3.1.4.1 Mountains C – 61
         - 3.1.4.1.1 Mount Labo C – 61
         - 3.1.4.1.2 Mount Cadig C – 61
         - 3.1.4.1.3 Mount Balagbag C – 61
         - 3.1.4.1.4 Mount Bagacay C – 61

PAGE

3.1.4.2 Bodies of Water C – 62
3.1.4.2.1 Municipal Waters C – 62
3.1.4.2.1 Rivers C – 62
3.1.4.2.1.1 Busigon River C – 62
3.1.4.2.1.2 Labo River C – 63
3.1.4.2.1.3 Basud River C – 63
3.1.4.2.1.4 Daet River C – 63
3.1.4.2.1.5 Matogdon River C – 64
3.1.4.2.1.6 Malaguit River C – 64
3.1.4.2.1.7 Basiad River C – 64
3.1.4.2.1.8 Santol River C – 64
3.1.4.2.1.9 Minasag River C – 64
3.1.4.2.1.10 Camagsaan River C – 65
3.1.5 Geological Features C – 65
3.1.6 Mineral Resources C – 67
3.1.7 Climate of the Province C – 70
Historical Rainfall Record C – 70
Projected Climate Change (2020 and 2050) C – 70
Temperature C – 70
Rainfall C – 72

3.2 Land Use Potentials and Constraints C – 77
3.2.1 Land Classification C – 75
3.2.2 Land Cover C – 77
3.2.3 Disaster Risk Reduction and Management C – 79
3.2.3.1 Meteorologic Hazards C – 79
3.2.3.1.1 Flooding C – 79
3.2.3.1.2 Rainfall Induced Landslide C – 79
3.2.3.1.3 Storm/Coastal Surges C – 80
3.2.3.2 Geologic Hazards C – 80
3.2.4 Protection Areas C – 80
3.2.4.1 Protected Areas Under the NIPAS Law (RA 7586) Non-NIPAS Categories and Indigenous People's Rights Act (IPRA) C – 80
3.2.4.2 Environmental Hazards C – 84
3.2.4.2.1 Volcanoes, Faults and Earthquake Zones C – 84
3.2.4.2.2 Soil Erosion C – 85
3.2.4.2.3 Flooding C – 87
3.2.4.3 Network of Protected Agricultural Area System (NPAAS) C – 89
3.2.4.4 Strategic Agriculture and Fishery Development Zones C – 93

3.3 Disaster Risk Reduction/Climate Change Adaptation (DRR/CCA) Evaluation C – 95
3.3.1 Risk Evaluation C – 95
3.3.2 Exposure and Vulnerability Condition C – 95

PAGE

4. Economy C – 96

4.1 Labor Force and Employment C – 96

4.2 Agriculture C – 97

4.3 Production Forest C – 97

4.4 Economic Structure C – 100
4.4.1 External Context of the Local Economy C – 100
4.4.1.1 Patterns of Industry Concentration and Specialization C – 102
4.4.1.2 Basic Sectors and Corresponding Industries of the Province of Camarines Norte C – 105
4.4.2 Potentials for Contributing to Local Economic Growth C – 108
4.4.2.1 Economic Base Industries C – 108
4.4.2.2 Local Employment Growth C – 110
4.4.2.3 Industries that have Best Potentials for Contributing to Local Economic Growth C – 112
4.4.2.3.1 Industries with Best Potentials C – 112
4.4.2.3.1.1 Pineapple Processing C – 112
4.4.2.3.1.2 Marine Products Processing C – 113
4.4.2.3.1.3 Mix-Media Furniture and Home Furnishings C – 114
4.4.2.3.2 Industries with Declining Potentials C – 115
4.4.2.3.2.1 Handicrafts C – 115
4.4.2.3.2.2 Fine Jewelry C – 115
4.4.2.3.2.3 Wood-Based Products C – 115
4.4.3 Local Factors C – 115
4.4.4 Tourism C – 117
4.4.4.1 Land-Based Attractions C – 117
4.4.4.2 Coastal Area-Based Attractions C – 117
4.4.4.3 Man-Made Attractions C – 119
4.4.4.4 Cultural/Historical Attractions C – 119
4.4.4.5 Socio-Economic Attractions C – 120
4.4.5 New Establishment in the Industry and Services Sector C – 121
4.4.6 Initiatives on the Existing and Proposed Dev't Areas C – 122
4.4.6.1 Special Economic Zone C – 122
4.4.6.2 Proposed Industrial Center C – 122

PAGE

4.5 Disaster Risk Reduction/Climate Change Adaptation (DRR/CCA) Evaluation C – 123
4.5.1 Risk Evaluation, Exposure and Vulnerability Assessment C – 123

5. Transportation, Access and Circulation C – 124
a. Land Transport C – 124
b. Water Transport C – 127
c. Air Transport C – 127

5.1 External Linkages C – 128

5.2 Internal Circulation C – 128

5.3 Disaster Risk Reduction/Climate Change Adaptation (DRR/CCA) Evaluation C – 131

5.3.1 Risk Evaluation C – 131

6. Income, Employment, Service Access and Poverty C – 132

6.1 Employment/Unemployment C – 132

6.2 Family Income C – 133

6.3 Poverty Characteristics C – 134

6.4 Social Services C – 140
6.4.1 Health C – 140
6.4.1.1 Hospital Bed-Population Ratio C – 140
6.4.1.2 Health Personnel C – 140
6.4.1.3 Morbidity and Mortality C – 142
6.4.1.4 Live Births C – 143
6.4.2 Education C – 148
6.4.3 Housing C – 153
6.4.3.1 Housing Backlog C – 154

6.5 Utility/Infrastructure Services C – 158
6.5.1 Water C – 158
6.5.2 Sanitation Facilities C – 159
6.5.3 Power C – 160
6.5.4 Drainage/Flood Control C – 161
6.5.5 Solid Waste Management C – 162
6.5.5.1 Liquid and Solid Waste Disposal C – 162
6.5.6 Irrigation System C – 165
6.5.7 Government Buildings and Structures C – 166
6.5.7.1 Administrative Support Infrastructure C – 166
6.5.7.2 Hall of Justice C – 166
6.5.7.3 Parks and Open Spaces C – 167
6.5.7.4 Public Assembly Area C – 167

PAGE

6.5.7.5 Other Government Buildings C – 167

6.6 Disaster Risk Reduction/Climate Change Adaptation (DRR/CCA) Evaluation C – 169
6.5.1 Risk Evaluation C – 169
6.5.2 Exposure and Vulnerability Condition C – 169

7. Alternative Spatial Strategies C – 170

7.1 2008 Trend or the "Do Nothing" Alternative C – 170
7.1.1 Advantages C – 175
7.1.2 Disadvantages C – 175

7.2 The Alternative to the Base Plan C – 176
7.2.1 The Core Metro Development Strategy C – 176
7.2.1.1 Advantages C – 177
7.2.1.2 Disadvantages C – 179
7.2.2 The Bi-Polar Development Strategy C – 179
7.2.2.1 Advantages C – 182
7.2.2.2 Disadvantages C – 182
7.2.3 The Multi-Center Development Strategy C – 182

7.3 Evaluation of Alternatives C – 186

8. The Preferred Strategy C – 187

8.1 The Multi-Center with Satellite Dev't Strategy C – 187

9. Land Use and Physical Resources C – 189

9.1 Production Land Use Plan Component C – 189
9.1.1 Agriculture C – 189
9.1.1.1 Situationer C – 189
9.1.1.2 Geohazard Impact Areas Affecting Production C – 189
9.1.1.2.1 Flooding Areas C – 189
9.1.1.2.2 Areas Affected with Erosion C – 190
9.1.1.3 Modified Land Use C – 193
9.1.1.4 Land Suitability C – 195
9.1.1.5 Sustainability of Land Use C – 197
9.1.1.6 Land Suitability of Dev't Opportunity Areas C – 202
9.1.1.7 Priority Commodities C – 203
9.1.1.7.1 Rice C – 203
9.1.1.7.2 Coconut C – 206
9.1.1.7.3 Fisheries and Aquaculture including Seaweeds C – 206
9.1.1.7.4 Cassava and Other Rootcrops C – 208
9.1.1.7.5 Pineapple C – 209
9.1.1.7.6 Livestock and Poultry C – 209

PAGE

9.1.1.7.7 Fruits and Vegetables C – 210
9.1.1.7.8 Pili C – 211
9.1.1.7.9 Abaca C – 211
9.1.1.7.10 Corn and Soybeans C – 211

9.2 Production Forest Situationer C – 211
9.2.1 A & D Suitable for Forest Plantation C – 212
9.2.2 Sustainability of Production Forest C – 214
9.2.3 Priority Interventions C – 216
9.2.3.1 Tree Farms C – 216
9.2.3.1.1 Timber Production C – 216
9.2.3.1.2 Fuelwood Farms C – 217
9.2.3.1.3 Plantation for Extractives and Fruit Production C – 217
9.2.3.1.4 Minor Forest Products Plantation C – 218

9.3 Mining C – 219
9.3.1 Situationer C – 219

9.4 Tourism C – 220

9.5 Employment C – 221
9.5.1 Employment and Likely-Directions of Structural Change C – 221
9.5.2 New Establishments C – 224

9.6 Protection Land Use Plan Component C – 224
9.6.1 Situationer C – 224
9.6.1.1 Network of Integrated Protected Area System C – 224
9.6.1.2 Non-Network of Integrated Protected Area System C – 225
9.6.1.3 Certificate of Ancestral Domain Claims C – 225
9.6.1.4 Protected Fishery Areas C – 225
9.6.1.5 Areas Prone to Hazards / Geohazard Impact Areas C – 226
9.6.1.6 Priority Interventions C – 226
9.6.1.6.1 Watershed C – 226
9.6.1.6.2 Certificate of Ancestral Domain Claims C – 227
9.6.1.6.3 Rural Population Impact on Protected Areas C – 228

10. Physical Framework C – 229

10.1 Demand (Settlement Plan Component) C – 229
10.1.1 Hierarchy of Urban Centers C – 229
10.1.2 Redirection of Population Growth C – 232

PAGE

10.1.3 Land Requirement for Future Development C – 234

10.2 Infrastructure Framework C – 239
10.2.1 Transportation, Access and Circulation C – 239
10.2.1.1 External Linkages C – 239
10.2.1.2 Internal Circulation C – 240
10.2.2 Social Infrastructure and Utility/Infrastructure Services C – 242
10.2.2.1 Social Infrastructure C – 243
10.2.2.1.1 Health Facilities C – 243
10.2.2.1.2 Education Facilities C – 245
10.2.2.1.3 Public Socialized Housing C – 245
10.2.2.1.4 Facilities for Social Welfare Services C – 245
10.2.2.2 Utility Infrastructure Services C – 248
10.2.2.2.1 Water Supply and Sanitation Facilities C – 248
a. Water Supply Facilities C – 248
b. Sanitation Facilities C – 248
c. Power Supply Facilities C – 248
d. Liquid and Solid Waste Disposal System C – 249
e. Drainage and Flood Control C – 251
f. Irrigation C – 251
g. Telecommunication C – 251
10.2.3 Other Infrastructures and Facilities C – 252
10.2.3.1 Government Buildings and Structure/Facilities C – 252
10.2.3.2 Other Infrastructure Support Facilities C – 255
10.2.3.1.1 Tourism Support Infrastructure C – 255
10.2.3.1.2 Other Infrastructure Support to Production C – 255
10.2.3.1.3 Infrastructure Support for Protection from Natural Hazards C – 255

D PROVINCIAL COMPREHENSIVE DEVELOPMENT PLAN D – 259

d.1 Social Development Sector D – 259
d.1.1 Health and Nutrition D – 262
d.1.2 Protective Services D – 267
d.1.3 Housing D – 270
d.1.4 Sports D – 271
d.1.5 Population and Settlement D – 272
d.1.6 Education D – 273
d.1.7 Social Welfare D – 275

PAGE

d.2 Economic Development Sector D – 277
d.2.1 Agriculture D – 279
d.2.2 Industry and Services D – 282
d.2.3 Tourism D – 284
d.2.4 Livestock and Poultry D – 286

d.3 Environment and Natural Resources Development Sector D – 289
d.3.1 Urban Ecosystem D – 291
d.3.2 Mining D – 292
d.3.3 Disaster Risk Management D – 292
d.3.4 Upland Forestry D – 293
d.3.5 Coastal D – 294
d.3.6 Lowland Ecosystem/NPAAS D – 294

d.4 Infrastructure Development Sector D – 295
d.4.1 Transportation D – 297
d.4.2 Communication D – 298
d.4.3 Power D – 299
d.4.4 Water and Sanitation D – 299
d.4.5 Irrigation D – 300
d.4.6 Flood Control and Drainage D – 300
d.4.7 Other Infrastructure Issues D – 300

d.5 Institutional Development Sector D – 301
d.5.1 Planning D – 303
d.5.2 Administrative/Organization and Management D – 305
d.5.3 Governance/Legislation D – 307
d.5.4 Fiscal Management D – 309

List of Annexes
Credits

INTRODUCTION

A. INTRODUCTION

1. HISTORICAL BACKGROUND

1.1 Brief Historical Background

1.1.1 Origin

From 1573 to 1829th, Camarines Sur and Camarines Norte provinces formed only one political unit known as Ambos Camarines.

In 1829, they were separated but reunited again in 1854. They again separated to be reunited again in 1893. This union continued until 1919. On March 3, 1919, Camarines Norte was created by the Philippine Legislative in Act 2809.

1.1.2 Year Founded

By virtue of Act 2809 of March 3, 1919, General F.B. Harrison separated Camarines Norte from Camarines Sur.

1.1.3 Etymology or Origin of the Name of the Province

For over two and a half centuries, from 1573 to 1829, Camarines Norte and Camarines Sur formed only one poitical unit, the Province of Camarines. In 1829, the province of Camarines was divided into two regions, namely Camarines Norte and Camarines Sur. Camarines Norte was assigned the towns of Daet, Talisay, Indan, Labo, Paracale, Mabulao, Capalonga, Ragay, Lupi and Sipocot. However, in 1846, Camarines Norte lost to Camarines Sur the towns of Sipocot, Lupi and Ragay in exchange for Siruma.

In 1854, the two regions were again reunited and was named Ambos Camarines. The union lasted only for three years for in 1857 they were again separated and remained independent until 1893. The last union was during this year so that there was but one province of Camarines during the Spanish Revolutionary period and in the subsequent years.

Finally, on March 3, 1919, on Act was passed by the Senate and House of Representative of the Philippines Authorizing the Governor General to segregate Camarines Norte from the Province of Ambos Camarines thereby creating the former as an independent province, the Province of Camarines Norte.

1.2 Number of Municipalities and Total Population

At present, Camarines Norte has twelve (12) municipalities namely: Basud, Capalonga, Daet, Jose Panganiban, Labo, Mercedes, Paracale, San Lorenzo Ruiz, San Vicente, Sta. Elena, Talisay and Vinzons.

The province's population in CY 2007 is about 513,785.

2. PLAN OBJECTIVES AND CONTEXT

2.1 Objectives of the Plan

The Provincial Development and Physical Framework Plan (PDPFP) provides the mechanism and resolve land use and land resources management conflicts of cities and municipalities and endeavors to achieve an efficient and equitable spatial relationship among the cities and municipalities of the province. This serves as the basis and framework for updating the Comprehensive Land Use Plans of cities and municipalities.

The PDPFP delineates the direction and extent of expansion of urban and other built-up cities and municipalities within the province, all major land development proposed during the twenty five (25) years plan period that have provincial, regional and national significance, the major transportation networks and the location of other major infrastructure services and facilities.

2.1.1 Vision of the Province

The Province of Camarines Norte is a richly endowed natural environment and has a vibrant economy serving as a vital link between the growth corridors of Southern Tagalog and Bicol Regions, with empowered citizenry living in well-planned settlements, where the local leadership is transparent and accountable and everyone adheres to the principles of sustainable development.

2.1.2 Analytical basis for understanding existing conditions and identifying key development issues, goals and objectives, target of the province.

The province and its resources were viewed in terms of potential benefits to the people taking into account the cultural diversity, age and vulnerability of population groups in the analysis of data.

To be sure the development is not defined solely by maternal factors but one way or another, in the extended term, necessary material support has been considered. The core element of the planning environment dealt with the analysis of population, economic activity and its physical resources.

The assessment of the planning environment revealed problems in each sector and indications of extent of each problem which allowed the identification of development issues or the most pressing problems facing the province. From these issues, overall goals and corresponding objectives and targets were derived guided by the 25 year vision of the province. Development issues, constraints, problems and corresponding goals, objectives and targets serve as basis for identifying strategies and plans, programs and activities intended for implementation.

2.2 Context of the Plan

The Provincial Development and Physical Framework Plan serves as the link between the national/regional and municipal land use plans. Within this set-up, policies enunciated at the top levels of governments are effectively translated into a lower provincial plan to be more responsive to local conditions. Conversely, policies at the municipal level are integrated into the provincial plan.

The Provincial Development and Physical Framework Plan (PDPFP) is a document that translates provincial development's vision and principles and policies into spatial plan indicating the manner in which land shall be put use during the twenty five (25) years plan period.

The Regional Physical Framework Plan (RPFP) considers a higher-level plan, the National Physical Framework Plan (NPFP). The preparation of the PDPFP considers its higher-level plan, the RPFP. Thus, goals and objectives set at the national and regional levels in the NPFP and RPFP, respectively, are integrated into the PDPFP. Furthermore, some physical attributes of a province traverse provincial boundaries requiring a higher level regional plan (the RPFP) to serve as inter-provincial framework plan.

The regional level plan, the RPFP, is indicative in nature. The provincial level plan, the PDPFP presents in more detailed and specific population, economic and physical resources/transport, income and services and land use and physical framework as a means of detailing the RPFP at the provincial level.

Both plans are resource oriented wherein the allocation of land areas takes into consideration the interplay of the population's needs and requirements vis-à-vis the preservation, conservation and sustainable utilization of natural resources. This is achieved at the provincial level plan, the PDPFP, through consideration and integration of the Comprehensive Land Use Plans of cities and municipalities as required by the 1991 Local Government Code. In this manner the bottom-up approach is affected.

The PDPFP provides the mechanism to resolve land use and land resources management conflicts of cities and municipalities and endeavors to achieve an efficient and equitable spatial relationship among the cities and municipalities of the province.

The objectives and aspirations, and eventual resolution of conflicts at the lower planning levels are reflected in the higher level provincial plan, the PDPFP. The PDPFP then serves as the basis and framework for updating the Comprehensive Land Use Plans of cities and municipalities.

The PDPFP delineates the direction and extent of expansion of urban and other built-up areas of cities and municipalities within the province, all major land development proposed during the twenty five (25) years plan period that have provincial, regional and national significance, the major transportation networks and the location of other major infrastructure services and facilities.

2.3 Key Policy and Legislative Mandates of the Plan

The 1987 Constitution in Article XIII Section 1 states that ***Congress shall give highest priority to the enactment of measures that protect and enhance the right of all the people to human dignity, reduce social, economic, and political inequalities, and remove cultural inequities by equitably diffusing wealth and political power for the common good. To this end, the State shall regulate the acquisition, ownership, use and disposition of property and its increments***. This was further bolstered by Article XII Section 6 of the same constitution which states that the use of property bears a social function and all economic agents shall contribute to the common good. It further states that the right to own, establish, and operate economic enterprises is subject to the duty of the State to promote distributive justice and intervene when the common good so demands.

In the light of these provisions and in view of the provisions of the Local Government Code (LGC) of 1991 (RA7160), the Provincial Government of Camarines Norte has come up with the formulation of the Provincial Physical Framework Plan (PPFP) now the PDPFP. This plan endeavors to achieve an efficient and equitable spatial relationship among the twelve municipalities of the province.

Under RA 7160, Local Government Units are mandated to prepare and update their respective land use plan. Section 20 (c) of the Local Government Code of 1991 provides ***The local government units, shall in conformity with existing laws, continue to prepare their respective comprehensive development plans enacted through zoning ordinances which shall be the primary and dominant bases for the future use of land resources: Provided, that the requirements for food production, human settlements, and industrial expansion shall be taken into consideration in the preparation of such plans.*** This provision paved way to the formulation of the PPFP and the Provincial Comprehensive Land Use Plan (PCLUP) as one. The commitment of the province in pursuing a more realistic action in response to the pressing need for a more rational and physical development is reflected in the PDPFP.

The Provincial Comprehensive Land Use Plan serves as basis for the regulation of the use of resources and sets reasonable limits and restraints on the use of property within the jurisdiction of the province. Section 468 a,2 (vi) of the LGC provides that ***The Sangguniang Panlalawigan, as the legislative body of the province shall enact ordinances, approve resolutions and appropriate funds for the general welfare of the province and its inhabitants pursuant to Sec. 16 of this code and in Section 222 of this code, and shall xxx (2) Generate and maximize the use of resources and revenues for the development plans, programs objectives and priorities of the province as provided for under Sec. 18 of this code, with particular attention to agro-industrial development and countrywide growth and progress and relative thereto, shall: xxx (vi) prescribe the reasonable limits and restraints on the use of property within the jurisdiction of the province.***

The powers of the Housing and Land Use Regulatory Board (HLURB) to review and approve the Comprehensive Land Use Plans

(CLUP) of municipalities was already vested with the province pursuant to the provisions of the Local Government Code of 1991 Sec. 468 a,2, (vii) which provides ***… (vii) Review the Comprehensive Land Use Plans and zoning ordinances of component cities and municipalities and adopt a comprehensive provincial land use plan, subject to existing laws; xxx"***

In this light, Section 465 b,3, (v) of the LGC is also well noted. In the said provision, the Provincial Comprehensive Land Use Plan would be instrumental for the Joint Management of Land and Natural Resources with the municipalities. It is left to the Local Chief Executive of the Province to initiate and maximize the generation of the resources and revenues. Section 465 b,3, (v) provides ***For efficient, effective and economical governance the purpose of which is the general welfare of the province and its inhabitants pursuant to Section 16 of this Code, the provincial governor shall: xxx (c) initiate and maximize the generation of resources and revenues, and apply the same to the implementation of development plans, programs and objectives and priorities, as provided for under Section 18 of this Code, particularly those resources and revenues programmed for agro-industrial development and countrywide growth and progress and, relative thereto, shall: xxx (v) Adopt measures to safeguard and conserve land, mineral, marine, forest and other resources of the province, in coordination with the mayors of component cities and municipalities; xxx.***

2.4 Constitutional Bases, National and Regional Policies Applicable to the Province

ARTICLE XIII – Social Justice and Human Rights
Philippine Constitution

SECTION 1.

The Congress shall give highest priority to the enactment of measures that protect and enhance the right of all the people to human dignity, reduce social, economic, and political inequalities, and remove cultural inequities by equitably diffusing wealth and political power for the common good.

To this end, the State shall regulate the acquisition, ownership, use and disposition of property and its increments.

ARTICLE XII – National Economy and Patrimony
Philippine Constitution

SECTION 6.

The use of property bears a social function, and all economic agents shall contribute to the common good. Individuals and private groups, including corporations, cooperatives, and similar collective organizations, shall have the right to own, establish, and operate economic enterprises, subject to the duty of the State to promote distributive justice and to intervene when the common good so demands.

Letter of Instruction No. 1350
Providing Institutional Framework For National Physical Planning

Executive Order No. 72
Providing the Preparation and Implementation of the Comprehensive Land Use Plan per Local Government Code and Other Pertinent Laws.

Joint DAR Memo Circular No. 1
Implementing Guidelines for Establishing Priorities and Procedures in Evaluating Areas Proposed for Land Use Conversion for Agri-Industrial Center, Tourism Development Areas and Site for Socialized Housing.

Administrative Order No. 20
Interim Guidelines on Land Conversion

Charter On Agricultural Lands

Republic Act No. 7586
An Act Providing for the Establishment and Management of National Integrated Protected Areas System Defining its Scope and Coverage for other Purposes.

Memorandum Circular No. 54
Prescribing the Guidelines Covering Section 20 of Republic Act No. 7160 Otherwise Known as the Local Government Code of 1991 Authorizing Cities and Municipalities to Reclassify Agricultural Lands into Non-Agricultural Uses.

Administrative Order No. 12
Consolidated and Revised Roles and Procedures Covering Conversion from Agricultural to Non-Agricultural Uses

Administrative Order No. 6
Guidelines for the Issuance of Exemption Clearance Based on Section 3 (C) of Republic Act 6657 and Department of Justice (DOJ) Opinion No. 44 Series of 1990

Policy of the State on the Implementation of the Agrarian_Reform Program – Section 4 Article Xiii of the New Constitution
Provides that the state shall, by law undertake an Agrarian Reform Program founded on the right of farmers and regular farm workers, who are landless, to own directly and collectively the lands they till or in the case of farm workers to receive a just share thereof. Like wise, Section 2 of Republic Act 6657 in its declaration of principles and policies states that it is the policy of the state to pursue a Comprehensive Agrarian Reform Program (CARP). The welfare of the landless farmers and the farm workers shall receive the highest consideration to promote social justice and to move the nation toward sound rural development and industrialization and the establishment of owner-cultivatorship of economic sized farms as the basis for Philippine agriculture.

3.0 COVERAGE OF THE PLAN

3.1 Historical Coverage of the Plan

The proposed programs / projects / activities (PPAs) of the PDPFP are intended to form part of a six year medium-term development plan with firmed up targets for the first three years to align with the priorities of elective officials.

After the first 3 years, the plan is subjected to a mid-term review in part to establish targets for the second half of its coverage. The PDPFP is also intended to coincide with two-three-year political terms of the Governor, aligned with a full term of the national leadership. It is guided by a long term (25 year) vision.

While the PDPFP is a long term plan, its planning analysis extend beyond the medium term to consider longer-term trends.

3.2 Geographical Coverage of the Plan

The political boundaries of the province define the primary level of geographical analysis. Other provinces in the region and the country as a whole are also included as benchmarks or comparative analytical methodology.

The twelve (12) municipalities of the province serve as major level of analytical disaggregation.

3.3 Sectoral Coverage of the Plan

The planning environment of the PDPFP included all major sector relevant to the development of Camarines Norte, with actual coverage depending on priorities and assessments.

Table 1. Core Elements and Sectors

Core Element	Sector
Population	Population
Economic activity	Agriculture, fisheries, forestry
	Trade, industry, services
	Tourism
Physical resources	Environment, natural resources
	Transportation and communication
Income/access to services	Health
	Education
	Housing
	Social welfare
	Public works (water supply, drainage, solid waste)
	Energy
	Security
	Other services and facilities (for community groups such as the elderly, children, indigenous peoples, etc.)
Land use	(physical integration of all sectors)

Table 2. Data Requirements

Core Element/Sector	Data	Geographical Unit	Period	Source
Population				
• Population	• Size, density, growth rate • If available: age-sex, urban-rural distribution, migration • Map	• Philippines, Region, Province • If available: other province in region, cities / municipalities in province, barangays	Latest, previous census	NSO, NCSB, LGUs
Physical Resources				
• Environment, natural resources, protection forestry	• Land area • Characteristics of land resources • Land use, land suitability, land classification • Map	• Province • If available: region, other province in region, cities / municipalities in province	Latest census	Sectoral agencies, LGUs
By transport mode or industry if available: • Transport and communication	• Existing and proposed facilities, routes, levels of service • Map	• Province • If available: region, other provinces in region, cities / municipalities in province	Latest census	Sectoral agencies, LGUs
Economic Activity				
By subsector or industry if available: • Agriculture, fisheries, production forestry • Manufacturing • Trade, industry, services • Tourism	• Employment, income, or value of prod by sector • Export products, markets, volumes by sector (if available) • Existing, proposed support infrastructure • Map	• Philippines, region, province • If available: other province in region, cities / municipalities in province	Latest, previous census	NSO sectoral agencies, LGUs
Income and Services				
• Employment	• Employment/ Unemployment rates	• Philippines, region, province	Latest, previous census	NSO, NSCB
• Income and poverty	• Average family income • Poverty indicators • Map (if available)	• Philippines, region, province • If available: other provinces in region, cities / municipalities in province	Latest, previous census	NSO, NSCB, LGUs
• Housing, health, education, sanitation, security • Public works: roads, water supply, solid waste, drainage • Power: other sectors	• Existing and proposed facilities • Levels of service of basic social services (health, education, sanitation, security, public works • Map	• Region, province • If available: other province in region, cities/ municipalities in province	Latest census	Sectoral agencies, LGU
• Land use	• Location / maps of above sectors	• Province • If available: cities / municipalities in province	Latest available, previous	LGUs, sectoral agencies

4.0 MAINSTREAMING DISASTER RISK REDUCTION / CLIMATE CHANGE ADAPTATION (DRR/CCA) IN THE PDPFP

The increasing severity of natural hazards and the risks associated with it prompted for its systematic integration in the Provincial Development and Physical Framework Plan (PDPFP). The Guidelines for Mainstreaming Disaster Risk Management in Sub-National Development Land Use / Physical Planning which was strengthened with the issuance of Administrative Order No. 1 dated September 17, 2010 by the Office of the President gave clear methodologies of developing local planning capabilities which will increase the LGUs and local communities' capacities to prevent, prepare and cope with the respond to natural disasters and implement local actions that will save lives and properties.

The mainstreaming of DRRM in the PDPFP involved identification and characterization of the hazard maps and past damage reports, determination of the probable effects or consequences of these hazards vulnerability assessment and estimation of the risk expressed as the severity of consequence along with the likelihood of hazard occurrence, the modifier used to increase the severity for susceptibilities and risk prioritization which shall be the primary basis for planning, programming, financing and project development decisions.

4.1 The following steps / approaches were adapted by the Province in Mainstreaming DRR/CCA in the various sections of the PDPFP.

A. Introduction

Provided additional section, thus:

4.0 Mainstreaming DRR/CCA in the Plan

4.1 Steps/Approaches for Mainstreaming DRR/CCA in the PDPFP

B. Vision

DRR/CCA concerns were linked with the vision indicators and descriptors. The original vision statement was not revised considering that this already includes DRR/CCA related concerns which reflects the desired state of the built and un-built environment which is risk sensitive.

C. Planning Environment

To enhance the analysis of the Planning Environment, the Risk Evaluation Report was reviewed to help identify the implications to current and future development requirements.

D. General Approach in Mainstreaming DRA in the Core Elements, Services and Income

The following steps were undertaken to integrate risk information in the different sectors and use it for the analysis, to wit:

1. The results of risk evaluation (Risk Evaluation Report) per sector were reviewed which consists of the following:
    a. Susceptibility to hazards
    b. Exposure and vulnerability condition
    c. Identified and assessed risk

2. The development issues and concerns were identified based on the analysis of the risk impact to the land use and physical framework, which are either existing or potential land use conflicts attributed to the risks or possible adverse impact of the disaster to the overall development scenario of the province which requires intervention measures.

    The write-ups were included in the different sections of the PDPFP wherein the implications of hazard risks and climate change related risks towards the development desired for the specific sectors were discussed. These were taken from the risk evaluation document.

    These additional sections/sub-sections discussed the situationer (problem statement wherein vulnerabilities and hazard risks that are seen as obstacles towards (implications) the development of the sector and in developing the physical framework.

E. Integrating DRR/CCA Results into the Spatial Framework

Similar to the approaches used in mainstreaming disaster risk assessment in the core elements, services and income, the risk-related issues relevant to developing the spatial framework as based on the trends or desired action of growth were also assessed.

F. Integrated Policy Statements

A general policy statement for the different plan components of the physical framework was also provided in this section. These policy statements relate to ways on how to guide risk reduction and adaptation and carry out development programs/projects/activities. These concerns the following:

- Risk sensitive urban expansion policies
- Risk sensitive urban management policies
- Environmental management policies
- Land use management policies
- Land use management, zoning and safe building construction policies
- Emergency management policies, to include warning systems
- Risk communication policies
- Clustering of municipalities having common risk and shared solutions

VISION

B. VISION (2012-2033)

The Province of Camarines Norte is a richly endowed natural environment and has a vibrant economy serving as a vital link between the growth corridors of Southern Tagalog and Bicol Regions, with empowered citizenry living in well-planned settlements, where the local leadership is transparent and accountable and everyone adheres to the principles of sustainable development.

1. Role of the Province in the Region/Nation

The perceived role of the province as vital link to the Bicol and Southern Tagalog Regions is enumerated as follows:

a. Transshipment point of different products for distribution inside and outside its influence area.

b. Center of excellence for fisheries

c. Commodity champion for queen pineapple

d. Transport node of Metro Manila-Daet-Legazpi bus and trucking system

e. With the declaration of Jose Panganiban Ecozone, can provide inter regional air and sea transport links and establishments of industries and other light to medium industries within the province that will promote employment opportunities, food security and poverty reduction

f. Provider of tertiary educational services to its nearby provinces

g. Meal/ rest stop of passenger buses/ motorists and cargo trucks plying the Metro Manila-Bicol-Visayas route.

h. Site of the research and experimental station of the Department of Agriculture

i. The pursuit of the four strategic interventions in the Provincial Strategic Plan such as: 1) development of key agribusiness commodity systems; 2) mineral industry development; 3) tourism development; 4) infrastructure support development and their activities shall serve as strong foundation for the development of the province and deem to transform Camarines Norte as growth corridor for Bicol and Southern Tagalog Regions.

j. Hub of the tourist destination cluster around the region.

k. The mining and industrial center in the region and one of the mining province's and industrial centers in the country, in view of the comparative advantage in terms of mineral and agricultural resources.

2. Vision Elements, Descriptors and Success Indicators

The vision has elements critical to socio-economic development of the province to wit:

- ✓ **PEOPLE AS SOCIETY which speaks of a constituency who are EMPOWERED**

Among its success indicators are citizen participation in governance, which means, that people through organized groups, participate actively in decision making processes in the province through various venues opened by the government and communities are prepared before, during and after a disaster. Local organizations can serve as effective vehicles to transform themselves and their communities into self-reliant and managing entities.

It is through the improvement of human development index and the attainment of basic needs that the safety and survival of the populace are based, in the context of changing and growing complexity of technology and culture. This will follow the decrease if not totally eliminating the crime incidence coupled by the high level of citizen's awareness in social, political and environmental issues.

The rights of the indigenous people shall be protected particularly in their ownership and possession of their ancestral domains. They shall have the right to develop, control and use their lands with their ancestral domain and shall benefit from the profits accrued from the allocation and use of natural resources found therein, subject to limitation imposed in view of overall provincial development.

Similarly the vulnerable groups shall enjoy the same rights and privileges due to them and social safety nets for this group shall be ensured.

These in turn enhances community responsibility and accountability; enabling them to develop into a vital part of sustainable development

- ✓ **Sustainable economic development through rational utilization of RICHLY ENDOWED NATURAL RESOURCES**

The natural environment of the province is envisioned to be richly endowed and well-managed and disaster resilient environment.

The richly endowed natural resources of Camarines Norte is characterized by its high endemism or presence of indigenous species of flora and fauna such as Bicol Abiki (Pinanga bicolana), which is found only at the BNP, and species of snake (Typhlops sp). Forests, especially those within the protected areas will have rich forest cover and there will be established wildlife sanctuaries in appropriate places. These indicators of success can be easily achieved through continuous greening of the environment and prioritization of reforestation projects, passage and strict enforcement of environmental and wildlife laws and ordinances and institutionalization of Research and Development focusing on the protection and preservation of endemic species. Establishment of Environment Performance Monitoring Stations (EPMS) will be useful in assessing the trend of environmental improvement or degradation in the area.

It is also envisioned that the province will have a well-managed environment in terms of its mineral deposits, solid and toxic waste, land, and marine resources, and air and water. This will be carried out through regulated utilization of mineral deposits, formulation and implementation of waste management program, continuous information and education campaign and multi-sectoral collaboration in project planning and monitoring. Laws and

regulations regarding environmental protection and management shall be strictly enforced through proper agencies and with the active involvement of the community. It is also hoped that devolved functions on coastal and forest protection will be strictly observed by the LGUs for more efficiency and effectivity of program implementation. Regulated human settlement pattern through the identified direction of growth will be pursued as disaster risk risk reduction and mitigation measures coupled by establishment of early warning system including monitoring and surveillance program, conservation and protection measures must form part of the emergency management plan.

- ✓ **VIBRANT LOCAL ECONOMY as characterized by Agro-Industrial Development through modernization of all sectors**

Vibrant economy is the desired state of the province's local economy for the next 25 years whereby there is an increasing number of business establishment, continuously generating more investment, family income and purchasing power of the people for goods and services is high, poverty incidence is reduced, local revenues are increased and there is an influx of tourist arrivals.

The increasing number of disaster resilient business establishments and the continuous generation of more investments in areas not prone to disasters are the results of the establishment of the required socially acceptable agro-processing industries and economic infrastructure support facilities, adoption of appropriate production technology, transformation of the rural populace from a mere producer to entrepreneur producing volumes of production of processed products rather than raw materials and capable of creating and providing employment for its people.

Reduction in poverty, high family income and purchasing power of the people are generated from the availability of livelihood opportunities, increased local productivity and production of globally competitive exportable products achieved through improve access to social services, strong research, development and extension linkages, viable and empowered rural based organizations, sustainable use of production areas and operational and disaster resilient economic zone and industrial center.

Increased local revenue means high collection of taxes due to the high paying capacity of the people and therefore means less dependency on outside sources.

Influx of tourist arrivals is the offshoot of the well known, developed and maintained tourists attractions in the province giving more job opportunities to the populace.

- ✓ **WELL PLANNED BUILT ENVIRONMENT for over-all provincial development**

The desired status of the infrastructure sector for the next 25 years is a well-planned built environment whereby there is adequacy, functionality and appropriateness of all infrastructures.

Adequacy of infrastructures means that there are enough or sufficient facilities for the total population or users. There are required standards of facilities as against the users and adequacy means that the national standards are met.

Infrastructures are functional when all facilities present are utilized in relation to its purpose not only for a certain period of time but for a longer period to serve its maximum and to a larger number of populations. Infrastructures must ease the difficulties of the people at the same time address their needs.

Appropriateness of infrastructure is very important in maximizing the cost and optimizing the use of facilities. This requires public consultations in the planning and implementation of projects to prevent the construction and/or establishment of facilities which are not needed. This will reduce the risk of wasting government funds for unnecessary projects.

Therefore, a well-planned built environment is the presence of all required socially acceptable and disaster prone infrastructure facilities and utilities in areas not prone to disaster, taking into consideration the proper location/ zoning, such as:

- Appropriate, complete/comprehensive road network
- Standard airport and seaport facilities
- Updated and available telecommunication facilities
- Sufficient water supply system and sanitation facilities
- Sufficient irrigation, drainage, flood control and other production / post harvest support facilities
- Complete and accessible social infrastructure facilities/utilities in areas not prone to disasters
- All households are energized
- Properly located, utilized and maintained waste disposal areas/ system
- Available and accessible housing facilities
- Adequate facilities for vulnerable groups and indigenous communities
- Standardized and well-maintained hotel accommodation and establishments
- Appropriate and functional government support facilities
- Properly located terminals and parking areas and facilities
- Provision of adequate open spaces in urban areas and easements for utilities

Infrastructure facilities therefore must contribute to the attainment of the general welfare of the people.

- ✓ **Governance by TRANSPARENT AND ACCOUNTABLE LOCAL LEADERSHIP**

Local governance as embodied in the Local Government Code is a shared responsibility of the government divided between the executive and legislative branches of any local government unit together with the private sector and the civil society. Coordinative mechanism and interplay between and among these sectors is vital for transparency and accountability.

For the executive and legislative leadership, the following indicators were identified: realistic and responsive executive and legislative agenda, enactment of risk sensitive resolutions, policies and ordinances, issuance of development related executive orders and memoranda, presence of operational mechanism for management monitoring and evaluation of disaster/climate change risk, organization and functionality of all mandated local special bodies and well-prepared risk sensitive comprehensive development plan and its implementation.

For effective and efficient development administration, the following were used as indicators: quality of service delivery; provision of appropriation for priority disaster related projects and basic services; strict implementation of national and local laws and regulations; low dependency on IRA, preparation and implementation of the Human Resource Development Plan and emergency management plan in placed.

The ultimate measure for transparent and accountable local leadership is a well-informed constituents/risk communicated and this can be attained, in addition to those identified above, with the participation of multi-stakeholders in planning, budgeting, implementation and monitoring.

THE PLANNING ENVIRONMENT

C. THE PLANNING ENVIRONMENT

1. Location, land area and political subdivision

1.1 The island and administrative region where the province is located

The province of Camarines Norte is one of the six (6) provinces that constitutes the Bicol Region. It is found on the northwestern coast of Bicol Peninsula which forms the south eastern section of Luzon, the largest islands in the Philippine Archipelago.

1.2 The Location and Boundaries of the Province

Camarines Norte is located between the Mt. Cadig-Labo Mountain ranges and the Pacific Ocean at 122°-20' to 123°-05' east longitude and 13°-50' to 14°-30' north latitude. It is bounded on the north by the Pacific Ocean, on the east by the Pacific Ocean and San Miguel Bay, on the west by Lamon Bay and on the south by the adjoining provinces of Camarines Sur and Quezon.

1.3 Political Subdivisions and total Number of Barangays

Camarines Norte has a total land area of 232,007 hectares or 2,320.07 square kilometers, roughly13.00% of the region's total area and 0.077% of the country's total land area. This is inclusive of the 8,762 hectares of land disputed by the province of Camarines Norte and Quezon which was finally awarded to the province of Camarines Norte by the Supreme Court in 1989. **Table 3** shows that out of the 12 municipalities, Labo has the largest share in area of about 58,936 hectares of 25.40% followed by Capalonga with 12.50% or 29,000 hectares and Basud with about 11.22% or about 26,028 hectares. The municipality of Talisay has the least area comprising of about 3,076 hectares or 1.33% of the province's total land area.

Table 3
Land Area & Number of Barangays by Municipality

Municipality	Land Area (has.)	No. of Barangays	Percent Share of Land Area (%)
Basud	26,028	29	11.22
Capalonga	29,000	22	12.50
Daet	4,600	25	1.98
Jose Panganiban	21,444	27	9.24
Labo	58,936	52	25.40
Mercedes	17,369	26	7.49
Paracale	19,790	27	8.53
San Lorenzo Ruiz	11,937	12	5.14
San Vicente	5,749	9	2.48
Sta. Elena	19,935	19	8.59
Talisay	3,076	15	1.33
Vinzons	14,143	19	6.10
CAMARINES NORTE	**232,007**	**282**	**100**

Source: Land Area – DBM (Basis for the computation of IRA)
No. of Barangays – Provincial Socio-Economic Profile

1.4 The Location of the Capital Town and other Landmark Features

Camarines Norte is composed of 12 municipalities, namely: Basud, Capalonga, Daet, Jose Panganiban, Labo, Mercedes, Paracale, San Lorenzo Ruiz, Sta. Elena, Talisay and Vinzons.

Its capital, Daet is 365 kilometers southeast of Metro Manila, a 7 hour drive by bus or a 45-minute trip by plane. It is the site of the first Philippine monument in honor of the national hero, Dr. Jose P. Rizal. This historical landmark stands on the corner of Magallanes and Justo Lukban Streets, facing the old Daet Municipal Hall.

Figure 1
Region V, Camarines Norte

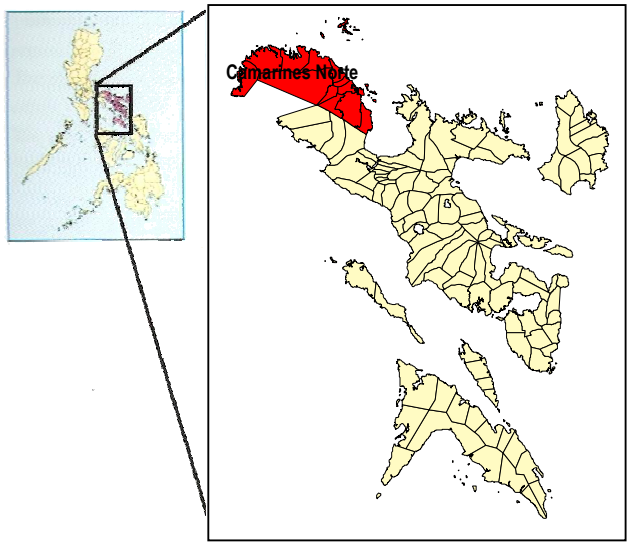
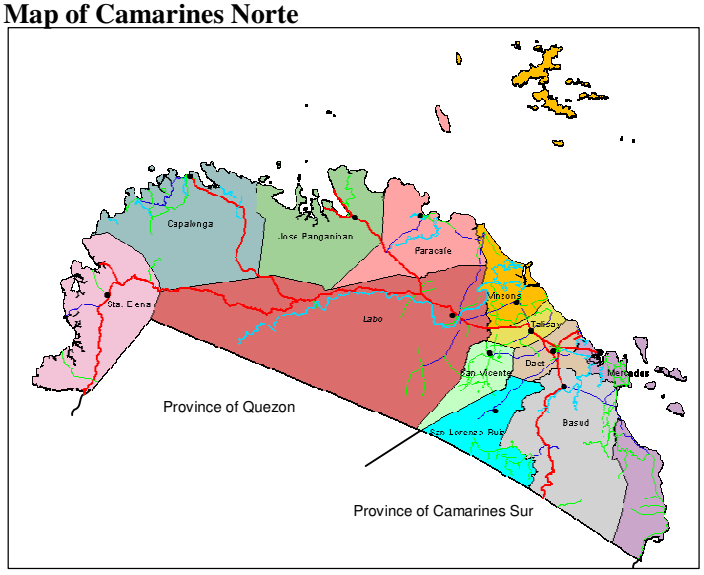


Figure 2
Map of Camarines Norte



2. Population and Settlements

2.1 Population: Regional and National Context

The population of the province in CY 2000 is 470,654 that reached to 513,785 in CY 2007, roughly 10% of the region's 51 million and 0.58% of the country's population of 88.5 million for year 2007. Among the provinces, Camarines Sur registered the highest population share of 33% followed by Albay at 23% and ranked behind by Masbate, Sorsogon, Camarines Norte and Catanduanes with population share of 15%, 13%, 10% and 5% respectively.

In terms of population density, Albay appeared to be the most populous province in the region with population density of 467 persons per square kilometer and the least in the province of Catanduanes with only 154 persons per square kilometer. Camarines Norte has a population density of 221 persons/square kilometer, 23% lower than the regional density of 286 persons per square kilometer and 27% lower than the national average of 301 persons per square kilometer.

Average population growth rate of Albay, Camarines Norte and Camarines Sur pegged at 1.22%, 1.6% higher than the regional average of 1.20% and 40% lower than the national average of 2.04%. If the 1.22% growth rate of the province continue, the population of Camarines Norte will double in 57 years or by the year 2064 along with the provinces of Albay, Camarines Sur and Sorsogon. Bicol population will double in 58 years while that of the country's will be by year 2041 or 34 years **(Table 4).**

Table 4
Region V Population, Annual Population Growth Rate, Area by Province, Philippines, CY 2000, 2007

Province	Pop 2000	Pop 2007	Pop 2007 % Share	APGR 2000-2007	Density		Area (sqkm)	Area %	DOUBLING TIME	
					2000	2007			No. of Years	CY
Albay	1,090,907	1,190,823	23.30	1.22	427	467	2,553	14.31	57	2064
Camarines Norte	470,654	513,785	10.05	1.22	203	221	2,320	13.00	57	2064
Camarines Sur	1,551,549	1,693,821	33.15	1.22	295	322	5,267	29.52	57	2064
Catanduanes	215,356	232,757	4.56	1.08	142	154	1,512	8.47	64	2071
Masbate	707,668	768,939	15.05	1.15	175	190	4,048	22.69	60	2067
Sorsogon	650,535	709,673	13.89	1.21	304	331	2,141	12.00	57	2064
Region V	**4,686,669**	**5,109,798**	**100.00**	**1.20**	**263**	**286**	**17,840**	**100.00**	58	2065
Philippines	**76,500,000**	**88,570,000**		**2.04**	**260**	**301**	**294,554**		**34**	2041

2.2 Provincial Population, Annual Growth Rate, Density by Municipality

2.2.1 Size and Distribution

The province's population is unevenly distributed at the municipal level and varies in terms of growth. Some are growing fast with growth rates higher than the regional average and some are gaining minimally.

These factors can be attributed to the physical characteristics, geographic location and socio-economic development or situational events.

The population of the province in CY 2000 is 470,654 that reached 513,785 in 2007. Most of the people in province in 2000 was concentrated in the municipality of Labo having the largest population size of 81,388 which was closely followed by Daet with 80,632. The territorial size of the municipality of Labo ranks first in province. **(Table 5)**

Table 5
Population by Municipality, 2000 & 2007
Province of Camarines Norte

Municipality	Population	
	2000	2007
Camarines Norte	**470,654**	**513,785**
Basud	33,885	36,763
Capalonga	26,577	29,683
Daet	80,632	94,184
Jose Panganiban	46,064	49,028
Labo	81,388	88,087
Mercedes	41,713	44,375
Paracale	42,453	46,856
San Lorenzo Ruiz	11,678	12,299
San Vicente	8,984	9,615
Santa Elena	37,878	40,300
Talisay	21,509	22,942
Vinzons	37,893	39,653

Source: National Statistics Office
Note: Classification of Barangays in 2007 were based on 2000 classification

2.2.2 Growth Rate

The provincial growth rate from 1995 to 2000 was accounted to 1.50%, 0.18% lower than the regional average of 1.68% and 0.86% lower than the national growth rate average of 2.36%.

The municipalities of Talisay, Basud, Sta. Elena and Vinzons exhibited the highest growth rate of 4.09%, 2.5%, 2.37% and 2.88% respectively. The growth of Talisay, Basud and Vinzons may be attributed to its proximity to the capital town of Daet and presence of economic activities in the area. Added to the growth of Vinzons is the presence of historical and national attractions in the area.

The municipalities of Daet, Mercedes and San Vicente have growth rates ranging from 1.51 – 2.0% while Capalonga and Labo have growth rates of about 1.03% and 1.08% respectively. While are some municipalities are highly populated, there are some municipalities which are slow on growth specifically Jose Panganiban with only about 0.31% and Paracale with a decreasing trend of -0.68%. The slow and decreasing trend of population growth of these two municipalities was attributed to the slowdown of the mining plant and economic activities in the area.

For censal year 2000-2007, Daet exhibited the highest growth rate of 2.16%, 0.94% higher than the provincial average, 0.96% higher than the regional average and 0.12% higher than the national average of 2.04%. This is due to the large increase of population in the capital town for 2007. The notable increase of population growth rate of Capalonga from 1.03% - 1.54% in CY 2000-2007 can be attributed to the influx of visitors during the feast of Black Nazarene which attracks migrants in the area. The decreasing growth rate of Basud from 2.5% to 1.13% is attributed to out migration to the capital town while the increase of population growth of Paracale from -0.68% to 1.37% can be attributed to the presence of new mining companies and increased number of permittees for small scale mining which indicate economic opportunities in the area. Labo slightly increased from 1.08 to 1.10% in 2007.

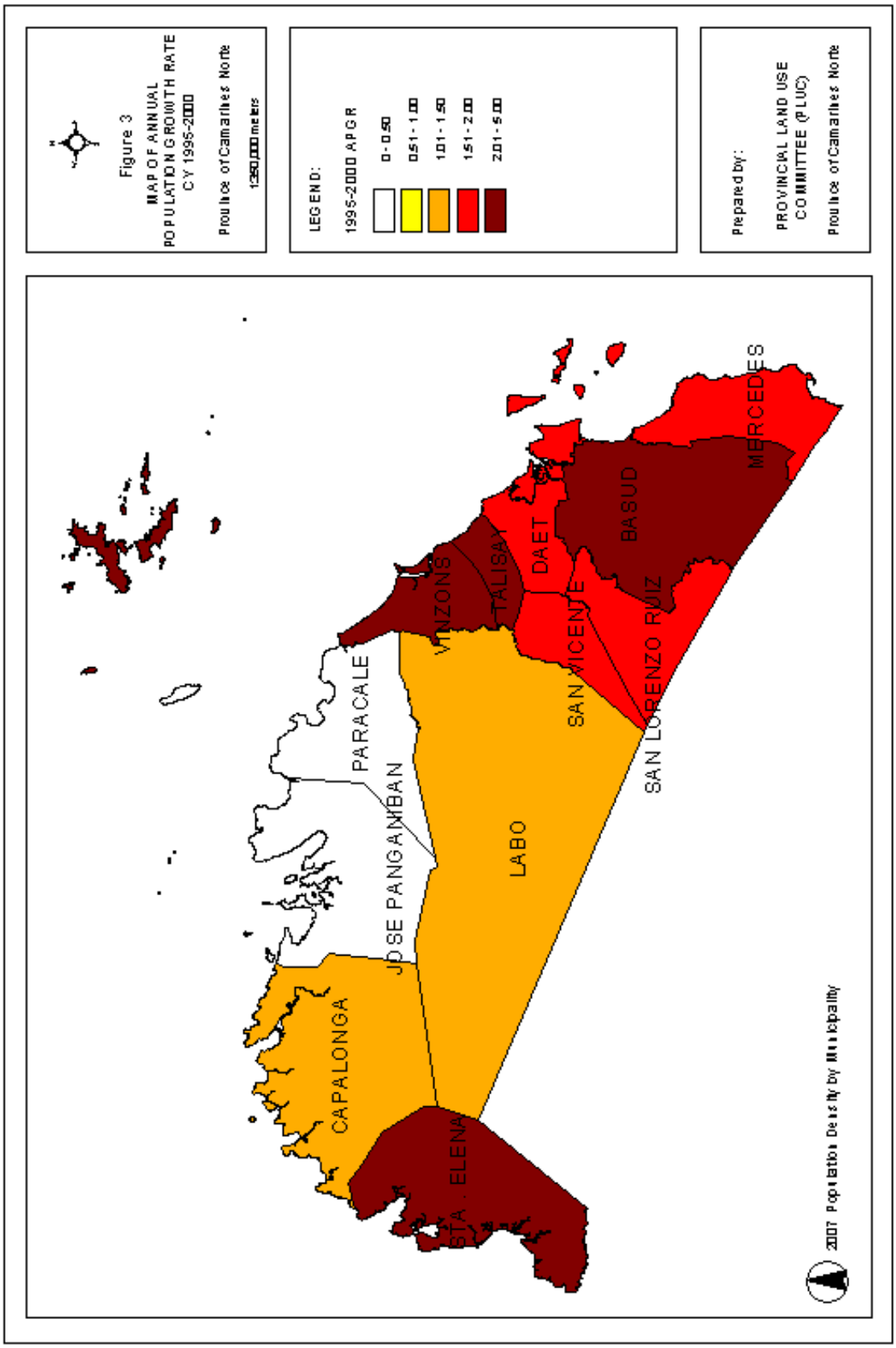
While Sta. Elena, San Lorenzo Ruiz, San Vicente and Vinzons exhibited great decline in population growth, the municipality of Jose Panganiban showed increased in growth which can be attributed to the proclamation of the area as economic zone and the increased number of small scale mining permittees**. (Table 6)**

Table 6
Population Growth Rate by Municipality

MUNICIPALITY	CENSAL YEAR						
	1960-1970	1970-1975	1975-1980	1980-1990	1990-1995	1995-2000	2000-2007
Basud	3.27	-0.01	1.78	1.71	1.92	2.5	1.13
Capalonga	1.44	3.16	0.77	0.82	1.37	1.03	1.54
Daet	3.63	-0.24	1.84	1.95	2.12	1.76	2.16
Jose Panganiban	2.33	-0.84	-1.57	3.91	0.41	0.31	0.86
Labo	3.75	1.95	1.44	2.19	1.8	1.08	1.10
Mercedes	3.47	5.04	1.9	2.18	2.26	1.65	0.86
Paracale	2.66	-1.06	2.27	4.47	2.12	-0.68	1.37
San Lorenzo Ruiz[1/]	-	-	1.49	0.47	2.89	1.67	0.72
San Vicente	3.22	1.37	0.77	1.08	2.19	1.92	0.94
Sta. Elena[2/]	-	4.72	3.85	4.38	10.32	2.37	0.86
Talisay	3.5	2.05	0.8	1.99	1.02	4.09	0.89
Vinzons	2.28	1.33	1.43	1.96	0.82	2.88	0.63
TOTAL FOR CN	**3.38**	**1.92**	**1.32**	**2.41**	**2.2**	**1.5**	**1.22**
BICOL	**2.3**	**1.48**	**1.71**	**1.18**	**1.91**	**1.68**	**1.20**
PHILIPPINES	**3.08**	**2.78**	**2.71**	**2.35**	**2.32**	**2.36**	**2.04**

[1/] Created Municipality November 5, 1970 under RA No. 6144
[2/]Created Municipality June 21, 1969 under RA No. 5480, taken from Capalonga

Figure 3 presents the annual population growth rate map of the province from 1995-2000 wherein the municipalities of Talisay, Basud, Sta. Elena and Vinzons exhibited the highest growth rate of more than two (2) percent with the municipalities of Daet, Mercedes, San Lorenzo Ruiz and San Vicente having growth rate ranging from 1.51 to 2%. Labo and Capalonga exhibited growth rate ranging from 0.51 to 1% while Jose Panganiban, and Paracale having growth rate lower than 0.5%.


Figure 3
MAP OF ANNUAL
POPULATION GROWTH RATE
CY 1995-2000
Province of Camarines Norte
LEGEND:
1995-2000 APGR
0 - 0.50
0.51 - 1.00
1.01 - 1.50
1.51 - 2.00
2.01 - 5.00
Prepared by:
PROVINCIAL LAND USE
COMMITTEE (PLUC)
Province of Camarines Norte
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
VINZONS
TALISAY
DAET
SAN VICENTE
SAN LORENZO RUIZ
BASUD
MERCEDES
STA. ELENA

For CY 2007, the capital town of Daet surpassed the population size of Labo with 94,184 or 18% share of the total provincial population. Labo, the largest municipality has a population of 88,087 or 17% share and trailed behind by Jose Panganiban, Paracale, Mercedes, Sta. Elena, Vinzons and Basud with population share of 9.54%, 9.12%, 8.64%, 7.84%, 7.72% and 7.16% respectively. San Vicente is consistently having the least population of 9,615 or 1.87% share in the last two censal years **(Table 7).**

Table 7
Population by Municipality: CY 2007
Province of Camarines Norte

Municipality	2007	% Share
Camarines Norte	**513,785**	**100.00**
Basud	36,763	7.16
Capalonga	29,683	5.78
Daet	94,184	18.33
Jose Panganiban	49,028	9.54
Labo	88,087	17.14
Mercedes	44,375	8.64
Paracale	46,856	9.12
San Lorenzo Ruiz	12,299	2.39
San Vicente	9,615	1.87
Santa Elena	40,300	7.84
Talisay	22,942	4.47
Vinzons	39,653	7.72

Source: National Statistics Office

In terms of population growth, the capital town of Daet accounted the highest growth rate of 2.16% or 44% higher of the provincial and regional growth rate averages of 1.22% and 1.20% respectively. It even surpassed the national average growth rate of 2.04%.

Daet has exhibited a very high population growth from 2000 to 2007 because of the presence of economic opportunities and continuing developments in the capital town such as the presence of establishments and subdivisions, and improved investment climate. Added to these is the natural growth as exhibited by the total fertility rate of the province of 4.04 children per women as of 2000-2005 which is higher than the national figure of 3.4. By CY 2035 to 2040 fertility rate in the province would be 2.46%, 1.75% lower from 2000-2005 level of 4.04. This is the second lowest among provinces in Bicol Region **(Table 8).** The role of Daet as business and institutional center of the province make it attractive for in-migration.

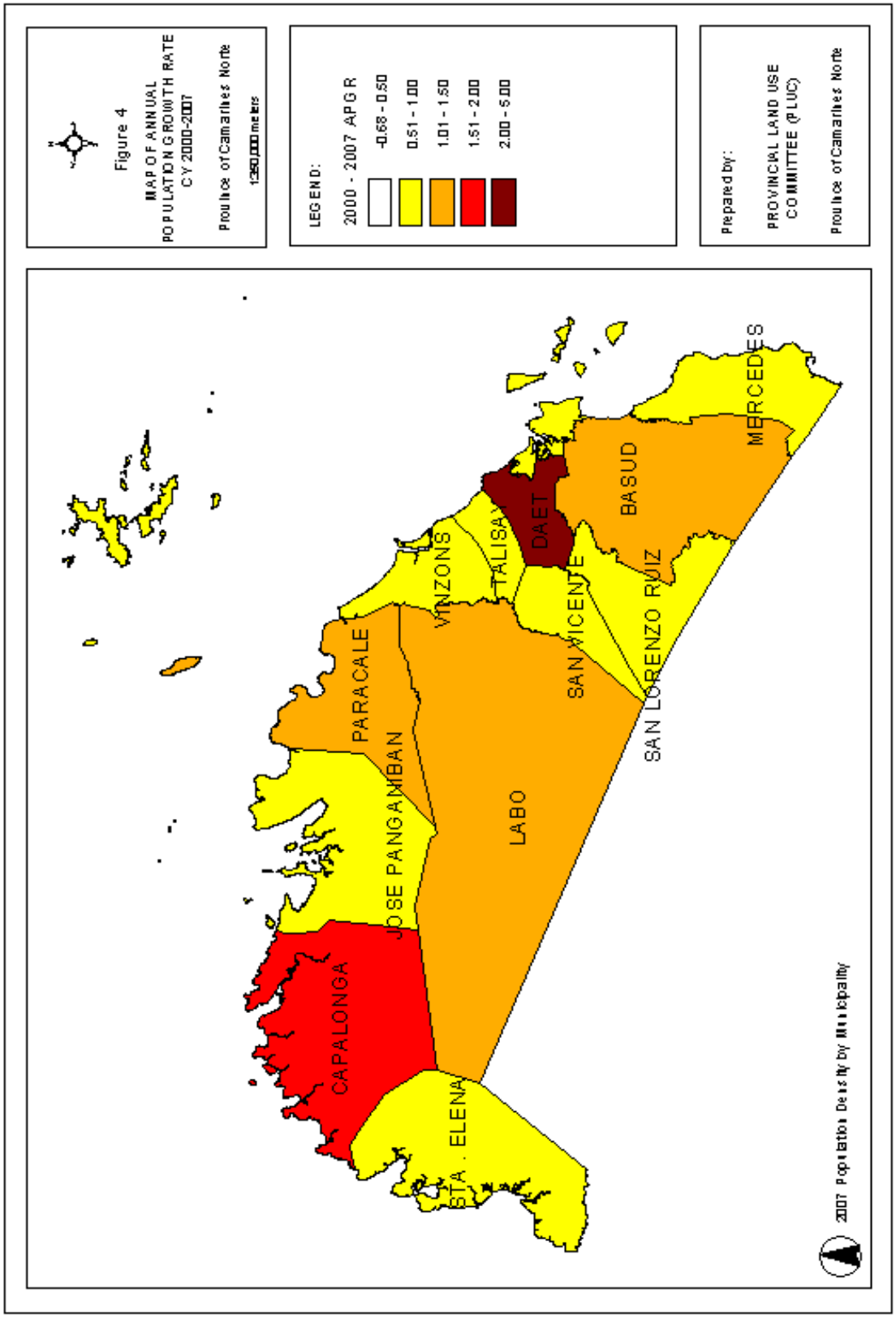
Table 8
Projected Total Fertility Rates: CY 2000-2040
Philippines, Bicol Region and Its Provinces

Region/Province	2000-2005	2005-2010	2010-2015	2015-2020	2020-2025	2025-2030	2030-2035	2035-2040
Philippines	3.41	3.18	2.96	2.76	2.57	2.39	2.23	2.07
Bicol Region	4.2	3.91	3.64	3.39	3.16	2.94	2.74	2.55
Albay	3.76	3.51	3.27	3.04	2.83	2.64	2.46	2.29
Camarines Norte	**4.04**	**3.77**	**3.51**	**3.27**	**3.04**	**2.83**	**2.64**	**2.46**
Camarines Sur	4.05	3.78	3.52	3.28	3.05	2.84	2.65	2.47
Catanduanes	4.37	4.07	3.79	3.53	3.29	3.06	2.85	2.65
Masbate	4.98	4.64	4.32	4.02	3.75	3.49	3.25	3.03
Sorsogon	4.49	4.18	3.89	3.62	3.35	3.14	2.93	2.73

Source: 2000 Census-Based Population Projection, NSO in coordination with Inter-Agency Working Group in Population Projections

The municipalities of Capalonga, Paracale, Basud and Labo have exhibited minimal growth rate of 1.54%, 1.37%, 1.13% and 1.10% respectively. The rest of the municipalities experienced slow growth rate because of their proximity to the capital town such as the towns of Mercedes, San Lorenzo Ruiz, San Vicente, Talisay and Vinzons. The slow growth of Sta. Elena can be attributed to the effect of the Quirino Highway which bypassed the municipality as stop-over of the north and south bound travelers.

Figure 4 showed the annual population growth rate map from CY 2000-2007 with Daet having the highest growth rate of more than 2%.


Figure 4
MAP OF ANNUAL POPULATION GROWTH RATE CY 2000-2007
Province of Camarines Norte
1:250,000 meters
LEGEND:
2000 - 2007 APGR
-0.68 - 0.50
0.51 - 1.00
1.01 - 1.50
1.51 - 2.00
2.00 - 5.00
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
2007 Population Density by Municipality
CAPALONGA
JOSE PANGANIBAN
PARACALE
LABO
VINZONS
TALISAY
DAET
SAN VICENTE
SAN LORENZO RUIZ
BASUD
MERCEDES
STA. ELENA

If this trend of population growth continues, Daet is expected to double in 32 years, Capalonga in 45 years, Paracale in 50 years, Basud in 61 years and Labo in 63 years. The rest of the municipalities is expected to double in 70 years onward (Table 5).

Table 9
Annual Population Growth Rate, Density, and Doubling Time by Municipality: 2000, 2007
Province of Camarines Norte

Province	Pop 2000	Pop 2007	Pop 2007 % Share	APGR 2000-2007	Density		Area (sq km)	Area %	DOUBLING TIME	
					2000	2007			No. of Years	CY
Basud	33,885	36,763	7.16	1.13	130	141	260	11.22	61	2068
Capalonga	26,577	29,683	5.78	1.54	92	102	290	12.50	45	2052
Daet	80,632	94,184	18.33	2.16	1,753	2,047	46	1.98	32	2039
Jose Panganiban	46,064	49,028	9.54	0.86	215	229	214	9.24	80	2087
Labo	81,388	88,087	17.14	1.10	138	149	589	25.40	63	2070
Mercedes	41,713	44,375	8.64	0.86	240	255	174	7.49	80	2087
Paracale	42,453	46,856	9.12	1.37	215	237	198	8.53	50	2057
San Lorenzo Ruiz	11,678	12,299	2.39	0.72	98	103	119	5.15	96	2103
San Vicente	8,984	9,615	1.87	0.94	156	167	57	2.48	73	2080
Santa Elena	37,878	40,300	7.84	0.86	190	202	199	8.59	80	2087
Talisay	21,509	22,942	4.47	0.89	699	746	31	1.33	78	2085
Vinzons	37,893	39,653	7.72	0.63	268	280	141	6.10	110	2117
Camarines Norte	**470,654**	**513,785**	**100.00**	**1.22**	**203**	**221**	**2,320**	**100.00**	**57**	**2064**

The municipality of Labo got the highest population share of 17.29% in CY 2000, followed by Daet, Jose Panganiban and Paracale with percentage share of 17.13%, 9.79% and 9.02% respectively. Among the twelve (12) municipalities, San Vicente has the least population share 1.91%.

For CY 2007, a noticeable change in population share was accounted in Daet which increased by 1.20% over CY 2000, thereby surpassing the municipality of Labo which only had a population share of 17.14% or a percentage change of -0.15 over CY 2000 level. Although the municipalities of Jose Panganiban and Paracale maintained its 3rd and 4th rank for CY 2000 – 2007, the former had a population change of -0.24% and the latter had increased in its population share of 0.10% San Vicente is consistently having the least population share 1.91% in 2000 which decreases to 1.87% in CY 2007 or a population change of -0.04% over the 2007 level (**Table 10**).

Table 10
Camarines Norte Population Shares,
By Municipality: 2000, 2007

Municipality	Pop 2000 % Share	Pop 2007 % Share	CumPop 2000 % Share	CumPop 2007 % Share	2007-2000 % Change
Labo	17.29	17.14	17.29	17.14	-0.15
Daet	17.13	18.33	34.42	35.48	1.20
Jose Panganiban	9.79	9.54	44.21	45.02	-0.24
Paracale	9.02	9.12	53.23	54.14	0.10
Mercedes	8.86	8.64	62.09	62.78	-0.23
Vinzons	8.05	7.72	70.15	70.49	-0.33
Santa Elena	8.05	7.84	78.19	78.34	-0.20
Basud	7.20	7.16	85.39	85.49	-0.04
Capalonga	5.65	5.78	91.04	91.27	0.13
Talisay	4.57	4.47	95.61	95.73	-0.10
San Lorenzo Ruiz	2.48	2.39	98.09	98.13	-0.09
San Vicente	1.91	1.87	100.00	100.00	-0.04
Camarines Norte	100.00	100.00			

Daet and Paracale are characterized as high density and fast growing municipalities considering the role of the latter as city, commercial and business center and the latter for being economically vibrant and competition in terms of gold mining activities, continous and strong environmental pressure however is expected as a result of increased densities and high growth rate.

Table 11
Possible relationships: Densities vis-à-vis Growth Rate 2000-2007.

	Fast Growth	Slow Growth
High Density	Daet, Paracale, Vinzons	Talisay, Jose Panganiban, Vinzons, San Vicente, Mercedes, Sta. Elena, Vinzons
Low Density	Capalonga, Labo, Basud	San Lorenzo Ruiz

Jose Panganiban, Mercedes, San Vicente, Sta. Elena, Talisay and Vinzons are included in municipalities with high density rates which ranges from 151 to 2,500 persons per square kilometer bracket but slow on growth ranging from only 0.63% to 0.94% primarily due to declining economic competitiveness and environmental pressure.

Basud, Capalonga and Labo are with low density municipalities with only 141, 102 and 149 persons per square kilometer respectively but are fast growing with growth rates ranging from 1.10% to 1.54% in CY 2000-2007. The condition can still be

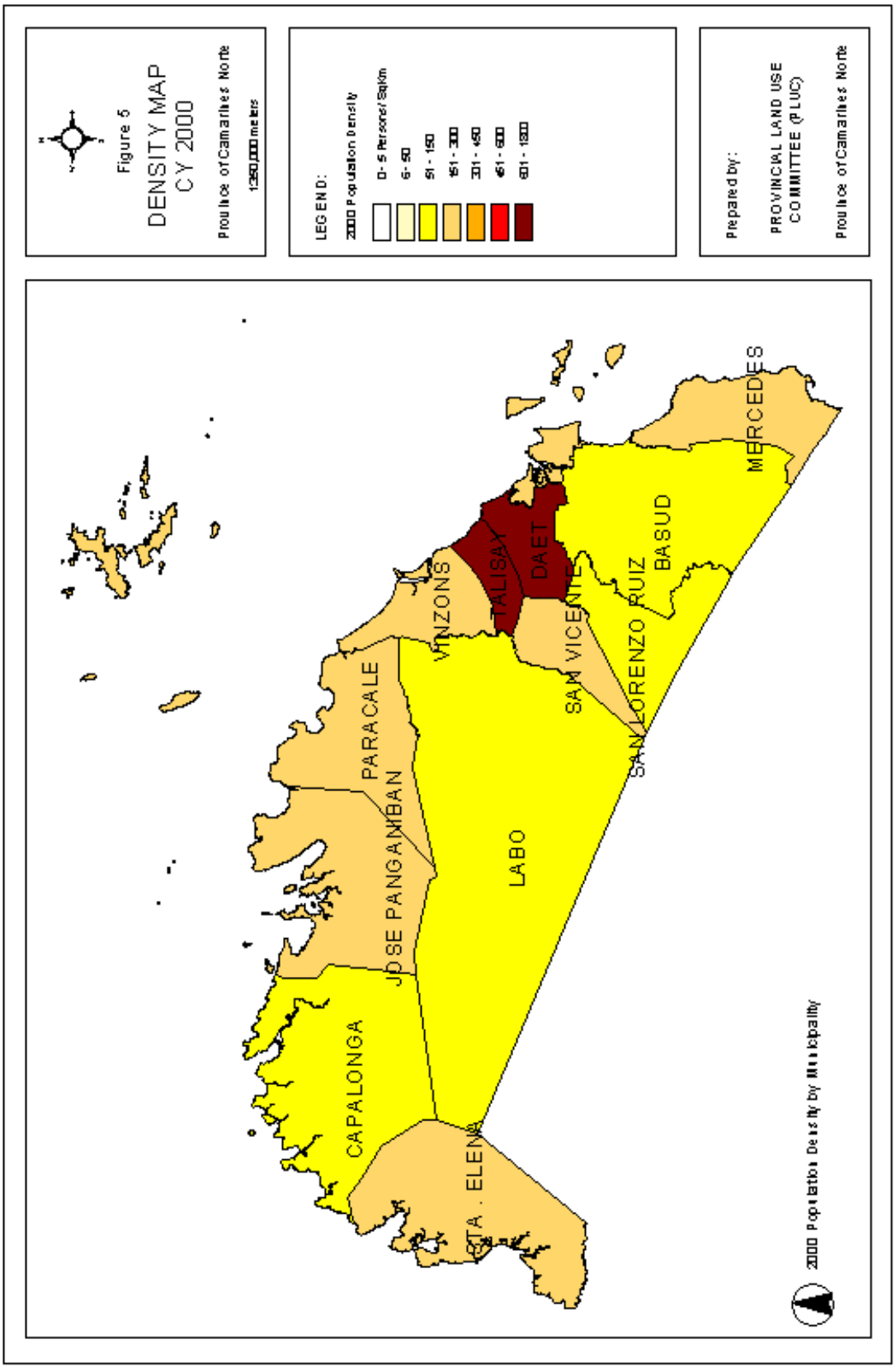
considered as economically vibrant and competitive and the environmental pressure may be increasing but manageable.

San Lorenzo Ruiz is the only municipality which can be characterized as low density and slow growth with 102 persons per square kilometer in 2007 and only 0.72% growth rate due to its limited economic competitiveness.

Given the current growth rate of 1.22% the estimated population for 2033 is accounted to 711,083 with a population density of 306 persons per square km. Among the municipalities, the high estimated population growth is in the capital town of Daet of about 164,165 closely followed by Labo with 117,069 and the least in the municipality of San Vicente with 12,263.

2.2.2 Density and Urbanization

For CY 2000, the municipality of Daet ranked first in terms of population density with 1,753 persons per square km. followed by Talisay with 699 persons per square km. As shown in Figure P5, these two (2) municipalities which has the darkest shades are those with highest densities or those having 601-2000 persons per square km. bracket.


Figure 5
DENSITY MAP
CY 2000
Province of Camarines Norte
1:250,000 meters
LEGEND:
2000 Population Density
0 - 5 Persons/Sqkm
6 - 50
51 - 150
151 - 300
301 - 450
451 - 600
601 - 1920
Prepared by:
PROVINCIAL LAND USE
COMMITTEE (PLUC)
Province of Camarines Norte
2000 Population Density by Municipality
CAPALONGA
JOSE PANGANIBAN
PARACALE
VINZONS
TALISAY
DAET
SAN VICENTE
SAN LORENZO RUIZ
BASUD
MERCEDES
LABO
STA. ELENA

Other municipalities which have densities higher than the provincial average of 203 persons per square km. are the towns of Vinzons and Mercedes with population density of 268 and 240 persons per square km. respectively followed by Jose Panganiban and Paracale having equal densities of 215 persons per square km. San Vicente has a population density of 156 persons per square km. and Sta. Elena with 190 persons per square km. and both belong to the same bracket of 151-300 persons per square km bracket in Map 3a. The municipalities of Daet, Talisay and Vinzons have densities higher than the regional average of 263 persons per square km. and national average of 260 persons per square km. in CY 2000.

The population density of the Bicol Region in CY 2007 is 286 persons per square kilometer, 15 points lower than the national average of 301 persons per square kilometer.

Among the provinces, Albay has the highest density of 467 persons per square kilometer, followed by Sorsogon and Camarines Sur 331 and 322 persons per square kilometer respectively. Camarines Norte ranked 4th in terms of population density while Catanduanes has the least density of only 154 persons per square kilometer.

For 2033, with the additional population of 1,861,356 in the region, population density is estimated to be 391 persons per square kilometer 117 or 23% lower than the estimated national average of 508 persons per square kilometer (**Table 12**).

Table 12
Estimated Population and Density
Philippines, Bicol Region and Provinces, 2033

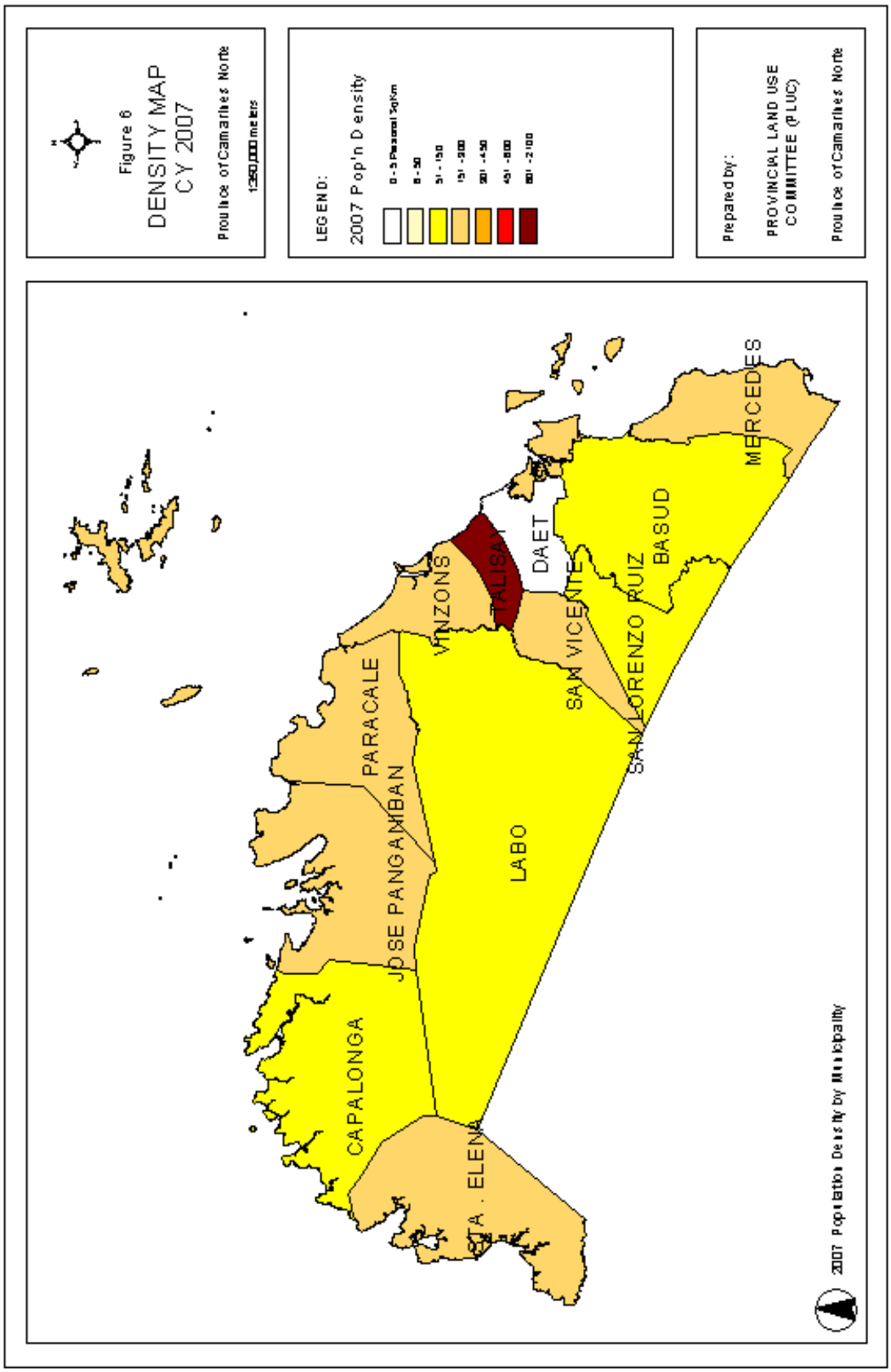
Municipality	Pop 2000	Pop 2007	APGR 2000-2007	Area (sqkm)	Density 2007	Est Pop 2033	Est Density 2033	Add Pop 2007-2033
Albay	1,090,907	1,190,823	1.22	2,553	467	1,632,194	639	441,371
Camarines Norte	470,654	513,785	1.22	2,320	221	704,216	304	190,431
Camarines Sur	1,551,549	1,693,821	1.22	5,267	322	2,321,626	441	627,805
Catanduanes	215,356	232,757	1.08	1,512	154	307,751	204	74,994
Masbate	707,668	768,939	1.15	4,048	190	1,035,154	256	266,215
Sorsogon	650,535	709,673	1.21	2,141	331	970,214	453	260,541
Region V	**4,686,669**	**5,109,798**	**1.20**	**17,840**	**286**	**6,971,154**	**391**	**1,861,356**
Philippines	**76,500,000**	**88,570,000**	**2.04**	**294,554**	**301**	**149,741,082**	**508**	**61,171,082**

At the municipal level, the highest population density for CY 2033 is computer for Daet with 3,569 persons per square kilometer trailed behind by Talisay with 939 persons per square kilometer with San Lorenzo Ruiz having the least of 124 persons per square kilometer (**Table 13**).

Table 13
Estimated Population & Density by Municipality: CY 2033
Province of Camarines Norte

Municipality	Pop 2000	Pop 2007	APGR 2000-2007	Area (sqkm)	Density 2007	Est Pop 2033	Est Density 2033	Add Pop 2007-2033
Basud	33,885	36,763	1.13	260	141	49,237	189	12,474
Capalonga	26,577	29,683	1.54	290	102	44,165	152	14,482
Daet	80,632	94,184	2.16	46	2,047	164,165	3,569	69,981
Jose Panganiban	46,064	49,028	0.86	214	229	61,256	286	12,228
Labo	81,388	88,087	1.10	589	149	117,069	199	28,982
Mercedes	41,713	44,375	0.86	174	255	55,441	319	11,066
Paracale	42,453	46,856	1.37	198	237	66,744	337	19,888
San Lorenzo Ruiz	11,678	12,299	0.72	119	103	14,821	124	2,522
San Vicente	8,984	9,615	0.94	57	167	12,263	213	2,648
Santa Elena	37,878	40,300	0.86	199	202	50,350	253	10,050
Talisay	21,509	22,942	0.89	31	746	28,886	939	5,944
Vinzons	37,893	39,653	0.63	141	280	46,686	330	7,033
Camarines Norte	**470,654**	**513,785**	**1.22**	**2,320**	**221**	**711,083**	**306**	**197,298**

For CY 2007 the location of high and low-density municipalities remain the same as of CY 2000 as reflected in Figure 6. Still the municipalities of Daet and Talisay belong to the highest densiy of 2,047 and 746 persons per square km respectively, followed by the municipalities of Vinzons, Mercedes, Paracale, Jose Panganiban and Sta. Elena respectively.


Figure 6
DENSITY MAP
CY 2007
Province of Camarines Norte
1:250,000 meters
LEGEND:
2007 Pop'n Density
0 - 5 Persons/Sq Km
6 - 50
51 - 150
151 - 300
301 - 450
451 - 800
801 - 2100
Prepared by:
PROVINCIAL LAND USE
COMMITTEE (PLUC)
Province of Camarines Norte
2007 Population Density by Municipality
CAPALONGA
JOSE PANGANIBAN
PARACALE
LABO
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TALISAY
DAET
SAN VICENTE
SAN LORENZO RUIZ
BASUD
MERCEDES
STA. ELENA

The density categories used in Figure 5 and Figure 6 include 0-5 persons per square km or 500 persons per hectare as estimate of the lower density limit.

In the province, the 2000 and 2007 density maps show that increasing densities are not influenced by the capital town but perhaps because of its geographic location and socio-economic development.

The distribution of municipalities in Camarines Norte with urban agglomerations during the census years 2000 and 2007 is presented in **Table 10**. Socio-economic development is manifested as an evidence in its coverage of urban areas in all municipalities in the province. The urban population for CY 2000 was accounted to 186,075 which increased up to 203,692 for CY 2007. The capital town of Daet has been consistent in having the highest urban population share of 80,632 to 94,184 in CY 2007. The decreasing urban population was noticed in the municipality of Talisay from 2,550 in 2000 to 2,521 in CY 2007.

Table 14
Urban and Rural Population by Municipality
CY 2000 & 2007
Province of Camarines Norte

Municipality	2000			2007		
	Total	Urban	Rural	Total	Urban	Rural
Camarines Norte	**470,654**	**186,075**	**284,579**	**513,785**	**203,692**	**310,093**
Basud	33,885	4,903	28,982	36,763	5,547	31,216
Capalonga	26,577	6,423	20,154	29,683	6,481	23,202
Daet	80,632	80,632		94,184	94,184	
Jose Panganiban	46,064	16,153	29,911	49,028	16,299	32,729
Labo	81,388	15,396	65,992	88,087	15,673	72,414
Mercedes	41,713	18,120	23,593	44,375	19,570	24,805
Paracale	42,453	17,054	25,399	46,856	17,565	29,291
San Lorenzo Ruiz	11,678	6,588	5,090	12,299	6,898	5,401
San Vicente	8,984	4,239	4,745	9,615	4,108	5,507
Santa Elena	37,878	7,826	30,052	40,300	8,549	31,751
Talisay	21,509	2,550	18,959	22,942	2,521	20,421
Vinzons	37,893	6,191	31,702	39,653	6,297	33,356

Source: National Statistics Office
Note: Classification of Barangays in 2007 were based on 2000 classification

The municipality of Daet got the highest percentage of urban growth from 2000-2007 of about 2.17%. It is followed by Basud at 1.72%, Sta Elena at 1.23% and Mercedes at about 1.07% (**Table 15**).

Table 15
Urban and Rural Population Growth Rate
by Municipality: 2000 & 2007
Province of Camarines Norte

Municipality	2000			2007			GROWTH RATE 2000-2007	
	Total	Urban	Rural	Total	Urban	Rural	Urban	Rural
Camarines Norte	**470,654**	**186,075**	**284,579**	**513,785**	**203,692**	**310,093**	**1.26**	**1.23**
Basud	33,885	4,903	28,982	36,763	5,547	31,216	1.72	1.07
Capalonga	26,577	6,423	20,154	29,683	6,481	23,202	0.12	2.03
Daet	80,632	80,632		94,184	94,184		2.17	-
Jose Panganiban	46,064	16,153	29,911	49,028	16,299	32,729	0.12	1.29
Labo	81,388	15,396	65,992	88,087	15,673	72,414	0.25	1.34
Mercedes	41,713	18,120	23,593	44,375	19,570	24,805	1.07	0.72
Paracale	42,453	17,054	25,399	46,856	17,565	29,291	0.41	2.06
San Lorenzo Ruiz	11,678	6,588	5,090	12,299	6,898	5,401	0.64	0.85
San Vicente	8,984	4,239	4,745	9,615	4,108	5,507	(0.43)	2.15
Santa Elena	37,878	7,826	30,052	40,300	8,549	31,751	1.23	0.79
Talisay	21,509	2,550	18,959	22,942	2,521	20,421	(0.16)	1.07
Vinzons	37,893	6,191	31,702	39,653	6,297	33,356	0.23	0.73

Source: National Statistics Office
Note: Classification of Barangays in 2007 were based on 2000 classification

The growth trends indicated that the settlements and development were not only concentrated in the municipalities along the national highway and main access roads but also in the interior municipalities wherein growth may be attributed to the presence of economic activities.

The total rural population of the province for CY 2000 is about 284,579 and reaches to about 310,093 in 2007 or about 60% of the total 2007 population. Of these, the rural population is still concentrated in the vast agricultural lands of Labo at about 72,414 followed by Vinzons at about 33,356 and trail behind by Jose Panganiban at about 32,729.

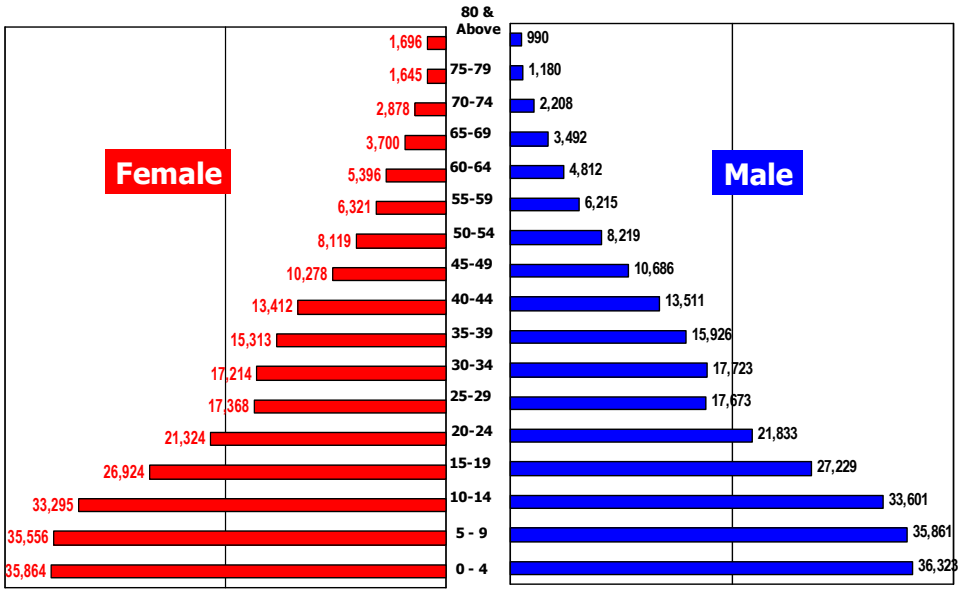
For censal years 2000 and 2007, the province exhibited a rural population growth rate of 1.23%.

2.2.3 Sex and Age Distribution

In censal year 2007, sex structure in the province showed that the male population slightly predominates the number of female. The same situation is predominant in all of the eleven (11) municipalities of the province except for the municipality of Daet which shows that females has a slight dominance over the males (**Table 16 and Figure 7**).

Provincewide, the sex ratio in 2000 is about 105.2 and 100.5 in CY 2007. The population of the province in 2000 and 2007 is older than the younger age group of 0-14. During the two censal years (2000 and 2007) about 262,179 and 285,496 belongs to the productive age group of 15-64 or about 55.7% and 55.6% respectively (**Table 17**).

Figure 7
Age-Sex Population Pyramid: CY 2007
Province of Camarines Norte



Source: National Statistics Office

Table 16
Sex Distribution by Municipality: CY 2000 & 2007
Province of Camarines Norte

MUNICIPALITY	2000			2007		
	Total	Male	Female	Total	Male	Female
Basud	33,885	17,286	16,599	36,763	18,189	18,574
Capalonga	26,577	13,918	12,659	29,683	15,430	14,253
Daet	80,632	40,248	40,384	94,184	46,829	47,355
Jose Panganiban	46,064	23,717	22,347	49,028	24,942	24,086
Labo	81,388	42,038	39,350	88,087	44,290	43,797
Mercedes	41,713	21,501	20,212	44,375	19,908	24,467
Paracale	42,453	21,677	20,776	46,856	23,990	22,866
San Lorenzo Ruiz	11,677	6,062	5,615	12,299	6,365	5,934
San Vicente	8,984	4,568	4,416	9,615	4,898	4,717
Sta. Elena	37,878	20,039	17,839	40,300	20,701	19,599
Talisay	21,509	10,946	10,563	22,942	11,646	11,296
Vinzons	37,893	19,388	18,505	39,653	20,294	19,359
TOTAL FOR CN	**470,653**	**241,388**	**229,265**	**513,785**	**257,482**	**256,303**

1/ Created Municipality November 5, 1970 under RA No. 6144
2/ Created Municipality June 21, 1969 under RA No. 5480, taken from Capalonga

Table 17
Sex Distribution of Population by Age Group: CY 2000 & 2007
Province of Camarines Norte

Province / Age Group	2000			2007		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Camarines Norte	**470,654**	**241,388**	**229,266**	**513,785**	**257,482**	**256,303**
0-4	65,308	33,593	31,715	72,187	36,323	35,864
5-9	64,733	33,236	31,497	71,417	35,861	35,556
10-14	60,626	31,181	29,445	66,896	33,601	33,295
15-19	48,802	25,287	23,515	54,153	27,229	26,924
20-24	39,076	20,341	18,735	43,157	21,833	21,324
25-29	32,105	16,534	15,571	35,041	17,673	17,368
30-34	32,028	16,637	15,391	34,937	17,723	17,214
34-39	28,469	14,951	13,518	31,239	15,926	15,313
40-44	24,453	12,810	11,643	26,923	13,511	13,412
45-49	19,631	10,137	9,494	20,964	10,686	10,278
50-54	15,628	7,875	7,753	16,338	8,219	8,119
55-59	12,173	6,051	6,122	12,536	6,215	6,321
60-64	9,814	4,723	5,091	10,208	4,812	5,396
65-69	7,136	3,417	3,719	7,192	3,492	3,700
70-74	4,950	2,262	2,688	5,086	2,208	2,878
75-79	2,954	1,276	1,678	2,825	1,180	1,645
80 and Above	2,768	1,077	1,691	2,686	990	1,696

Source: National Statistics Office
2007 sex distribution is ratio and proportion based on 2000 census

2.2.5 Children and Women Population

Women population in the province is about 48.89% or 229,266 in CY 2000, that reached to 256,303 in CY 2007. By the year 2033, it would be 354,759 or an additional population of 98,794 from the CY 2007 level.

Most of the women population are concentrated in the municipality of Daet with 47,355. It is followed by Labo with 43,797. San Vicente recorded the least of only about 4,717 in CY 2007.

Estimated projected women population in CY 2033 is 354,759 or 98,794 increased over CY 2007 or 28%. Municipality of Daet exhibited a large women population increased from CY 2007-2033 with 35,187 or 35.62% of the total increased in the province (**Table 18**).

Table 18
Actual and Estimated Number of Women Population
By Municipality & Additional Women Population
CY 2000, 2007 & 2033

MUNICIPALITY	ACTUAL POPULATION					Estimated Population		Additional Women Population 2007-2033
	2000		2007					
	TOTAL	No. of Women	TOTAL	Women		2033		
				No.	%	TOTAL	Women	
CAMARINES NORTE	**470,654**	**229,266**	**513,785**	**256,303**	**49.89**	**711,083**	**354,759**	**98,794**
Basud	33,885	16,599	36,763	18,574	50.52	49,237	24,875	6,301
Capalonga	26,577	12,659	29,683	14,253	48.02	44,165	21,208	6,955
Daet	80,632	40,384	94,184	47,355	50.28	164,165	82,542	35,187
Jose Panganiban	46,064	22,347	49,028	24,086	49.13	61,256	30,456	6,370
Labo	81,388	39,350	88,087	43,797	49.72	117,069	58,207	14,410
Mercedes	41,713	20,212	44,375	24,467	55.14	55,441	30,570	6,103
Paracale	42,453	20,776	46,856	22,866	48.80	66,744	32,571	9,705
San Lorenzo Ruiz	11,678	5,616	12,299	5,934	48.25	14,821	7,151	1,217
San Vicente	8,984	4,416	9,615	4,717	49.06	12,263	6,016	1,299
Sta. Elena	37,878	17,839	40,300	19,599	48.63	50,350	24,485	4,886
Talisay	21,509	10,563	22,942	11,296	49.24	28,886	14,223	2,927
Vinzons	37,893	18,505	39,653	19,359	48.82	46,686	22,792	3,433

Of the total number of women in CY 2000, 16,877 or 7.4 were pregnant which increased to 18,282 or 1,405 in CY 2007 with Daet having the most number of pregnant women, followed by Labo, Paracale and Mercedes with San Vicente having the least of 3,161, 3,132, 1,649, 1620 and 349 respectively.

Given these figures and with the standard set in projecting the number of pregnant women, a total of 24,887 women will be pregnant in 2033 representing 6,605 or 36.1% increased over that of CY 2007 **(Table 19).**

Table 19
Estimated Number of Pregnant Women (pre-natal period)
By Municipality and Additional Population: CY 2000, 2007 and 2033
Province of Camarines Norte

Municipality	Estimated Number of Pregnant Women			Additional Number 2007-2033
	2000 1/	2007 1/	2033 2/	
Basud	1,162	1,316	1,723	407
Capalonga	975	1,031	1,546	514
Daet	2,861	3,132	5,746	2,614
J. Panganiban	1,747	1,790	2,144	354
Labo	2,955	3,161	4,097	936
Mercedes	1,487	1,620	1,940	320
Paracale	1,687	1,649	2,336	687
San Lorenzo Ruiz	416	454	519	65
San Vicente	316	349	429	80
Sta. Elena	1,307	1,471	1,762	291
Talisay	687	836	1,011	175
Vinzons	1,277	1,472	1,634	162
CAMARINES NORTE	**16,877**	**18,281**	**24,887**	**6,605**

2.2.6 Children Population

Forty seven percent (47%) or 241,213 of the total population in the province in CY 2007 comprised of children 0-17 years old. More male (124,340 than female (116,873).

Majority of which are situated in Labo with 42,370, followed by Daet with 34,746. As expected, San Vicente and San Lorenzo Ruiz registered the least with 4,078 and 5,793 respectively.

Estimated children population by 2033 is about 332,140 with Daet exhibiting a large increased comprising 32.48% of all the additional children population, lagged behind by Labo, Paracale and Capalonga with 13,946, 9,864 and 7,332 respectively (**Table 20**).

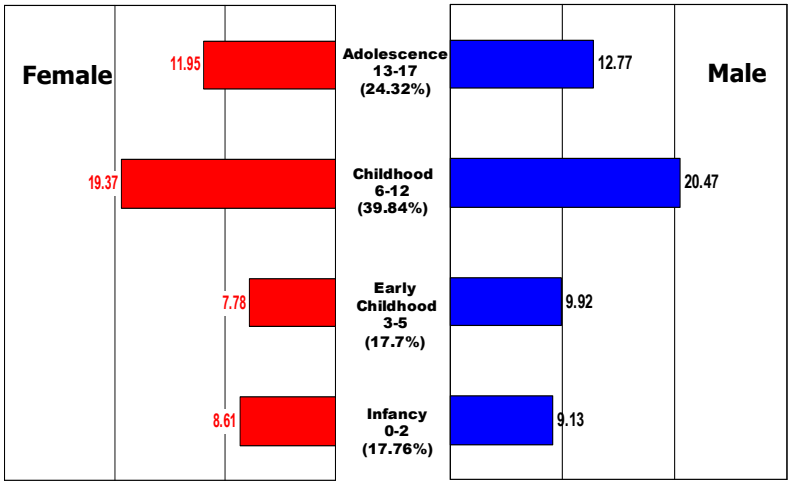
Table 20
Actual and Estimated Number of Children Population 0-17 Years Old by Sex and by Municipality and Additional Population: CY 2000, 2007 & 2033
Province of Camarines Norte

MUNICIPALITY	ACTUAL POPULATION							Estimated Population 2033			Additional Population 2007-2033		
	2000			2007									
	TOTAL	Male	Female	TOTAL	Male	Female	% To Total Pop'n (2007)	Male	Female	TOTAL	Male	Female	TOTAL
Camarines Norte	**221,208**	**114,229**	**106,979**	**241,213**	**124,340**	**116,873**	**47.0**	**170,781**	**161,359**	**332,140**	**46,441**	**44,486**	**90,927**
Basud	15,855	8,062	7,793	17,242	8,940	8,302	46.9	11,742	11,350	23,092	2,802	3,048	5,850
Capalonga	13,536	7,138	6,398	15,148	7,966	7,182	50.9	11,854	10,626	22,480	3,888	3,444	7,332
Daet	34,014	17,490	16,524	39,746	20,036	19,710	42.2	34,923	34,355	69,278	14,887	14,645	29,532
Jose Panganiban	22,551	11,652	10,899	23,975	12,413	11,562	48.9	15,477	14,477	29,954	3,064	2,915	5,979
Labo	39,162	20,278	18,884	42,370	21,939	20,431	48.1	29,157	27,153	56,310	7,218	6,722	13,940
Mercedes	20,093	10,352	9,741	21,389	11,020	10,369	48.2	13,768	12,955	26,723	2,748	2,586	5,334
Paracale	21,073	10,802	10,271	23,241	11,913	11,328	49.6	16,970	16,135	33,105	5,057	4,807	9,864
San Lorenzo Ruiz	5,501	2,852	2,649	5,793	3,004	2,789	47.1	3,620	3,361	6,981	616	572	1,188
San Vicente	4,078	2,053	2,025	4,365	2,197	2,168	45.4	2,802	2,765	5,567	605	597	1,202
Sta. Elena	18,256	9,637	8,619	19,425	10,254	9,171	48.2	12,812	11,457	24,269	2,558	2,286	4,844
Talisay	9,245	4,767	4,478	9,842	5,086	4,756	42.9	6,389	6,003	12,392	1,303	1,247	2,550
Vinzons	17,844	9,146	8,698	18,677	9,570	9,107	47.1	11,267	10,722	21,989	1,697	1,615	3,312

Presented in Figure 8 is the breakdown in percent in children population by life cycle and sex.

Of the 241,213 children population in CY 2007, 17.76% comprised 0-2 years old or infant, 17.7% are 3-7 years old or in early childhood, 39.84% are 6-12 years old or in childhood and 24.72% are 13-17 years old or adolescents. More male than female in all age group.

Figure 8
Children Population Pyramid by Life Cycle & Sex CY 2007
Province of Camarines Norte



Children 0-2 years old totaled to 39,130 in CY 2000 which increased to 42,707 in CY 2007 majority of these 0-2 children are located in the municipalities of Daet with 7,139, followed by Labo with 7,091, Jose Panganiban with 4,216, Paracale with 4,062 and San Vicente with the least of 801. These children which are considered in the early child growth and development is expected to increase to 58,759 in CY 2033, 51% of which are male and 49% are female (**Table 21**).

Table 21
Actual and Estimated Number of Children 0-2 Years Old by Sex, By Municipality, and Additional Population: CY 2000, 2007 & 2033
Province of Camarines Norte

MUNICIPALITY	ACTUAL POPULATION						% to Total Pop'n	Estimated Population 2033			Additional Population 2007-2033		
	2000			2007									
	TOTAL	Male	Female	TOTAL	Male	Female		TOTAL	Male	Female	TOTAL	Male	Female
Camarines Norte	**39,130**	**20,074**	**19,056**	**42,707**	**21,900**	**20,807**	**8.31**	**58,759**	**30,040**	**28,719**	**16,052**	**8,194**	**7,858**
Basud	2,788	1,422	1,366	3,026	1,544	1,482	8.23	4,052	2,067	1,985	1,026	523	503
Capalonga	2,615	1,369	1,246	2,921	1,529	1,392	9.84	4,346	2,232	2,114	1,425	746	679
Daet	6,088	3,031	3,057	7,139	3,554	3,585	7.58	12,444	6,194	6,250	5,305	2,641	2,664
Jose Panganiban	3,961	2,039	1,922	4,216	2,170	2,046	8.60	5,268	2,712	2,556	1,052	542	510
Labo	6,552	3,383	3,169	7,091	3,661	3,430	8.05	9,424	4,866	4,558	2,333	1,205	1,128
Mercedes	3,556	1,832	1,724	3,785	1,950	1,835	8.53	4,607	2,374	2,233	822	432	390
Paracale	3,681	1,879	1,802	4,062	2,074	1,988	8.67	5,787	2,954	2,833	1,725	881	844
San Lorenzo Ruiz	970	504	466	1,022	531	491	8.31	1,232	639	593	210	109	101
San Vicente	748	380	368	801	407	394	8.33	1,022	520	502	221	112	109
Sta. Elena	3,310	1,751	1,559	3,522	1,863	1,659	8.74	4,401	2,328	2,073	879	465	414
Talisay	1,675	853	822	1,787	910	877	7.79	2,250	1,145	1,105	463	236	227
Vinzons	3,186	1,631	1,555	3,335	1,707	1,628	8.41	3,926	2,009	1,917	591	302	289

Source: National Statistics Office

The number of children which need early child care and development (children 3-5 years old) totaled to 39,126 in CY 2000 and increased to 42,663 in CY 2007. Only 25% of these figures are with ECCD as of SY 2007-2008 excluding private schools. By CY 2033, it estimated that around 58,760 children will be needing quality learning environment and will be given child development and age-appropriate curriculum. Of these estimates, the biggest population is in the municipality of Daet with 12,148, followed by Labo with 10,064, Paracale 5,900, Jose Panganiban 5,341, Talisay 4,375 with San Vicente having the least of 965 children (**Table 22**).

Table 22
Actual and Estimated Number of Children 3-5 Years Old
By Sex, By Municipality, and Additional Population
CY 2000, 2007 & 2033
Province of Camarines Norte

MUNICIPALITY	ACTUAL POPULATION						% to Total Pop'n	Estimated Population 2033			Additional Population 2007-2033		
	2000			2007									
	TOTAL	Male	Female	TOTAL	Male	Female		TOTAL	Male	Female	TOTAL	Male	Female
Camarines Norte	**39,126**	**20,073**	**19,053**	**42,663**	**21,881**	**20,782**	**8.30**	**58,760**	**29,668**	**29,092**	**16,097**	**8,211**	**7,886**
Basud	2,781	1,419	1,362	3,018	1,539	1,479	8.21	4,042	2,062	1,980	1,024	522	502
Capalonga	2,543	1,332	1,211	2,841	1,489	1,352	9.57	4,227	1,791	2,436	1,386	726	660
Daet	5,969	2,971	2,998	6,970	3,470	3,500	7.40	12,148	6,047	6,101	5,178	2,578	2,600
Jose Panganiban	4,016	2,067	1,949	4,275	2,201	2,074	8.72	5,341	2,750	2,591	1,066	549	517
Labo	6,785	3,503	3,282	7,346	3,793	3,553	8.34	10,064	5,341	4,723	2,418	1,248	1,170
Mercedes	3,597	1,853	1,744	3,825	1,971	1,854	8.62	4,479	2,162	2,317	954	492	462
Paracale	3,753	1,916	1,837	4,142	2,114	2,028	8.84	5,900	3,012	2,888	1,758	897	861
San Lorenzo Ruiz	978	508	470	1,029	534	495	8.37	1,241	644	597	212	110	102
San Vicente	707	359	348	757	385	372	7.87	965	491	474	208	106	102
Sta. Elena	3,291	1,741	1,550	3,502	1,852	1,650	8.69	4,375	2,314	2,061	873	462	411
Talisay	1,621	825	796	1,730	881	849	7.54	2,178	1,109	1,069	448	228	220
Vinzons	3,085	1,579	1,506	3,228	1,652	1,576	8.14	3,800	1,945	1,855	572	293	279

Source: National Statistics Office

Children 6-12 years old in CY 2007 is accounted to 95,973, 51% of which are male and 49% are female. These children are mostly in Labo with 17,062, Daet 15,409, Jose Panganiban 9,688, Paracale 9,512, Sta. Elena 7,770, Vinzons 7,407 and San Vicente having the least of 1,803. By CY 2033, these children which should be in the grade school is estimated to increased to 131,939 (**Table 23**).

Table 23
Actual and Estimated Number of Children 6-12 Years Old
By Sex, By Municipality, and Additional Population: CY 2000, 2007 & 2033
Province of Camarines Norte

MUNICIPALITY	ACTUAL POPULATION						% to Total Pop'n	Estimated Population 2033			Additional Population 2007-2033		
	2000			2007									
	TOTAL	Male	Female	TOTAL	Male	Female		TOTAL	Male	Female	TOTAL	Male	Female
Camarines Norte	**88,006**	**45,149**	**42,857**	**95,973**	**49,479**	**46,494**	**18.68**	**199,500**	**131,939**	**67,561**	**35,966**	**18,345**	**17,621**
Basud	6,291	3,209	3,082	6,827	3,482	3,345	18.57	13,807	9,143	4,664	2,316	1,181	1,135
Capalonga	5,288	2,769	2,519	5,907	3,093	2,814	19.90	13,391	8,789	4,602	2,882	1,509	1,373
Daet	13,194	6,568	6,626	15,409	7,933	7,476	16.36	40,226	26,857	13,369	11,448	5,699	5,749
Jose Panganiban	9,102	4,686	4,416	9,688	4,987	4,701	19.76	18,334	12,103	6,231	2,415	1,243	1,172
Labo	15,768	8,141	7,627	17,062	8,809	8,253	19.37	34,384	22,676	11,708	5,614	2,899	2,715
Mercedes	7,969	4,106	3,863	8,476	4,367	4,109	19.10	16,044	10,589	5,455	2,113	1,089	1,024
Paracale	8,618	4,399	4,219	9,512	4,856	4,656	20.30	20,466	13,549	6,917	4,037	2,061	1,976
San Lorenzo Ruiz	2,190	1,137	1,053	2,306	1,197	1,109	18.75	4,222	2,779	1,443	473	246	227
San Vicente	1,637	832	805	1,803	917	886	18.22	3,370	2,234	1,136	431	219	212
Sta. Elena	7,302	3,862	3,440	7,770	4,110	3,660	19.28	14,841	9,707	5,134	1,937	1,024	913
Talisay	3,569	1,817	1,752	3,806	1,937	1,869	16.59	7,231	4,792	2,439	986	502	484
Vinzons	7,078	3,623	3,455	7,407	3,791	3,616	18.68	13,184	8,721	4,463	1,314	673	641

Source: National Statistics Office

The number of children in the adolescence (13-17 years old) is accounted to 54,531 in CY 2000 and increase to 58,401 in CY 2007. Majority of this children are concentrated in the municipalities of Labo, Daet with 10,562 and 10,134 respectively with San Vicente having the least of 1,036. For CY 2033, children 13-17 years old is estimated to increase to 80,586, 51% of which are male and 49% are female (**Table 24**).

Table 24
Actual and Estimated Number of Children 13-17 Years Old
By Sex, By Municipality, and Additional Population
CY 2000, 2007 & 2033
Province of Camarines Norte

MUNICIPALITY	ACTUAL POPULATION						% to Total Pop'n	Estimated Population 2033			Additional Population 2007-2033		
	2000			2007									
	TOTAL	Male	Female	TOTAL	Male	Female		TOTAL	Male	Female	TOTAL	Male	Female
Camarines Norte	**54,531**	**27,444**	**27,087**	**58,401**	**29,931**	**28,470**	**11.37**	**80,586**	**41,237**	**39,349**	**22,185**	**11,305**	**10,880**
Basud	3,933	2,006	1,927	4,268	2,177	2,091	11.61	5,716	2,916	2,800	1,448	739	709
Capalonga	2,960	1,550	1,410	3,307	1,732	1,575	11.14	4,920	2,576	2,344	1,613	845	768
Daet	9,673	4,317	5,356	10,134	5,045	5,089	10.70	17,664	8,793	8,871	7,530	3,748	3,782
Jose Panganiban	5,236	2,695	2,541	5,574	2,869	2,705	11.37	6,965	3,586	3,379	1,391	716	675
Labo	9,759	5,039	4,720	10,562	5,453	5,109	11.99	14,037	7,247	6,790	3,475	1,794	1,681
Mercedes	4,752	2,448	2,304	5,054	2,604	2,450	11.39	6,315	3,253	3,062	1,261	650	611
Paracale	4,907	2,505	2,402	5,417	2,765	2,652	11.56	7,716	3,939	3,777	2,299	1,174	1,125
San Lorenzo Ruiz	1,329	690	639	1,400	727	673	11.38	1,687	876	811	287	149	138
San Vicente	968	492	476	1,036	527	509	11.77	1,321	672	649	285	145	140
Sta. Elena	4,238	2,241	1,997	4,510	2,385	2,125	11.19	5,634	2,980	2,654	1,124	594	530
Talisay	2,362	1,202	1,160	2,519	1,282	1,237	10.98	3,172	1,615	1,557	653	332	321
Vinzons	4,414	2,259	2,155	4,620	2,365	2,255	11.65	5,439	2,784	2,655	819	419	400

Source: National Statistics Office

2.3 Settlements

2.3.1 Criteria for Hierarchy of Settlements

The province of Camarines Norte has drawn four (4) centers in the formulation of criteria for the hierarchy of settlements. The four centers are classified into city, large town, medium town and small towns.

The city being the highest in the hierarchy will serve as the hub of economic activities in term of trade, commerce and business and the provincial administration and industrial center. Indicator functions include airport, business establishments, tourism facilities, financial institution and recreation centers and complete social services with a population size range of 150,000 or more. To date, Daet has not yet reached this level in terms of population size though indicator functions are sufficient enough to fall under this category.

The large town serves as the secondary urban center. Indicator functions included financial institutions, telecommunication facilities, complete social services, shopping malls and consumer shop's, complete transport facilities, manufacturing firms and training centers with a population size range of 50,000 – 149,999. It is expected that at least 80% of the 134 scalogram functions are met.

The medium town will be the mineral, agricultural and forest resources production area. These areas are further characterized with the presence of post-harvest facilities, manufacturing, processing and marketing firms or at least 70% of the 134 scalogram functions with a population size of 25,000 to 49,999.

The last and lowest level in the hierarchy of centers is the small towns which serve as the rural service and food production zone and large percentage of these land are devoted to agriculture. This is characterized by having primary health care centers, extension services, sari-sari stores, rural banks, cooperatives and credit union, multi-purpose and agricultural production centers. This has a population size of less than 25,000 and at least 50% of the 134 scalogram functions (**Table 25**).

Table 25
CRITERIA – HIERARCHY OF CENTERS
Province of Camarines Norte

CENTRE	PRIMARY ROLE	INDICATOR FUNCTION	POPULATION SIZE RANGE
SMALL CITY	* High urban center * Major center of trade, commerce and business * Inter-regional distribution center * Provincial services and administration center * Provincial industrial center	* Airport, shopping center and supermarket, banks and financial institutions, housing estates and subdivisions, recreation centers, tertiary education and health services (public and private) and drugstores * At least 90% of the scalogram functions are met	150,000 and above
LARGE TOWN	* Secondary urban center * Commercial center	* Financial institutions, telecommunication facilities, shopping centers and consumer shops, restaurants, transportation facilities manufacturing firms, training centers, warehousing * At least 80% of the scalogram functions are met	50,000 - 149,999
MEDIUM TOWN	* Mineral, agricultural, fisheries and forest resources production area * Mineral/agro-processing and services	* Processing establishments other than cottage industry, grocery and consumer shops, some commercial banks and financial institutions, post harvest facilities, manufacturing firms, training centers, slaughterhouse, secondary education and municipal hospital/ health services drugstore, cinema houses * At least 70% of the scalogram functions are met	25,000 - 49,999
SMALL TOWN	* Food production zone * Rural services	* Extension services, convenient shops, primary health care centers, sari-sari stores, rural banks, cottage industries, public calling offices, agricultural production, cooperative or credit unions, multi-purpose center, concrete pave basketball court, eatery, some convenient shops. * At least 50% of the scalogram functions are met	<25,000

Source: Technical Assistance for Physical Planning (TAPP) Manual

In general, the level and scale of urban services is directly proportional to the population size. The scalogram indicates the presence or absence of services in different municipalities. The presence or absence of these services / functions indicates the kind and size of the market in a particular settlement. For example, primary urban or growth centers can support hotels and accommodation facilities and other similar market requirements, while other smaller settlements with lower population levels, such as San Vicente and San Lorenzo Ruiz, are capable of supporting lower level functions and services.

2.3.2 Centrality of Functions and Hierarchy of Centers

An analysis of central places was performed by subjecting the municipalities to a manual scalogram technique of analysis (**Figure 9**).

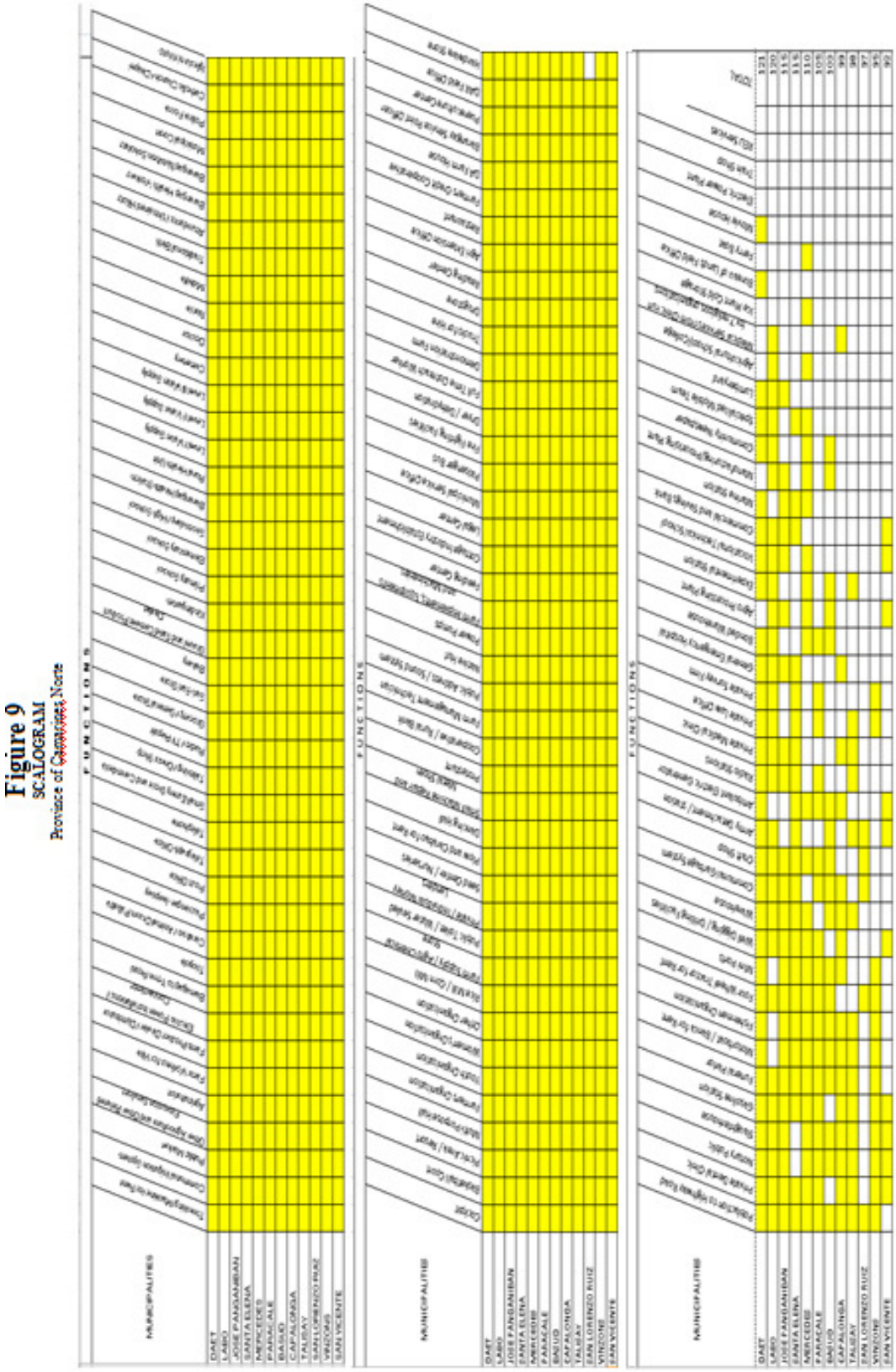


Figure 9
SCALOGRAM
Province of Camarines Norte

Among the many uses of scalogram is the categorization of settlements of the province into levels of functional complexity and the determination of the types and diversity of services and facility located in central places at various levels of hierarchy. It identifies the gaps in terms of absence of the necessary utilities in a particular but strategically significant area which can be addressed to by the infrastructure support in the future.

There were 134 functions used in the scalogram, to include land development and agricultural facilities and services, physical structures within the municipality utilized for commercial / industrial activities, physical structures utilized in the implementation / coordination/ provision of programs and services for education, facilities and services for other community needs and supportive institutions / organizations. Out of these, 74 were common to all municipalities. The municipalities of Labo and Daet recorded the most number of functions of 121, followed by Sta. Elena and Jose Panganiban with 115 functions each. San Lorenzo Ruiz has the least number of functions of 97 **(Table 26)**.

Table 26
Summary of Scalogram Functions by Municipality
Province of Camarines Norte

AREA	NUMBER OF EXISTING FUNCTION
CAMARINES NORTE	134
Basud	103
Capalonga	99
Daet	121
Jose Panganiban	115
Labo	120
Mercedes	110
Paracale	105
San Lorenzo Ruiz	97
San Vicente	92
Sta. Elena	115
Talisay	98
Vinzons	95

Source: Municipal Planning and Development Offices
Office of the Municipal Agriculturist

Based from the criteria for hierarchy of centers presented in Table 25 the different municipalities were categorized as to what level each will belong.

The large towns of the province are its capital, Daet and the municipality of Labo with population size of 94,184 and 88,087 respectively

The medium towns that serve as the mineral agro-processing and services center covers the coastal municipalities of Jose Panganiban, Paracale, Mercedes, Sta. Elena, Vinzons, Basud and Capalonga with population ranging from 29,000 – 49,000.

The municipalities of Talisay, San Lorenzo Ruiz and San Vicente fall under the category of small towns, the last and lowest level in the hierarchy of centers with population size of less than 25,000 (**Table 27**).

Table 27
Hierarchy of Centers: CY 2008
Province of Camarines Norte

LEVEL	CENTRE	POPULATION	COMMENT
SMALL/MEDIUM CITY			
LARGE TOWN	Daet Labo	90,184 88,087	All criteria per indicator function was met
MEDIUM TOWN	Jose Panganiban Paracale Mercedes Vinzons Sta. Elena Basud Capalonga	49,028 46,856 44,375 39,653 40,300 36,763 29,683	All criteria per indicator function was met
SMALL TOWN	Talisay San Lorenzo Ruiz San Vicente	22,942 12,299 9,615	

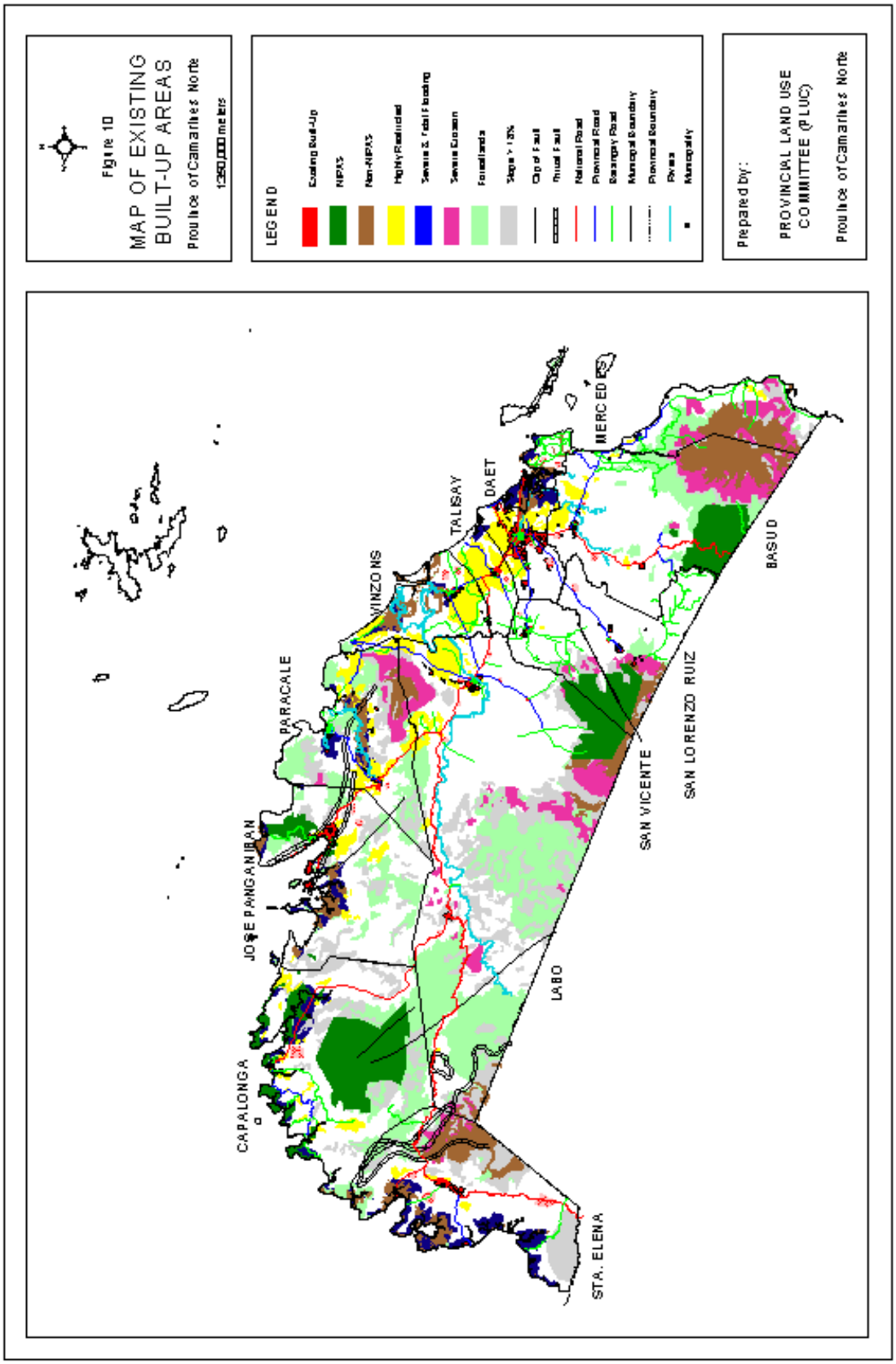
Source: Technical Assistance for Physical Planning (TAPP) Manual

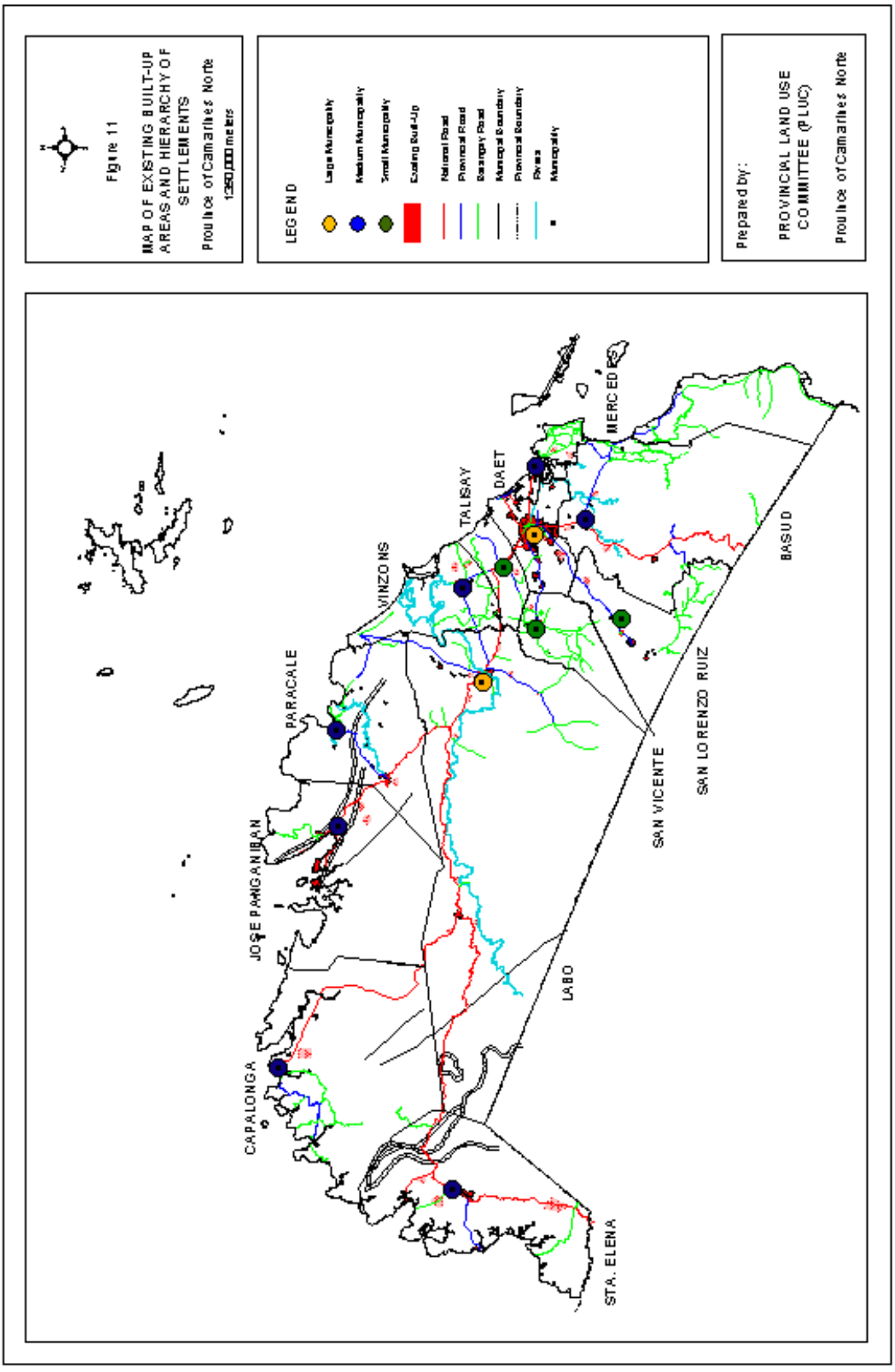
The existing built-up areas in the province totaled to 577,815 has., the largest of which is accounted to the municipality of Daet having 98.223 hecatares followed by Labo with 73.90 has., Sta. Elena 58.740 has., and the least is Mercedes with only about 16.73 has. (**Table 28**).

Table 28
Existing Built-Up Areas, by Municipality: CY 2008
Province of Camarines Norte

MUNICIPALITY	Existing Built-Up Areas (has.)
Basud	25.406
Capalonga	26.725
Daet	98.223
J. Pang.	50.950
Labo	73.851
Mercedes	16.735
Paracale-Pob	47.542
San Lorenzo Ruiz	22.793
San Vicente	47.433
Sta. Elena	58.740
Talisay	38.379
Vinzons	71.038
TOTAL	**577.815**

It is observed with the existing built-up areas that some are within the highly restricted areas such as Jose Panganiban, Paracale, Sta. Elena, Talisay and Vinzons. Those areas that are within the tidal flooding areas included the municipalities of Capalonga, Mercedes, Paracale and Vinzons. Part of Labo are within the moderate erosion areas and some are surrounded by highly restricted areas (**Figure 10**).


Figure 10
MAP OF EXISTING BUILT-UP AREAS
Province of Camarines Norte
1:250,000 meters
LEGEND
Existing Built-Up
NIPAS
Non-NIPAS
Highly Restricted
Severe & Total Flooding
Severe Erosion
Forestlands
Slope > 18%
City of Salt
Inland Salt
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
CAPALONGA
JOSE PANGANIBAN
PARACALE
VINZONS
TALISAY
DAET
MERCEDES
BASUD
SAN VICENTE
SAN LORENZO RUIZ
LABO
STA. ELENA


Figure 11
MAP OF EXISTING BUILT-UP AREAS AND HIERARCHY OF SETTLEMENTS
Province of Camarines Norte
1:350,000 meters
LEGEND
Large Municipality
Medium Municipality
Small Municipality
Existing Built-Up
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by :
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

2.4 Disaster Risk Reduction/Climate Change Adaptation Evaluation

2.4.1 Risk Evaluation

Mercedes, Daet, Talisay and Vinzons are moderate risk in flooding at the range of 32 to 44. Jose Panganiban and Paracale, on the other hand, are moderate risk in rainfall-induced landslide at the range of 27 – 29. Because of these, they are considered to create a range or risks that are severe but rare or unlikely to occur in a lifetime.

Similarly, built-up areas of Jose Panganiban and San Lorenzo Ruiz are with moderate risk to rainfall-induced landslide with a consequence severity of ten (10) which are rare or unlikely to occur in a lifetime.

2.4.2 Exposure and Vulnerability Condition

Considering the above evaluation, the said areas are faced with the following situation, to wit:

a) The capital town of Daet as the primary urban center of the province, which also has a high student population will be affected;

b) These affected municipalities have high population densities;

c) Urban squatting and settlement encroachment within protected areas are present;

d) Future settlement growths are towards the identified hazardous areas;

e) Communities have poor access to early warning system.

f) In case of hazardous situation, there is a possible displacement of families and disruption of both government and private transactions;

g) Areas identified by rainfall-induced landslide cover the mining towns of Jose Panganiban and Paracale including poblacion barangays and urban centers which may affect population and settlements causing high poverty incidence and unemployment rates and child labor problem;

h) The risk to population from rainfall-induced landslide also includes the threat from chemicals used in the extraction of mineral resources from large and small scale mining and pollution of water sources; and

i) There is also a high severity of consequence to both flooding and rainfall-induced landslide affected areas.

3. Physical Resources

3.1 General Land and Water Characteristics and Resources

3.1.1 Topography

The province's topography is generally rugged. It is composed of rolling hills and mountainous terrain with only a small coastal plain. Its coastal areas are fertile. Situated on these coastal areas are the municipalities of Vinzons, Jose Panganiban, Paracale, Sta. Elena, Capalonga, Daet, Basud, Talisay and Mercedes.

It is endowed with numerous mountains and peaks, which includes Mt. Labo, Mt. Cadig, Mt. Bagacay, Mt. Bulawan, Mt. Alayao, Mt. Tamisan, Mt. Nalisbitan and Mt. Balagbag which dominantly formed the southwestern Cordillera[1]. Mt. Labo, which is about 943 meters high, is the highest peak which serves as the point of convergence of the boundaries of the provinces of Camarines Norte, Camarines Sur and Quezon. The northern half of Mt. Labo is located at the south central portion of the province. Mt. Bagacay, an elongated hill having a highest elevation of 775 meters above sea level located between the municipalities of Paracale and Labo, is the second highest peak in the province. Mt. Balagbag is a cluster of hills at the southeastern most tip of the province (**Figure 12**).

Table 29 shows the province's elevation where 142,868.85 has. or 61.58% of its total land area falls under 0-100 meters elevation. This is followed by 100-300 meters elevation with 64,251.46 has. or 27.69%; 300-500 meters of 13,763.33 has. or 5.93% and 500-1000 meters of about 11,123.36 has. or 4.79%.

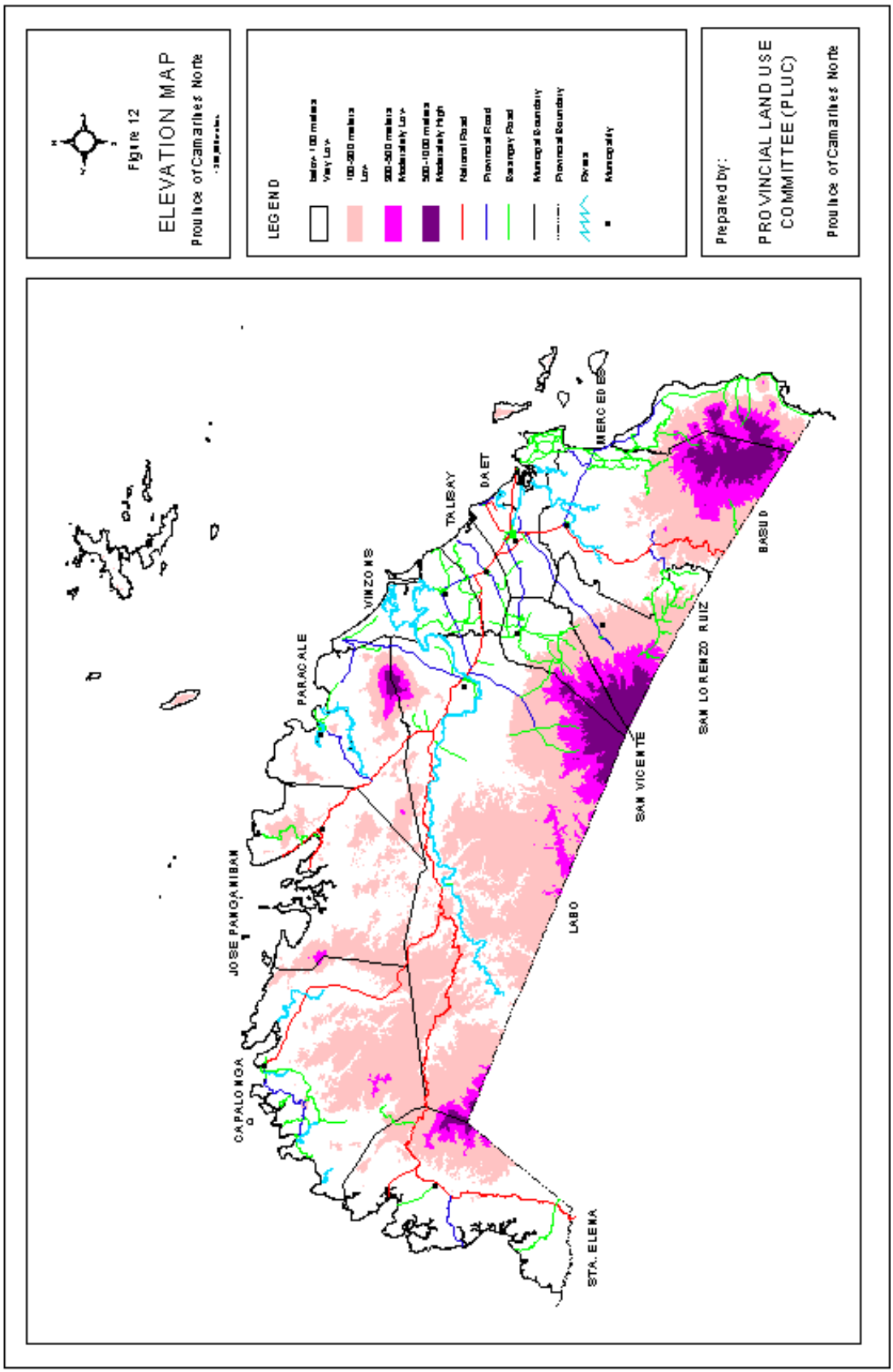
The table also shows that of the 12 municipalities, only Daet and Talisay has an elevation of 0-100 meters above sea level. It is the municipality of Basud which has the largest area that falls under 500-1000 meters elevation which is about 3,995.63 has; followed by Mercedes with 2,569.66 has. and Labo with 2,130.21 has.

[1] *DENR Region Office V, Ecological Profile of Camarines Norte Republic of the Philippines 1992 pp. 2-1 to 2-5*

Table 29
Elevation by Municipality
Province of Camarines Norte

MUNICIPALITY	ELEVATION (in meters above sea level)				TOTAL
	0-100	100-300	300-500	500-1000	
Basud	13,469.27	6,082.48	2,480.62	3,995.63	**26,028.00**
Capalonga	18,934.14	9,744.43	321.43	-	**29,000.00**
Daet	4,600.00	-	-	-	**4,600.00**
Jose Panganiban	16,209.70	5,139.99	94.31	-	**21,444.00**
Labo	23,895.48	28,360.52	4,549.79	2,130.21	**58,936.00**
Mercedes	9,490.47	2,903.99	2,404.88	2,569.66	**17,369.00**
Paracale	16,263.36	2,583.22	800.78	142.64	**19,790.00**
San Lorenzo Ruiz	4,740.51	4,333.81	1,544.06	1,318.62	**11,937.00**
San Vicente	2,827.36	1,369.34	788.18	764.12	**5,749.00**
Sta Elena	15,241.20	3,712.04	779.28	202.48	**19,935.00**
Talisay	3,076.00	-	-	-	**3,076.00**
Vinzons	14,121.36	21.64	-	-	**14,143.00**
Grand Total	**142,868.85**	**64,251.46**	**13,763.33**	**11,123.36**	**232,007.00**
%	**61.58**	**27.69**	**5.93**	**4.79**	**100.00**

Sources: - Soil and Land Resource Evaluation Project, Bureau of Soil and Water Management
- Municipal Land Information Maps, Land Management Sector, Region V
Note: Using digitized map in approximating the area


Figure 12
ELEVATION MAP
Province of Camarines Norte
LEGEND
Below 100 meters
Very Low
100-200 meters
Low
200-500 meters
Moderately Low
500-1000 meters
Moderately High
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
JOSE PANGANIBAN
CAPALONGA
PARACALE
VINZONS
TALISAY
DAET
MERCEDES
BASUD
SAN LORENZO RUIZ
SAN VICENTE
LABO
STA. ELENA

3.1.2 Slope

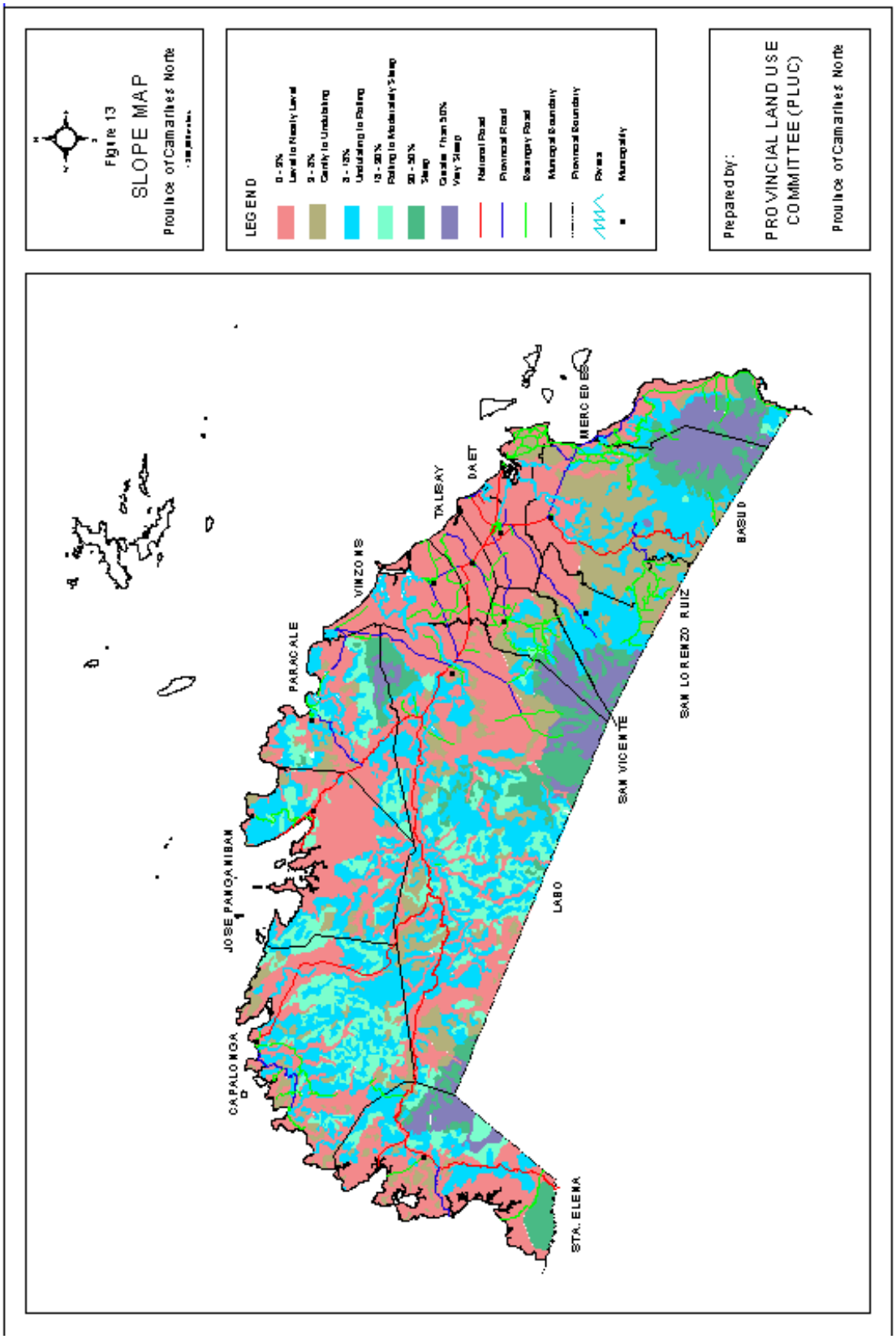
Majority of the area of the province fall within the slope 0-3% with about 92,031.96 hectares or 39.67%; followed by the gently undulating slope (3-8%) with 32,589.22 hectares or 14.05%; undulating to rolling (8-18%) with 55,693.80 hectares or 24.01%; 18-30% slope, 21,143.16 hectares or 9.11%, steep slope (30-50%) with 15,578.58 or 6.71%; and the very steep slope (above 50%) with 14,970.28 hectares or 6.45% (Table 30 and Figure 13).

Of the 12 municipalities, Labo has the most 0-3%, 8-18%, 18-30% and 30-50% slope of about 19,733.91 has., 15,390.88 has., 6,647.89 has. and 5,885.30has. respectively. On the other hand Basud has the most 3-8% slope of about 9,363.74 has. and Mercedes has the most greater than 50% slope of about 3,716.74 has. The entire municipality of Talisay has a 0-3% slope only. In like manner, majority of the area of Daet is also within 0-3% slope with only 1.53 has. that falls within 3-8% slope.

Table 30
Slope Categories By Municipality
Province of Camarines Norte

Municipalities	0-3%	3-8%	8-18%	18-30%	30-50%	>50%	Total
Basud	4,449.26	9,363.74	6,478.74	42.34	2,414.60	3,279.32	**26,028.00**
Capalonga	9,892.02	3,234.48	9,747.30	6,126.20	-	-	**29,000.00**
Daet	4,598.47	1.53	-	-	-	-	**4,600.00**
Jose Panganiban	10,040.83	1,752.60	6,659.60	2,990.97	-	-	**21,444.00**
Labo	19,733.91	8,092.46	15,390.88	6,647.89	5,885.30	3,185.56	**58,936.00**
Mercedes	6,023.63	1,749.34	2,987.50	253.36	2,638.43	3,716.74	**17,369.00**
Paracale	8,171.13	1,548.27	5,022.44	3,258.16	1,219.65	570.35	**19,790.00**
San Lorenzo Ruiz	2,181.60	3,496.94	3,780.71	-	952.82	1,524.93	**11,937.00**
San Vicente	1,572.54	1,334.45	1,370.06	110.44	504.73	856.79	**5,749.00**
Santa Elena	8,450.45	1,974.65	3,996.45	1,713.80	1,963.05	1,836.60	**19,935.00**
Talisay	3,076.00	-	-	-	-	-	**3,076.00**
Vinzons	13,842.12	40.76	260.12	-	-	-	**14,143.00**
TOTAL (has.)	**92,031.96**	**32,589.22**	**55,693.80**	**21,143.16**	**15,578.58**	**14,970.28**	**232,007.00**
%	39.67	14.05	24.01	9.11	6.71	6.45	100.00

Sources: - Soil & Land Resource Evaluation Project, Bureau of Soil and Water Management
- Municipal Land Information Maps, Land Management Sector, Region V
Note: Using digitized map in approximating the area


Figure 13
SLOPE MAP
Province of Camarines Norte
LEGEND
0 - 3%
Level to Nearly Level
3 - 8%
Gently to Undulating
8 - 18%
Undulating to Rolling
18 - 30%
Rolling to Moderately Steep
30 - 50%
Steep
Greater than 50%
Very Steep
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

3.1.3 Geomorphology/General Land Forms

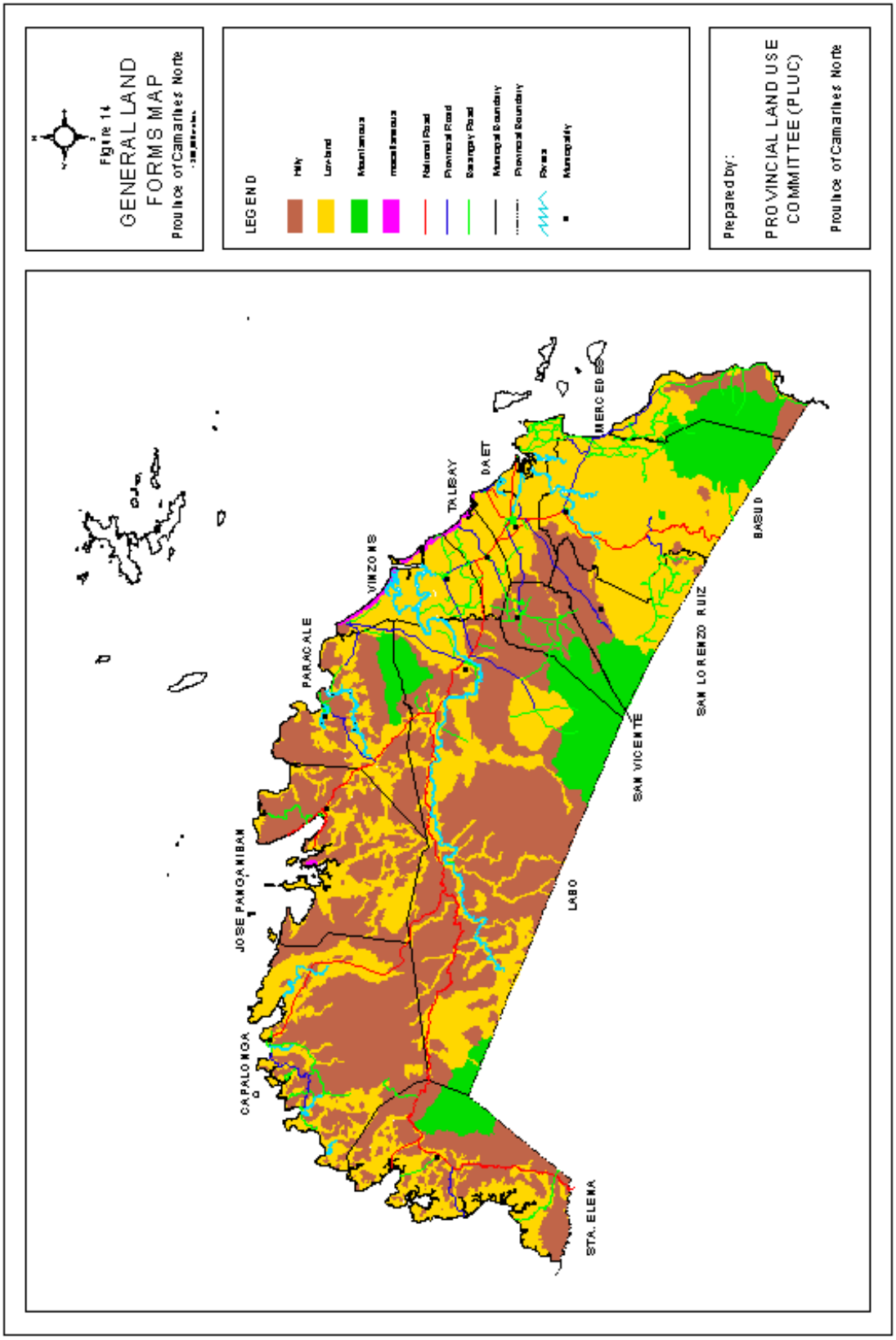
Geomorphology consists of the different landforms (**Figure 14**) found in the province occurring in the different pedo-ecological zones (**Table 31**). The large percentage of land in the province is found in the lowland comprising about 46.57% or about 108,055.68 has., followed by the hilly land with 41.86% or 97,126.62 has.; mountainous areas comprises of 11.01% or 25,550.66 has., and the miscellaneous with only about 0.55% or 1,274.04 has.

Labo, being the largest municipality has the highest area of lowland, hilly and mountainous landforms with 19,015.54 has., 32,719.92 has. and 7,200.54 has., respectively.

Table 31
Geomorphology/ General Land Forms By Municipality
Province of Camarines Norte

Municipalities	Lowland	Hilly	Mountainous	Miscellaneous	Total
Basud	19,110.30	1,511.60	5,406.10	-	**26,028.00**
Capalonga	10,673.63	18,326.37	-	-	**29,000.00**
Daet	3,572.29	1,015.79	-	11.93	**4,600.00**
Jose Panganiban	10,440.49	11,003.51	-	-	**21,444.00**
Labo	19,015.54	32,719.92	7,200.54	-	**58,936.00**
Mercedes	7,657.07	4,168.70	5,218.87	324.36	**17,369.00**
Paracale	7,315.55	10,700.78	1,773.67	-	**19,790.00**
San Lorenzo Ruiz	6,045.08	3,546.82	2,345.09	-	**11,937.00**
San Vicente	319.34	4,136.70	1,292.96	-	**5,749.00**
Santa Elena	7,906.47	9,715.10	2,313.44	-	**19,935.00**
Talisay	2,942.70	23.55	-	109.75	**3,076.00**
Vinzons	13,057.22	257.78	-	828.01	**14,143.00**
TOTAL (has.)	**108,055.68**	**97,126.62**	**25,550.66**	**1,274.04**	**232,007.00**
%	46.57	41.56	11.01	0.55	100.00

Source: - Soil and Land Resource Evaluation Project, Bureau of Soil and Water Management
- Municipal Land Information Maps,Land Management Sector, Region V
Note: Using digitized map in approximating the area


Figure 14
GENERAL LAND FORMS MAP
Province of Camarines Norte
LEGEND
Hilly
Lowland
Mountainous
Miscellaneous
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

3.1.4 Land and Water Resources

The province has a total land area of 232,007 hectares, comprising 13% of the region's and 0.077% of the country's total land areas. Camarines Norte is the region's 4th largest province, bigger than the provinces of Sorsogon and Catanduanes. This is shown in **Table 32** below:

Table 32
Comparative Land Area, Camarines Norte to Other Bicol Provinces, Philippines

Province	Land Area (hectares)	Percentage to Regional Total Land Area	Percentage to Country's Total Land Area
Philippines			300,000.00
Bicol Region	**1,784,007**	**100.00**	**0.593**
Albay	255,260	14.31	0.085
Camarines Norte	232,007	13.00	0.077
Camarines Sur	526,680	29.52	0.175
Catanduanes	151,150	8.47	0.050
Masbate	404,770	22.69	0.135
Sorsogon	214,140	12.00	0.071

Sources: Camarines Norte Area- *Department of Budget and Management*
Other Provinces/ Philippines- NEDA ROV

The province is composed of 282 barangays (**Table 33**). Labo is the biggest municipality in terms of land area and has the most number with 52 barangays. The municipality of San Vicente has the least number of barangays with only 9. The capital town of Daet has 25 barangays, 8 of which are within the poblacion or urban area.

Table 33
Land area & number of barangays by municipality
Province of Camarines Norte

MUNICIPALITY	Land Area (hectares)	No. of Barangays	Percent Share Of Land Area (%)
Basud	26,028.00	29	11.22
Capalonga	29,000.00	22	12.50
Daet	4,600.00	25	1.98
Jose Panganiban	21,444.00	27	9.24
Labo	58,936.00	52	25.40
Mercedes	17,369.00	26	7.49
Paracale	19,790.00	27	8.53
San Lorenzo Ruiz	11,937.00	12	5.14
San Vicente	5,749.00	9	2.48
Sta. Elena	19,935.00	19	8.59
Talisay	3,076.00	15	1.33
Vinzons	14,143.00	19	6.10
CAMARINES NORTE	**232,007.00**	**282**	**100**

Sources: Land Area- Department of Budget and Management
(Basis for the computation of IRA)
No. of Barangays – Provincial Socio-Economic Profile

Largest portion of the province is lowland comprising about 46.57% or about 108,055.68 hectares, followed by hilly land with 41.86% or 97,126.62 hectares. Mountainous areas comprise 11.01% or 25,550.66 hectares, and the miscellaneous landforms with 0.55% with only about 1,274.04 hectares.

3.1.4.1 Mountains

3.1.4.1.1 Mt. Labo

Mt. Labo is the highest peak in the province, and extends to the provinces of Camarines Norte, Camarines Sur and Quezon. This is where Abasig Mananap Matogdon Natural Biotic Area, the most important watershed in the province, is located. This watershed is a potential source of geothermal power, which had been subjected to exploration some years ago. This is the site of many reforestation projects, both by government and private institutions.

3.1.4.1.2 Mt. Cadig

Mount Cadig serves as the boundary of the provincies of Camarines Norte, Camarines Sur and Quezon. It is the origin of Busigon River in Labo, the major rivers in Sta. Elena, and the source of water being supplied by Sta. Elena Water District. This is rich in mineral deposits, particularly nickel and iron. This mountain is the location of Caguit-Santol Proposed Watershed.

3.1.4.1.3 Mt. Balagbag

Mt. Balagbag is a part of Bicol Natural Park at the southern portion of Camarines Norte. This mountain is the location of Colasi Falls, a potential source of hydro power now being developed through the LGU initiative. This mountain is rich in soda and sulfur desposits.

3.1.4.1.4 Mt. Bagacay

This mountain which stretches from Barangay Pinagbirayan to Dancalan in Paracale. I It is rich in mineral deposits such as iron ore, gold, and clay. This is also the origin of Malaguit River, the irrigation systems within the area.

3.1.4.2 Bodies of Water

3.1.4.1 Municipal Waters

The province is composed of nine coastal municipalities , namely Basud, Capalonga, Daet, Jose Panganiban, Mercedes, Paracale, Sta. Elena, Talisay and Vinzons. Areas of municipal waters by municipality is shown in **Table 34**.

Table 34
Areas of Municipal Waters and Number of Coastal Barangays by Municipality
Province of Camarines Norte.

Municipality	No. of Coastal Barangays	Area of Mun. Waters (has.)	Coastline Length (m)
Basud	2	664.765	5,071.41
Capalonga	10	43,036.08	70,646.57
Daet	1	5,720.53	5,370.92
Jose Panganiban	20	46,315.68	73,144.88
Mercedes	24	53,850.73	95.074.31
Paracale	10	71,137.42	40,795.67
Sta. Elena	7	11,857.81	37,981.49
Talisay	2	4,290.20	4,653.22
Vinzons	8	15,000	63,000
T O T A L	84	386,873.21	395,738.46

Aside from the municipal waters within the jurisdiction of the coastal municipalities, the province has prominent river systems with its tributaries. Major rivers in the province include:

3.1.4.2.1 Rivers

3.1.4.2.1.1 Busigon River

Busigon River originates from Mt. Cadig, which is found in Sta. Elena. Downstream of this river is Labo River that starts at Barangay Masalong, Pangpang, and Benit in Labo, and exits at Barangays Calangcawan Norte and Matango in Vinzons.

Busigon River is the major source of irrigation water of the Matogdon Communal Irrigation System which serves lowlands in the municipalities of Labo, Vinzons and Paracale.

3.1.4.2.1.2 Labo River

Labo River is the convergence of Busigon River, Abasig River and Matogdon River. Labo River is connected to Abasig-Matogdon-Mananap Natural Biotic Area (AMMNBA) , a very important watershed and proclaimed protected area by virtue of Proclamation No. 318 dated May 31, 2000 covering 5,420.12 hectares . This is the recharge area of the Camarines Norte Water District (CNWD) and the Matogdon Communal Irrigation System. CNWD provides Level III water supply to seven municipalities of the province and irrigation water serving lowland areas in the municipalities of Labo, Paracale and Vinzons. The river provides livelihood for many families along the river, and high potential for river resort development.

This river exits at Barangay Calangcawan Sur and Sabang in Vinzons.

3.1.4.2.1.3 Basud River

Basud River is the downstream of Guinatungan and Caayunan Rivers that originates from the BNP. Caayunan River is the downflow of three falls along San Pascual Area, a part of the Bicol Natural Park.

This river is a home to mangrove areas mostly dominated by nipa species and rich with marine resources that becomes major source of livelihood for the people along the riverside. This river becomes the entry point to and from the Basud Poblacion to Barangay San Jose, and Barangay Laniton to Barangay San Jose using boats.

This river has very high potential for tourism development activities in the municipality.

3.1.4.2.1.4 Daet River

This river originates from Mananap River, Maisog River and Mampurog River. This river is the source of irrigation and potable water. This is an important source of quarry materials being used in the adjoining municipalities. There are also many river resorts along this stretch of the river, which are being frequented by picnic goers specially during the summer months.

This river is also the main source of irrigation water being distributed by the National Irrigation System to the lowlands of Daet, Talisay, Mercedes, Basud, and

Vinzons. This river merges with Basud River at Barangay Bactas in Basud,

3.1.4.2.1.5 Matogdon River

This river originates from AMMNBA passing through barangays Lugui, San Antonio Mabilo II, Bautista, and Anahaw. It is the source of Matogdon Communal Irrigation System that provides water to some areas of Labo, Vinzons and Paracale. It is an excellent source of quarry materials, and location of several river resorts in the area.

3.1.4.2.1.6 Malaguit River

This is a major river in Paracale area that stretches from Batobalani down to Barangays Capacuan, Dagang, Tawig, Talusan, Pinagbirayang Malaki, Tugos, Calaburnay, Mangkasay, Malaguit and Labnig in Paracale. It is the location of many fishponds and home to about fourteen mangrove species dominated by *bakauan lalaki, sagingsaging* and *pagatpat*. It also provides irrigation water to Tawig, Dagang, Tugos, Pinagbirayan, Malaguit, Calaburnay & Labnig, all in Paracale.

3.1.4.2.1.7 Basiad River

Basiad River is a major river in Sta. Elena that provides irrigation water to San Pedro-San Vicente irrigation system which provide water to Villa San Isidro, San Pedro, San Vicente, Basiad. It is a source of first class quarry materials, and the location of many fishponds. It originates from Barangay San Pedro and discharges to Basiad Bay.

3.1.4.2.1.8 Santol River

This river originates from Barangay Villa San Isidro and discharges to Santol Bay and Pulong Guitguit. It is the source of irrigation water serving lowlands of Poblacion and Pulong Guitguit. It is also one of the sources of quarry materials in the area.

3.1.4.2.1.9 Minasag River

This river originates from Barangay Rizal passing through Barangay San Lorenzo and discharges to Santol Bay. It is the source of irrigation water serving riceland of Rizal and San Lorenzo and one of the sources of quarry materials in the area.

3.1.4.2.1.10 Camagsaan River

This river originates from Capalonga Watershed Forest Reserve and discharges to Alayao Bay. It provides irrigation water to lowland areas in the municipality, and one of the sources of quarry materials in the municipality.

3.1.5 Geological Features

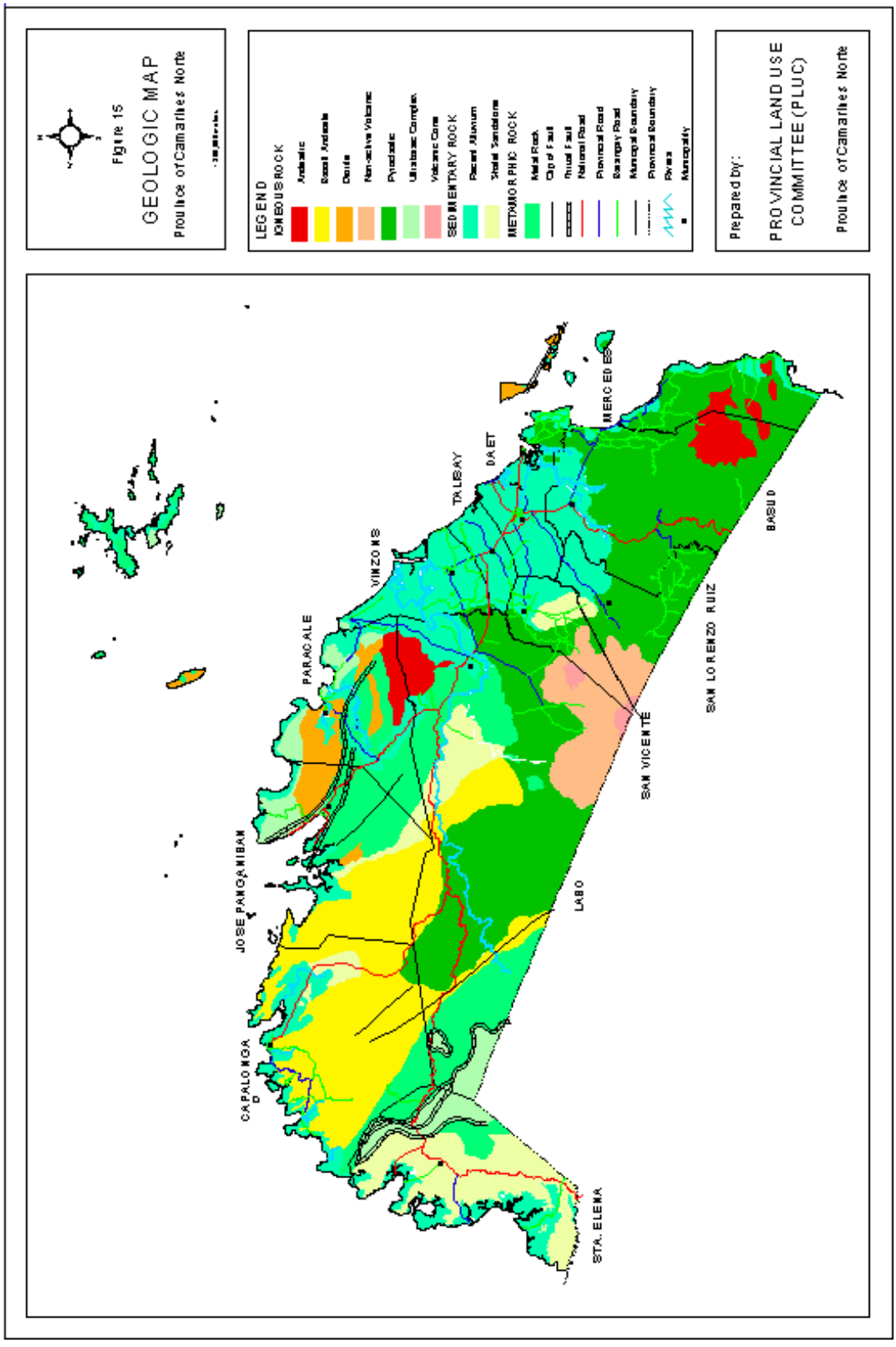
Camarines Norte is underlain by diverse assemblage of rocks which include igneous rocks, sedimentary rocks and metamorphic rocks. (**Figure 15**) Pyroclastic constitutes about 64,936.13 hectares which are predominant in the municipality of Labo and Basud. Recent alluvium which are evenly distributed throughout the province constitutes about 53,218.46 hectares. Basalt Andesite Series, of about 36,055.33 has. or 15.54% of the total province's area, is mostly found in the municipalities of Capalonga, Jose Panganiban and part of Labo. Shale/Sandstone is about 16,540.11 has., Ultrabasic complex, 9,477.96 hectares. There is however 968.59 has. of volcanic cone and 8,825.88 has. of non-active volcanic cone found in the municipalities of Labo, San Vicente and San Lorenzo Ruiz (**Table 35**).

The province comprises three dormant volcanic mountains, namely: Mt. Labo (943 m elevation), Mt. Bagacay (775m, elevation) and Mt. Cadig (736 m. elevation).

Table 35
Geological Areas By Municipality
Province of Camarines Norte

	Andesitic	Basalt Andesite	Diorite	Metal Rock	Non-active Volcanic	Nuvial Volcanic	Pyroclastic	Recent Alluvium	Shale/ Sandstone	Ultrabasic Complex	Volcanic Cone	Total
Basud	2,249.96	-	-	-	-	-	19,963.53	3,626.98	-	-	187.53	**26,028**
Capalonga	-	20,389.37	-	2,010.49	-	-	59.98	5,102.34	1,367.24	70.58	-	**29,000**
Daet	-	-	-	-	-	-	-	4,600.00	-	-	-	**4,600**
Jose Panganiban	-	8,290.54	1,912.55	5,867.29	-	-	-	2,397.91	927.43	2,048.28	-	**21,444**
Labo	1,451.18	7,329.79	-	11,908.53	5,757.50	-	23,702.73	2,899.66	3,164.66	2,063.77	658.18	**58,936**
Mercedes	1,501.53	-	-	-	-	-	11,558.77	4,308.70	-	-	-	**17,369**
Paracale	1,724.19	45.62	3,832.99	6,200.69	-	-	-	5,221.25	306.64	2,458.61	-	**19,790**
San Lorenzo Ruiz	-	-	-	-	1,734.03	-	7,559.50	2,299.32	250.19	-	93.96	**11,937**
San Vicente	-	-	-	-	1,334.36	-	1,709.17	1,677.32	999.24	-	28.92	**5,749**
Santa Elena	-	-	-	1,995.49	-	1,329.64	-	4,385.76	9,524.71	2,699.41	-	**19,935**
Talisay	-	-	-	-	-	-	-	3,076.00	-	-	-	**3,076**
Vinzons	-	-	-	-	-	-	382.45	13,623.23	-	137.31	-	**14,143**
TOTAL (has.)	**6,926.86**	**36,055.33**	**5,745.55**	**27,982.49**	**8,825.88**	**1,329.64**	**64,936.13**	**53,218.46**	**16,540.11**	**9,477.96**	**968.59**	**232,007**
%	2.98	15.54	2.48	12.06	3.80	0.57	27.99	22.94	7.13	4.09	0.42	100.00

Source: - Soil and Land Resource Evaluation Project, Bureau of Soil and Water Management
- Municipal Land Information Maps,,Land Management Sector, Region V
Note: Using digitized map in approximating the area


Figure 15
GEOLOGIC MAP
Province of Camarines Norte
LEGEND
IGNEOUS ROCK
Andesite
Basalt Andesite
Dacite
Non-active Volcano
Pyroclastic
Ultrabasic Complex
Volcanic Core
SEDIMENTARY ROCK
Recent Alluvium
Tertiary Sandstone
METAMORPHIC ROCK
Metal Rock
City / Fault
Minor Fault
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

3.1.6 Mineral Resources

The province is endowed with varied mineral resources classified either metallic or non-metallic. Metallic minerals in commercial quantity such as gold, silver, iron, lead, zinc, iron lump, bull quartz and iron in laterite are found in the province.

The estimated metallic mineral reserves in the province are presented in Table 36.

Non-metallic minerals in the province are categorized as: silica sand, marbleized limestone, kaolin/ white clay, refractory clay and diatomaceous earth.

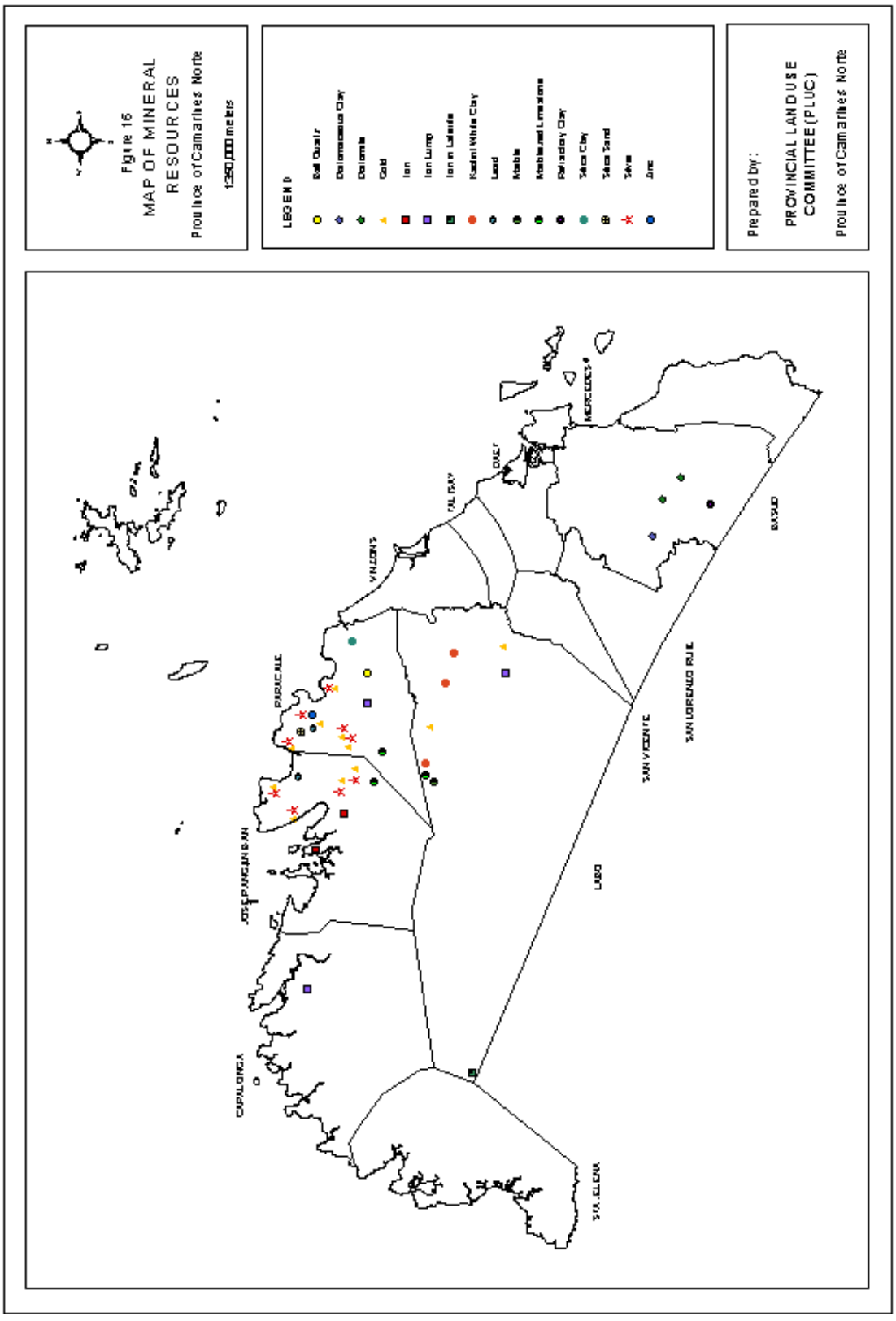
Among these non-metallic minerals, diatomite, refractory clay and diatomaceous clay have the more extensive deposit concentrated heavily in the municipality of Basud with 240.75 million MT of estimated reserves.

Figure 16 shows the location of metallic and non-metallic reserves in the province.

Table 36
Summary of Estimated Reserves of Metallic and Non_Metallic Mineral Resources
Province of Camarines Norte

MUNICIPALITY/ BARANGAY	MINERAL COMMODITY	ESTIMATED RESERVES M.T.)	
		Metallic	Non-Metallic
1. JOSE PANGANIBAN			
- Sta. Rosa Sur	Gold, Silver	2,743,966	
- Bagumbayan	Gold, Silver	1,503,000	
- Sta. Barbara Luklukan Sur	Gold, Silver	1,487,000	
- Poblacion	Gold, Silver	1,311,000	
- Larap	Iron	12,589,974	
- Nakalaya	Iron	4,000,000	
- Sitio Igan, San Rafael	Marbleized Limestone		1,265,200 cu.m.
2. PARACALE			
- Longos	Gold, Silver	11,448,305	
	Lead, Zinc	226,444	
- Malaguit	Gold, Silver	1,350,000	
- Gumaus	Gold	500,000	
- Pinagbirayan	Iron Lump Ore	451,376	
- Bulalacao	Lead	150,693	
- Tugos	Gold, Silver	22,372	
- Sitio Tapukan	Gold, Silver	10,800	
- Tawig	Ball Quartz	400,000	
- Casalugan Area	Silica Sand		3,800,000
- Batobalani	Marbleized Limestone		13,500,000
- Mampungo	Silica Clay		65,000
3 LABO			
- Poto and Malangcao Basud	Gold	1,340,000	
- Napaod	Iron Lump Ore	100,000	
- Mt. Cadig	Iron in Laterite	83,129,840	
- Matogdon	Gold	1,340,000	
- Bulhao, Daguit, Masalong	Kaolin/ White Clay		4,000
- Bo. Namukanan, Daguit	Marbleized Limestone		13,500,000
- Naboongan	Marble		90,000 cu.m.
4. CAPALONGA			
- Matagui	Iron Lump	1,171,620	
5. BASUD			
- San Pascual	Diatomite		699,200
- Caayunan	Diatomite		24,200
- Bicol National Park	Refractory Clay		240,000,000
- San Felipe	Diatomaceous Earth		35,200

Source: - Mineral Resources of Bicol Region, August 1990 and Technical Report on the Banner Mineral Commodity Program: Marble, Nov. 1994 by Unarido, Gapuya and JMSLaud:
- Mines and Geosciences Bureau, Legaspi City


Figure 16
MAP OF MINERAL RESOURCES
Province of Camarines Norte
1:250,000 meters
LEGEND
Bat Guano
Dolomitic Clay
Dolomite
Gold
Iron
Iron Lump
Iron Laterite
Kaolin White Clay
Lead
Marble
Marble and Limestone
Refractory Clay
Silica Clay
Silica Sand
Silver
Zinc
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
SAN VICENTE
SAN LORENZO RUIZ
LABO
SANTA ELENA
BASUD

3.1.7 Climate of the Province

Camarines Norte belongs to the Type II climate with no dry season and with a very pronounced maximum rain period that occurs from November to January. These are along or very near the eastern coast and are sheltered neither from the northern portion and the winds nor from cyclonic storms. This class particularly falls under the eastern and northern part of the province (**Figure 17**).

The 1971-2000 observed values showed that temperature is higher at 32.2 oC in the months of June-August and a little bit lower at 3.3 oC during the months of March-May. The lowest temperature is observed in the months of December to January (Table 37).

Table 37
Historical Temperature Record: CY 1971-2000
Province of Camarines Norte

Month	Observed Values (^{o}C)
December, January, February	28.6
March, April, May	31.3
June, July, August	32.2
September, October, November	30.8

Historical Rainfall Record

The amount of rainfall in the province is higher in the months of September to November at about 1,285.7 mm with slight decrease during the months of December to February at 1,029.6 mm. The lowest rainfall of 398.5 mm was observed in the months of March-May which begun to increase in the months of July to August (Table 38).

Table 38
Historical Rainfall Data: CY 1971-2000
Province of Camarines Norte

Month	Observed Values (mm)
December, January, February	1,029.6
March, April, May	398.5
June, July, Agust	565.6
September, October, November	1,285.7

Projected Climate Change (2020 and 2050)

Temperature

Projected temperature increase in ^{o}C for 2020 is higher in medium-range emission scenarios from December to November which ranges from 0.9 to 1.1 ^{o}C compared to high-range emission scenarios

which posted a range of 0.6 to 0.8 ^{o}C based from 1971-2000 observed values.

The rate continuously increases in 2050 at a range of 1.8 to 2.1 ^{o}C in medium- range emission scenario with the highest posted in the months of March to August. Temperature increases during the high-range scenario, and becomes lower especially during the months of December-February and September to October at 1.5 and 1.6 ^{o}C respectively (Table 39).

Table 39
Projected Temperature Increase (in ^{o}C) under High-Range and Medium-Range Emission Scenarios in CY 2020 based on 1971-2000 normal values.

Month	Baseline Observed	High-Range Emission Scenario	Medium-Range Emission Scenario
December, January, February	25.7	0.6	0.9
March, April, May	27.6	0.8	1.1
June, July, August	28.3	0.7	1.0
September, October, November	27.3	0.6	0.9

Table 40
Projected Temperature Increase (in ^{o}C) under High-Range and Medium-Range Emission Scenarios in CY 2050 based on 1971-2000 Normal Values.

Month	Baseline Observed	High-Range Emission Scenario	Medium-Range Emission Scenario
December, January, February	25.7	1.5	1.8
March, April, May	27.6	2.0	2.0
June, July, August	28.3	1.8	2.1
September, October, November	27.3	1.6	1.8

Projected temperature increase under low-range emission scenario is minimally increasing by barely .1 oC from December to November with higher values of .6 ^{o}C in months of July to November. A faster increase is noted as number of year increases with projection rate of 1.3 ^{o}C to 1.5 ^{o}C till 2050 both based from 1990-2000 observed values (Table 41).

Table 41
Projected Temperature Increase (in oC) Under Low-Range Emission Scenario in CY 2020 and 2050 Based on 1990-2000 Normal Values.

Month	2020	2050
December, January, February	0.4	1.3
March, April, May	0.5	1.2
June, July, August	0.6	1.3
September, October, November	0.6	1.5

Rainfall

Projected rainfall change for 2020 in high and medium range scenarios varies from -11.7 to 4.3 mm and 0.0-7.8 mm, respectively.

During high-range emission scenario, the highest rainfall is projected at 23.6 mm in the months of June to August and 7.8 mm in medium-range emission scenario during the months of September to November.

For year 2050 and based from 1971-2000 observed values, the highest projected rainfall stood at 9.3 mm in the months of June-August, and only 8.9 mm for the same months in the medium-range emission scenario. Least rainfall was projected at -15.5 mm from September to November and -31.0 mm in the months of March to may for high and medium-range emission scenarios, respectively (Tables 42 and 43).

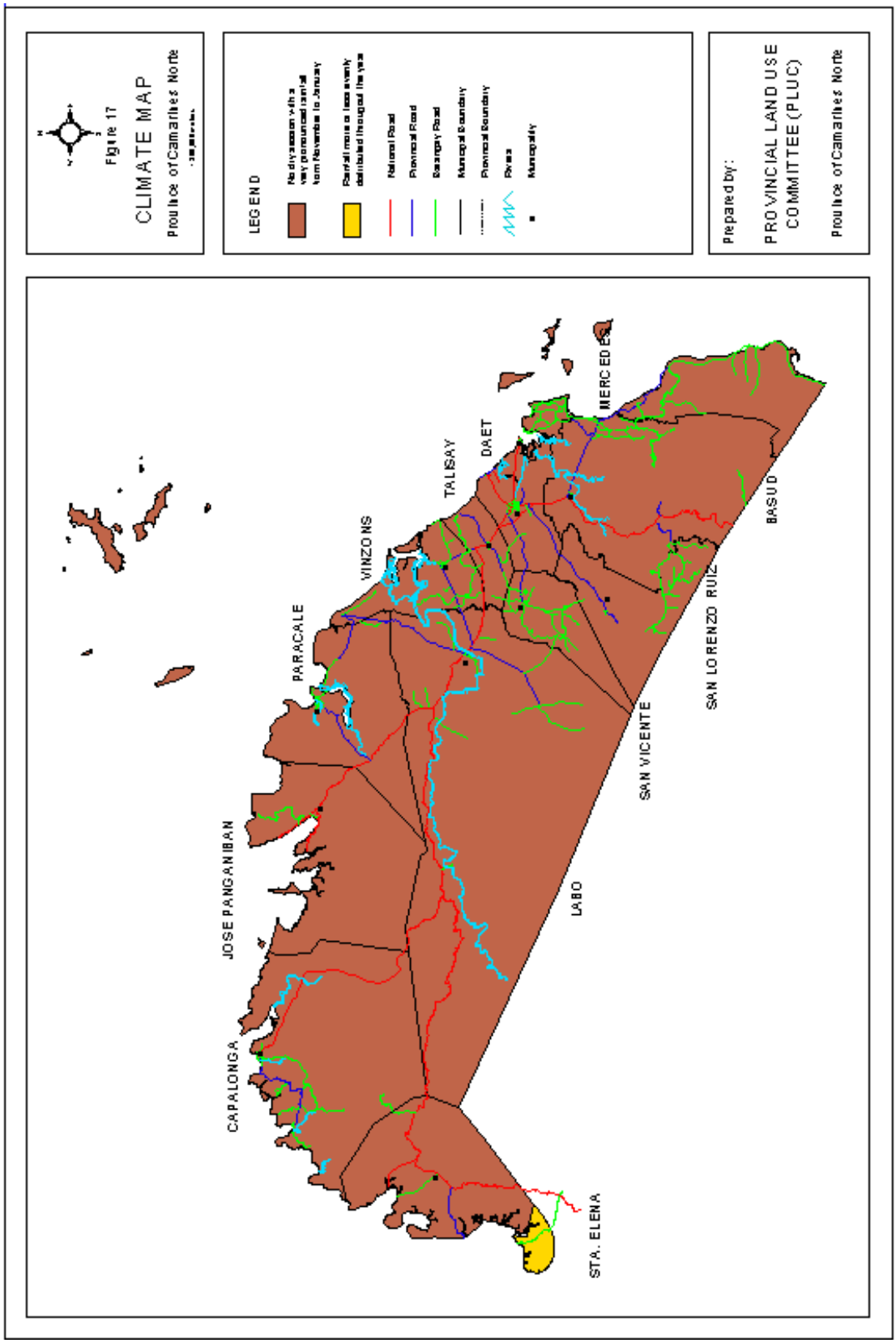
Table 42
Projected Rainfall Change (in %) Under high-Range and Medium-Range Emission Scenarios in CY 2020 Based on 1971-2000 Normal Values.

Month	Baseline Observed	High-Range Emission Scenario	Medium-Range Emission Scenario
December, January, February	1,029.6	-11.7	0.0
March, April, May	398.5	-0.6	-17.8
June, July, August	565.6	3.6	5.2
September, October, November	1,285.7	4.3	7.9

Table 43
Projected Rainfall Change (in %) Under High-Range and medium-Range Emission Scenarios in CY 2050 Based on 1971-2000 Normal Values.

Month	Baseline Observed	High-Range Emission Scenario	Medium-Range Emission Scenario
December, January, February	1,029.6	-29.5	5.6
March, April, May	398.5	-25.4	-31.0
June, July, August	565.6	9.3	8.9
September, October, November	1,285.7	-15.5	1.5

The rainfall change will bring damage to agriculture and other sectors in terms of soil erosion, flooding, siltation, landslides, sedimentation, contamination and pollution of water source thereby leading to health problems.


Figure 17
CLIMATE MAP
Province of Camarines Norte
LEGEND
No dry season with a very pronounced rainfall from November to January
Partially more or less evenly distributed throughout the year
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
River
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

3.2 Land Use Potentials and Constraints

3.2.1 Land Classification

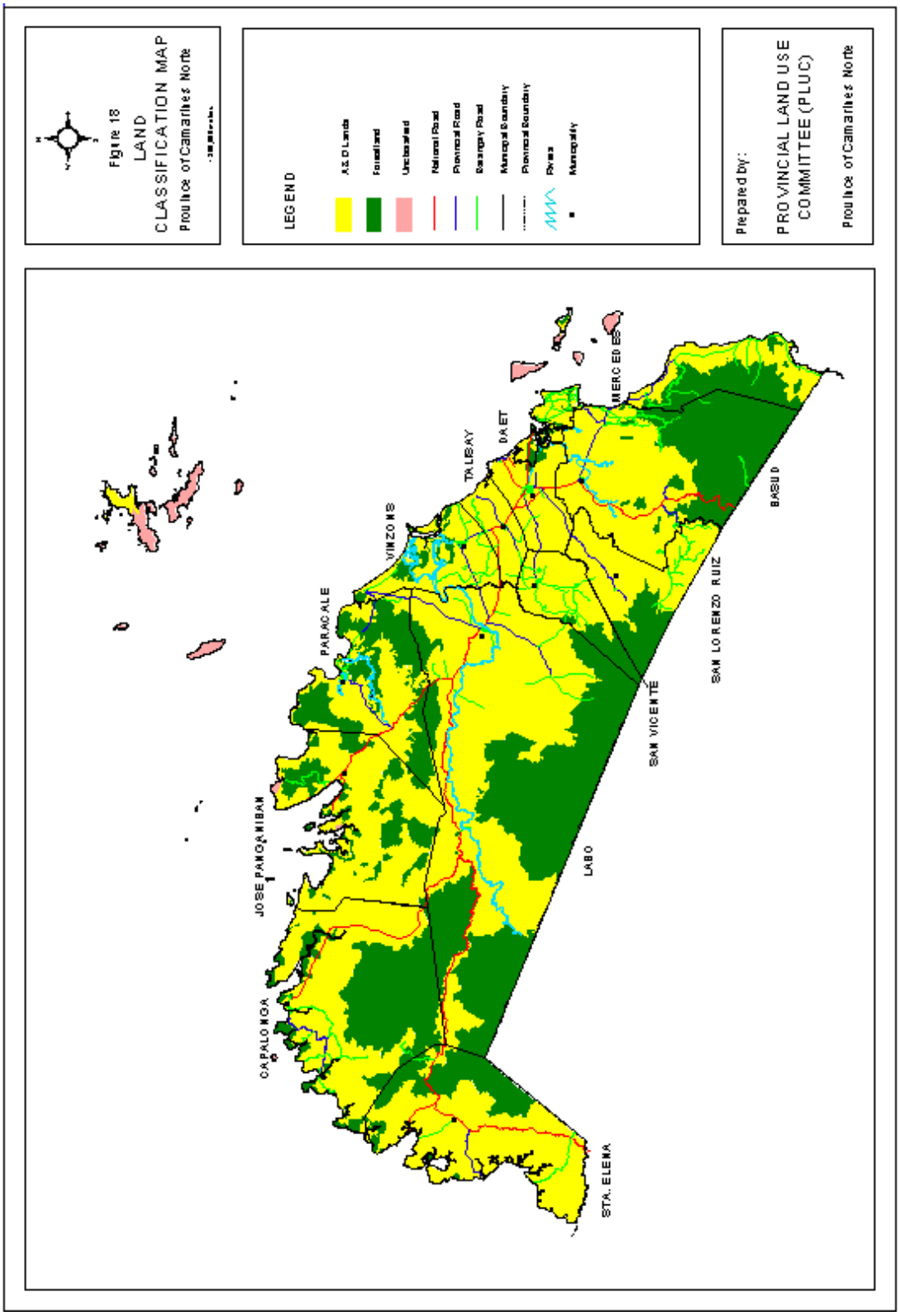
The two major classifications of land are the alienable and disposable (A&D) lands and the forestlands, both of which are considered lands of public domain. A & D lands refer to those lands of the public domain which has been the subject of the present system of classification and declared as not needed for forest purposes. Forestlands, on the other hand, are those which have not been declared as A & D and include areas such as public forest, permanent forest or forest reserves, forest reservations, timberlands, grazing lands and game refuge and bird sanctuaries.

The province has an A & D lands of about 144,705.14 has. or 62.37% while forestlands has area of about 83,587.33 has. or 36.03% of the total land area. Unclassified lands consist of about 3,714.53 has. or 1.60%. The municipality of Labo has the largest A&D lands and forestlands of about 33,402.65 has. and 25,533.35 has., respectively. The entire area of Talisay is classified as A&D lands. In like manner, majority of the area of Daet is A&D lands with about 163.38 has. classified as forestlands.**(Figure 18 & Table 44)**

Table 44
Status of Land Classification By Municipality
Province of Camarines Norte

Municipalities	A & D Lands	Forestland	Unclassified	Total
Basud	15,288.18	10,739.82	-	**26,028**
Capalonga	16,364.62	12,610.78	24.60	29,000
Daet	4,436.62	163.38	-	4,600
Jose Panganiban	15,592.17	5,691.14	160.69	21,444
Labo	33,402.65	25,533.35	-	58,936
Mercedes	7,965.38	8,576.37	827.25	17,369
Paracale	10,173.56	9,211.92	404.52	19,790
San Lorenzo Ruiz	8,850.55	3,086.45	-	11,937
San Vicente	4,516.81	1,232.19	-	5,749
Santa Elena	15,010.70	4,924.30	-	19,935
Talisay	3,076.00	-	-	3,076
Vinzons	10,027.90	1,817.63	2,297.47	14,143
TOTAL	144,705.14	83,587.33	3,714.53	232,007
%	62.37	36.03	1.60	100.00

Source: CENRO-DENR, Daet, Cam. Norte
Note: Using digitized map in approximating the area


Figure 18
LAND
CLASSIFICATION MAP
Province of Camarines Norte
LEGEND
Alienable Lands
Forestland
Unclassified
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE
COMMITTEE (PLUC)
Province of Camarines Norte
JOSE PANGANIBAN
CAPALONGA
PARACALE
VINZONES
TALISAY
DAET
MERCEDES
BASUD
SAN LORENZO RUIZ
SAN VICENTE
LABO
STA. ELENA

3.2.2 Land Cover

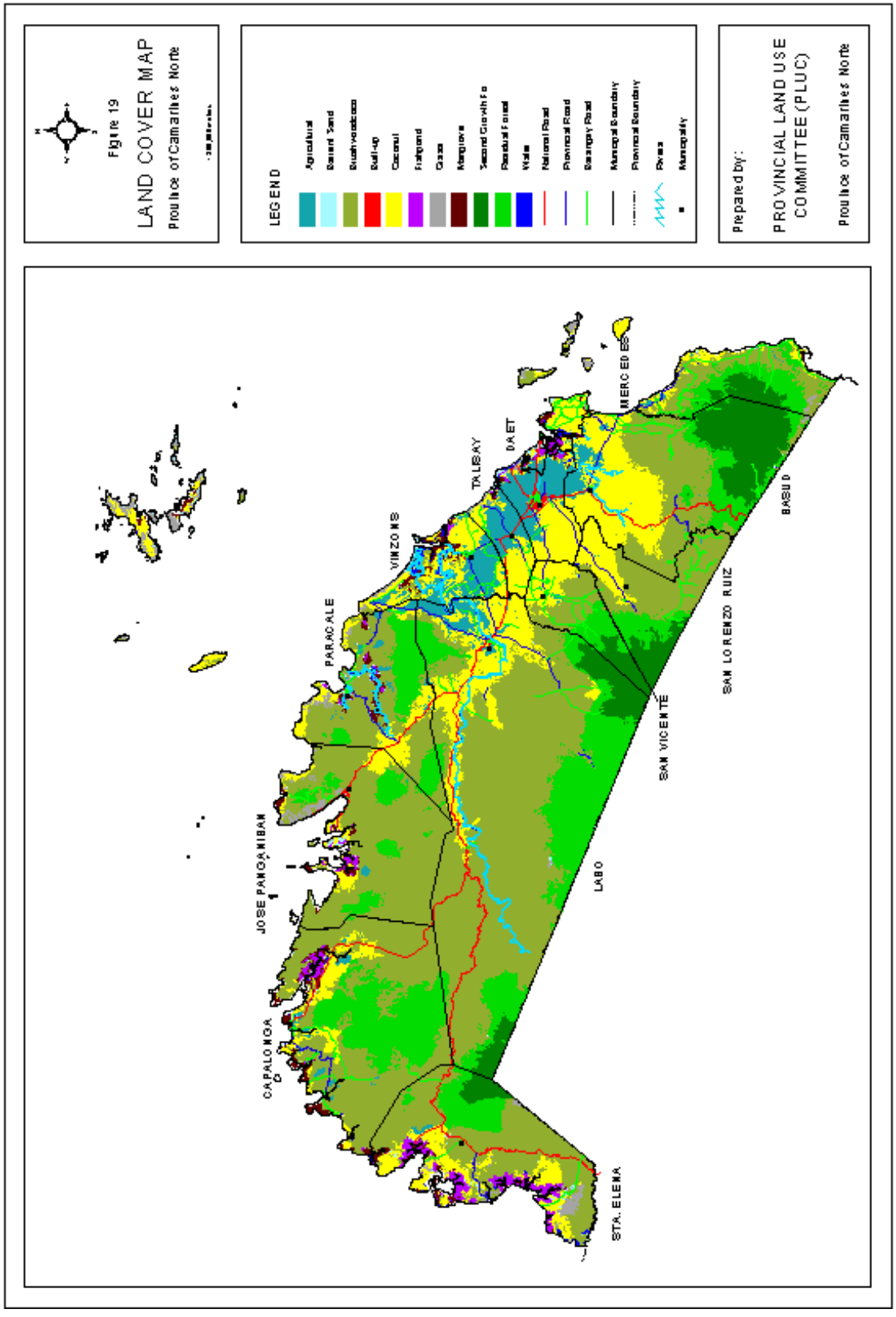
Land cover categories (**Figure 19**) in the province includes; rice lands areas; barren sand, brushwood coco; coconut areas; grassland; fishpond; mangrove, second growth forest, residual forest, water areas, and built up areas. Of these categories, the brushwood coco is the most dominant comprising about 110,594.01 has. or 47.67%, followed by coconut area of about 41,232.55 has. or 17.77%. Rice lands constitute about 12,000.21 has. only or 5.17%, second growth forest has about 13,923.94 has. or 6.00%, residual forest 38,023.54 has. or 16.39% and built up areas with 2,386.69 has. or 1.03% (**Table 45**).

Of the 12 municipalities, Vinzons has the most Riceland areas of about 4,631.67 has., followed by Daet with 1,823.24 has. Brushwood coco is dominant in the municipality of Labo with 34,803.48 has. and coconut area in the municipality of Basud with 7,555.91 has. The biggest built-up area is in the municipality of Daet with about 919 has.

Table 45
Land Cover By Municipality
Province of Camarines Norte

	Rice Lands	Barren/ Sand	Brushwood-coco	Built-up	Coconut	Fishpond	Grass	Mangrove	Second Growth Forest	Residual Forest	Water	Total
Basud	989.34	22.14	8,436.16	100.82	7,555.91	9.53	163.99	23.00	5,703.74	3,002.50	20.87	**26,028**
Capalonga	458.40	103.74	16,238.66	78.25	2,782.94	396.73	146.28	949.53	-	7,693.90	151.56	**29,000**
Daet	1,823.24	58.39	27.24	919.11	1,394.73	76.93	164.73	64.68	-	-	70.94	**4,600**
Jose Panganiban	76.01	122.64	15,663.41	335.14	1,400.23	273.62	878.37	393.18	-	2,281.72	19.68	**21,444**
Labo	1,194.93	95.18	34,803.48	203.77	7,534.22	0.05	192.65	-	3,088.13	11,531.02	292.57	**58,936**
Mercedes	414.32	260.10	5,408.58	82.77	3,056.46	297.43	486.86	417.57	2,147.74	4,602.67	194.51	**17,369**
Paracale	671.15	144.10	10,445.45	134.32	2,890.98	162.45	767.45	602.48	-	3,910.93	60.68	**19,790**
San Lorenzo Ruiz	10.33	3.36	6,506.31	92.02	2,262.70	-	9.04	-	1,516.92	1,512.50	23.84	**11,937**
San Vicente	65.94	5.05	1,966.58	65.91	1,688.01	1.04	4.25	-	703.03	1,235.58	13.61	**5,749**
Santa Elena	91.01	183.56	10,103.04	191.05	3,324.16	1,504.27	969.49	419.67	768.37	2,252.73	127.64	**19,935**
Talisay	1,573.87	20.19	30.92	58.98	1,276.78	21.46	67.88	24.04	-	-	1.88	**3,076**
Vinzons	4,631.67	209.05	964.18	124.55	6,065.43	115.27	392.65	1,007.28	-	-	632.92	**14,143**
TOTAL	**12,00.21**	**1,227.52**	**10,594.01**	**2,386.69**	**41,232.55**	**2,858.78**	**4,243.65**	**3,901.44**	**13,927.94**	**38,023.54**	**1,610.69**	**232,007**
%	5.17	0.53	47.67	1.03	17.77	1.23	1.83	1.68	6.00	16.39	0.69	100

Source: - National Mapping and Resource Information Authority LANDSAT (NAMRIA)


Figure 19
LAND COVER MAP
Province of Camarines Norte
LEGEND
Agricultural
Barren Land
Brush-woodland
Built-up
Coconut
Fishpond
Grass
Mangrove
Second Growth Fo
Residual Forest
Water
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE
COMMITTEE (PLUC)
Province of Camarines Norte
JOSE PANGANIBAN
CAPALONGA
PARACALE
VINZONS
TALISAY
DAET
MERCEDES
BASUD
SAN LORENZO RUIZ
SAN VICENTE
LABO
STA. ELENA

3.2.3 Disaster Risk and Vulnerability Assessment

Camarines Norte is identified as a province prone to natural hazards because of its location and geographic landscape facing the Pacific Ocean. The hazards affecting the province are hydro-meteorological and geologic hazards.

Hydrometeorologic hazards include flooding, rainfall-induced landslide (RIL) and storm/coastal surges. Geologic hazards on the other hand include earthquake groundshaking, earthquake related hazards such as liquefaction hazard, earthquake induced landslides and tsunami. There are also climate related hazards like the El Niño and La Niña.

Based on historical data collected, flood, rainfall-induced landslides, groundshaking, liquefaction, earthquake induced landslide and tsunami, potentially continue to occur in the province.

3.2.3.1 Meteorologic Hazards

a) Flooding

The province has three (3) levels of susceptibility; areas with greater than one (1) meter flood heights and are usually flooded for several hours during rainy days are considered as high susceptibility areas.

All the twelve (12) municipalities are high susceptibility levels to flood with the capital town of Daet having the most number of barangays affected with 24 out of its 25 barangays, followed by Mercedes, Paracale and Vinzons with 16 barangays each. San Lorenzo Ruiz is the least affected areas during the past flood events which caused considerable amount of damages to life and properties especially in agriculture and infrastructure development. The municipality of Vinzons has the highest number of area affected of 4,894.63 hectares followed by Daet with 3,050.43 hectares and Sta. Elena with 2,378.83 hectares. These are considered as low lying municipalities of the province. Floods in these areas are triggered by heavy rains and exacerbated by overflowing of rivers and creeks. Coastal floods as a result of typhoons and windstorms contributed significantly to its high susceptibility.

b) Rainfall Induced Landslide

There are four (4) levels of susceptibility for landslide set by the DENR-MGB. The high susceptibility level is characterized by presence of active/recent landslides, large tension cracks that would affect the community, areas with drainages that are prone to landslide damming and steep slopes.

No historical occurrence on rainfall-induced landslide was recorded except the incident that happened in June 2011 where five (5) people died from landslide brought by typhoon Basyang from the municipality of Jose Panganiban. Damage to properties was also unaccounted.

Areas with high susceptibility to rainfall-induced landslide include two (2) barangays of Basud (Tuaca and San Pascual), 18 barangays in Capalonga, 20 in Jose Panganiban, 19 in Labo, 18 in Paracale, Barangays Matacong and San Isidro in San Lorenzo Ruiz, Iraya Sur, San Jose and Fabrica in San Vicente and 9 barangays in Sta. Elena.

c) Storm/Coastal Surges

There are nine (9) coastal municipalities that are prone to storm/coastal surges.

But there was no recorded event in the past for this hazard.

3.2.3.2 Geologic Hazards

The twelve (12) municipalities of the province had been found to be highly susceptible to the different geologic hazards. These will affect 17,550.11 hectares (7.56%) for groundshaking in the municipalities of Basud, Mercedes and Daet; 21.062.62 hectares (9.08%) liquefaction areas in Basud, Daet, Labo, Mercedes, San Lorenzo Ruiz, San Vicente and Talisay. For earthquake induced landslide, about 2,059.07 hectares (0.89%) are highly susceptible areas and are found in Basud and San Lorenzo Ruiz, while Tsunami is highly susceptible in all coastal municipalities which include Basud, Capalonga, Daet, Jose Panganiban, Mercedes, Paracale, Sta. Elena, Talisay and Vinzons, affecting 8.16% of the total land area of the province or about 18,924.91 hectares.

3.2.4 Protection Areas

3.2.4.1 Protected Areas Under the Network of Integrated Protected Areas (NIPAS) Law (RA 7586) Non-NIPAS Categories and Indigenous People's Rights Act (IPRA)

These are portions of land and water set aside for its unique physical and biological significance, managed to enhance biological diversity and protected against destructive human occupation.

The NIPAS categories in the province (Figure 19), consists of second growth forest in the Bicol Natural Park; Abasig-Matogdon-Mananap Natural Biotic Area, Proclaimed Watershed such as Dahican, Capalonga and Jose Panganiban Watershed Forest Reserve and the mangrove swamp (categorized MSFR under DENR classification); while the non-NIPAS categories comprises the mangrove (production); the second growth forest above 1,000 elevation and >50% slope of Mt. Balagbag, Mt. Cone, Mt. Bagacay, Mt. Cadig and Mt. Labo; the buffer strips/easements, proposed watershed and the coral reefs.

The NIPAS categories consists of about 12,588.67 has. or 5.42%; the NON–NIPAS areas consists of about 15,286.38 has. or 6.58% and the Ancestral Domain Claims in Capalonga of about 5,663.6 has. or 2.44%. These constitute a total protected area of 33,538.05 has. or 14.44% of the total province's land area (**Table 46**).

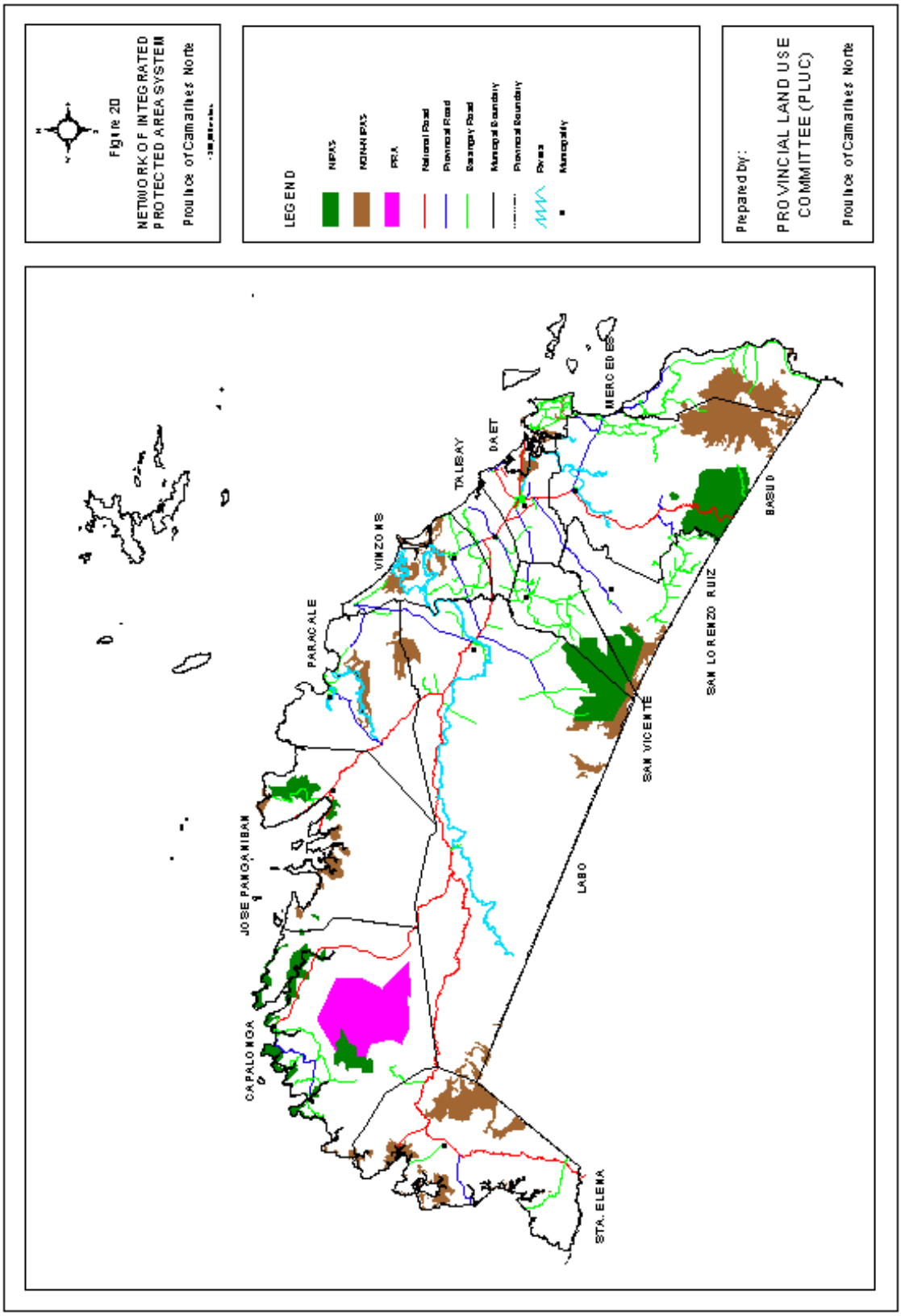

Figure 20
NETWORK OF INTEGRATED PROTECTED AREA SYSTEM
Province of Camarines Norte
LEGEND
NIPAS
NON-NIPAS
PRA
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

Table 46
Approximate Areas of NIPAS, Non-NIPAS & IPRA Categorized Areas
Province of Camarines Norte

PROTECTED AREA CATEGORIES	AREA (Has)	% TO TOTAL AREA
A. NIPAS CATEGORIES		
1. Natural Park		
a. Bicol Natural Park (Camarines Norte side only)	3,217.00	1.38
a.1 Old Growth Forest	792.00	0.34
a.2 Second Growth Forest	2,425.00	1.04
2. Natural Biotic Areas		
a. Abasig Matogdon-Mananap Natural Biotic Area	5,420.12	2.34
3. Proclaimed Watersheds		
a. Dahican Watershed Forest Reserve	43.55	0.02
b. Capalonga Watershed Forest Reserve	752.00	0.32
c. Jose Panganiban Watershed Forest Reserve	1,160.00	0.50
4. Mangrove Swamps Forest Reserve (MSFR)	1,996.00	0.86
SUB-TOTAL	12,588.67	5.42
B. NON-NIPAS CATEGORIES		
1. Mangroves	5,376.47	2.32
2. Forestland 50% slope & >1000 elevation		
a. Mt. Cadig	1,763.00	0.76
b. Mt. Labo	1,588.00	0.68
c. Mt. Bagacay	694.00	0.30
d. Mt. Balagbag	5,204.00	2.24
e. Mt. Cone	50.00	0.02
3. Proposed Watershed		
a. Caguit-Santol Watershed	610.91	0.26
SUB-TOTAL	15,286.38	6.58
C. INDIGENOUS PEOPLE'S RIGHTS ACT (IPRA)		
1. Ancestral Domain Claims (Capalonga)	5,663.00	2.44
GRAND TOTAL	33,538.05	14.44

Source: CENRO-DENR, Daet, Cam. Norte

3.2.4.2 Environmental Hazards

3.2.4.2.1 Volcanoes, Faults and Earthquake Zones

Camarines Norte is underlain by diverse assemblage of rocks which include igneous rocks, sedimentary rocks and metamorphic rocks. **(Figure 15)** Pyroclastic constitutes about 64,936.13 hectares which are predominant in the municipality of Labo and Basud. Recent alluvium which are evenly distributed throughout the province constitutes about 53,218.46 hectares. Basalt Andesite Series, of about 36,055.33 has. or 15.54% of the total province's area, is mostly found in the municipalities of Capalonga, Jose Panganiban and part of Labo. Shale/Sandstone is about 16,540.11 has., Ultrabasic complex, 9,477.96 hectares. There is however 968.59 has. of volcanic cone and 8,825.88 has. of non-active volcanic cone found in the municipalities of Labo, San Vicente and San Lorenzo Ruiz (**Table 47**).

The province comprises three dormant volcanic mountains, namely: Mt. Labo (943 m elevation), Mt. Bagacay (775m, elevation) and Mt. Cadig (736 m. elevation).

Table 47
Geological Areas By Municipality
Province of Camarines Norte

	Andesitic	Basalt Andesite	Diorite	Metal Rock	Non-active Volcanic	Nuvial Volcanic	Pyro clastic	Recent Alluvium	Shale/ Sandstone	Ultrabasic Complex	Volcanic Cone	Total
Basud	2,249.96	-	-	-	-	-	19,963.53	3,626.98	-	-	187.53	**26,028**
Capalonga	-	20,389.37	-	2,010.49	-	-	59.98	5,102.34	1,367.24	70.58	-	**29,000**
Daet	-	-	-	-	-	-	-	4,600.00	-	-	-	**4,600**
Jose Panganiban	-	8,290.54	1,912.55	5,867.29	-	-	-	2,397.91	927.43	2,048.28	-	**21,444**
Labo	1,451.18	7,329.79	-	11,908.53	5,757.50	-	23,702.73	2,899.66	3,164.66	2,063.77	658.18	**58,936**
Mercedes	1,501.53	-	-	-	-	-	11,558.77	4,308.70	-	-	-	**17,369**
Paracale	1,724.19	45.62	3,832.99	6,200.69	-	-	-	5,221.25	306.64	2,458.61	-	**19,790**
San Lorenzo Ruiz	-	-	-	-	1,734.03	-	7,559.50	2,299.32	250.19	-	93.96	**11,937**
San Vicente	-	-	-	-	1,334.36	-	1,709.17	1,677.32	999.24	-	28.92	**5,749**
Santa Elena	-	-	-	1,995.49	-	1,329.64	-	4,385.76	9,524.71	2,699.41	-	**19,935**
Talisay	-	-	-	-	-	-	-	3,076.00	-	-	-	**3,076**
Vinzons	-	-	-	-	-	-	382.45	13,623.23	-	137.31	-	**14,143**
TOTAL (has.)	**6,926.86**	**36,055.33**	**5,745.55**	**27,982.49**	**8,825.88**	**1,329.64**	**64,936.13**	**53,218.46**	**16,540.11**	**9,477.96**	**968.59**	**232,007**
%	2.98	15.54	2.48	12.06	3.80	0.57	27.99	22.94	7.13	4.09	0.42	100.00

Source: - Soil and Land Resource Evaluation Project, Bureau of Soil and Water Management
- Municipal Land Information Maps,,Land Management Sector, Region V
Note: Using digitized map in approximating the area

There are three fault lines shown in the geologic map (**Figure 15**) occurring in the province. The first fault line is located in Jose Panganiban and Paracale which trends southwest to north-northwest, the second one trends north-northwest to northeast in the vicinity of Mt. Cadig in the southwestern boundary and the third thrust is located in Canimog island in Mercedes which trends northwest. Cliff fault run in the same direction from the municipality of Labo to Capalonga; and from Paracale to Jose Panganiban. The total area covered by these fault lines is about 1,280.36 hectares, 897.57 has. of which is thrust fault and 382.79 has. is cliff fault (**Table 48**).

Table 48
Geohazard Impact Areas By Municipality
Province of Camarines Norte

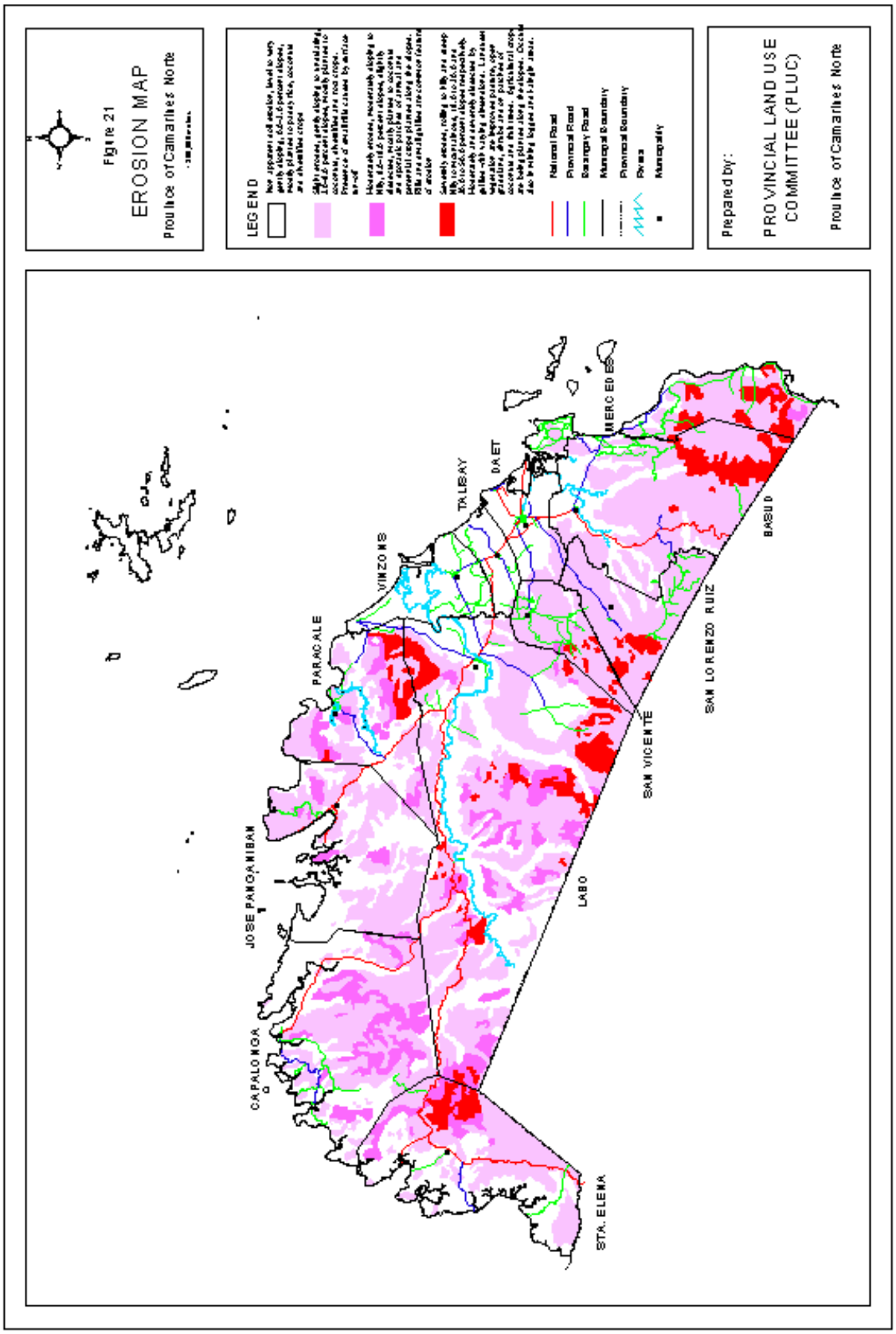
MUNICIPALITY	EROSION AREAS (Has)				FLOODING AREAS (Has)					Earthquake - Induced Hazard (Has)		
	Severe	Moderate	Slight	T o t a l	Severe	Moderate	Slight	Tidal Flooding	Total	Clip or Fault Line	Thrust Fault Line	Total
Basud	2,594.28		15,989.24	18,583.52	-	-	603.94	31.39	635.33			
Capalonga	-	4,471.68	9,787.38	14,259.05	-	-	167.94	2,050.83	2,218.77	111.28	31.89	143.17
Daet	-	-	906.30	906.30	-	-	2,080.95	453.33	2,534.28	-	-	-
Jose Panganiban	0.82	993.04	9,099.71	10,093.57	-	-	-	1,555.78	1,555.78	66.79	175.27	242.05
Labo	4,711.83	6,297.69	29,009.34	40,018.85	-	1,120.96	552.62	-	1,673.58	179.48	195.14	374.62
Mercedes	2,137.95	246.39	6,911.16	9,295.49	-	-	93.79	990.59	1,084.38	-	29.86	29.86
Paracale	1,122.47	2,070.66	5,304.09	8,497.22	-	111.23	195.72	1,524.13	1,831.08	25.24	125.78	151.02
San Lorenzo Ruiz	869.57	-	8,419.04	9,288.61	-	-	-	-	-	-	-	-
San Vicente	422.56	144.31	5,157.42	5,724.29	-	-	-	-	-	-	-	-
Santa Elena	1,309.97	1,643.34	8,254.44	11,207.75	769.16	-	1,255.71	2,651.64	4,676.51	-	339.63	339.63
Talisay	-	-	3.16	3.16	-	-	1,221.31	106.43	1,327.74	-	-	-
Vinzons	-	-	-	-	376.71	1,474.02	777.10	667.40	3,295.23	-	-	-
TOTAL (has.)	**13,169.45**	**15,867.09**	**98,841.27**	**127,877.81**	**1,145.87**	**2,706.21**	**6,949.08**	**10,031.52**	**20,832.66**	**382.79**	**897.57**	**1,280.36**
%	**5.67**	**6.84**	**42.60**	**55.11**	**0.49**	**1.17**	**2.99**	**4.32**	**8.97**	**0.16**	**0.39**	**0.55**

Source: - Soil and Land Resource Evaluation Project, Bureau *of Soil and Water Management*
- Municipal Land Information Maps,, Land Management Sector, Region V
Note: Using digitized map in approximating the area

3.2.4.2.2 Soil Erosion

Soil erosion is the weaning away of the land surface by running water and ice on geological agents, including such processes as gravitational crop[2]. Severely eroded areas in the province, mostly found in the slopes of mountains (**Figure 21**), is estimated at 13,169.45 has. or 5.67% of the province's total land area, with the municipality of Labo having the largest area covered of about 4,711.83 has. and the municipality of Jose Panganiban with the least of only 0.82 hectares. The municipalities of Capalonga, Daet, Talisay, and Vinzons have no severely eroded areas. Talisay has the least erosion area (slight) with only 3.16 has. Moderately and slightly eroded area totaled to 15,867.09 has. and 98,841.27 has. which is 6.84% and 42.60% of the total land area respectively (**Table 48**).

[2] *NEDA, NLUC: National Handbook on Land and Other Physical Resources: July 1992, p. A-26.*


Figure 21
EROSION MAP
Province of Camarines Norte
LEGEND
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
JOSE PANGANIBAN
CAPALONGA
PARACALE
VINZONS
TALISAY
DAET
MERCEDES
BASUD
SAN LORENZO RUIZ
SAN VICENTE
LABO
STA. ELENA

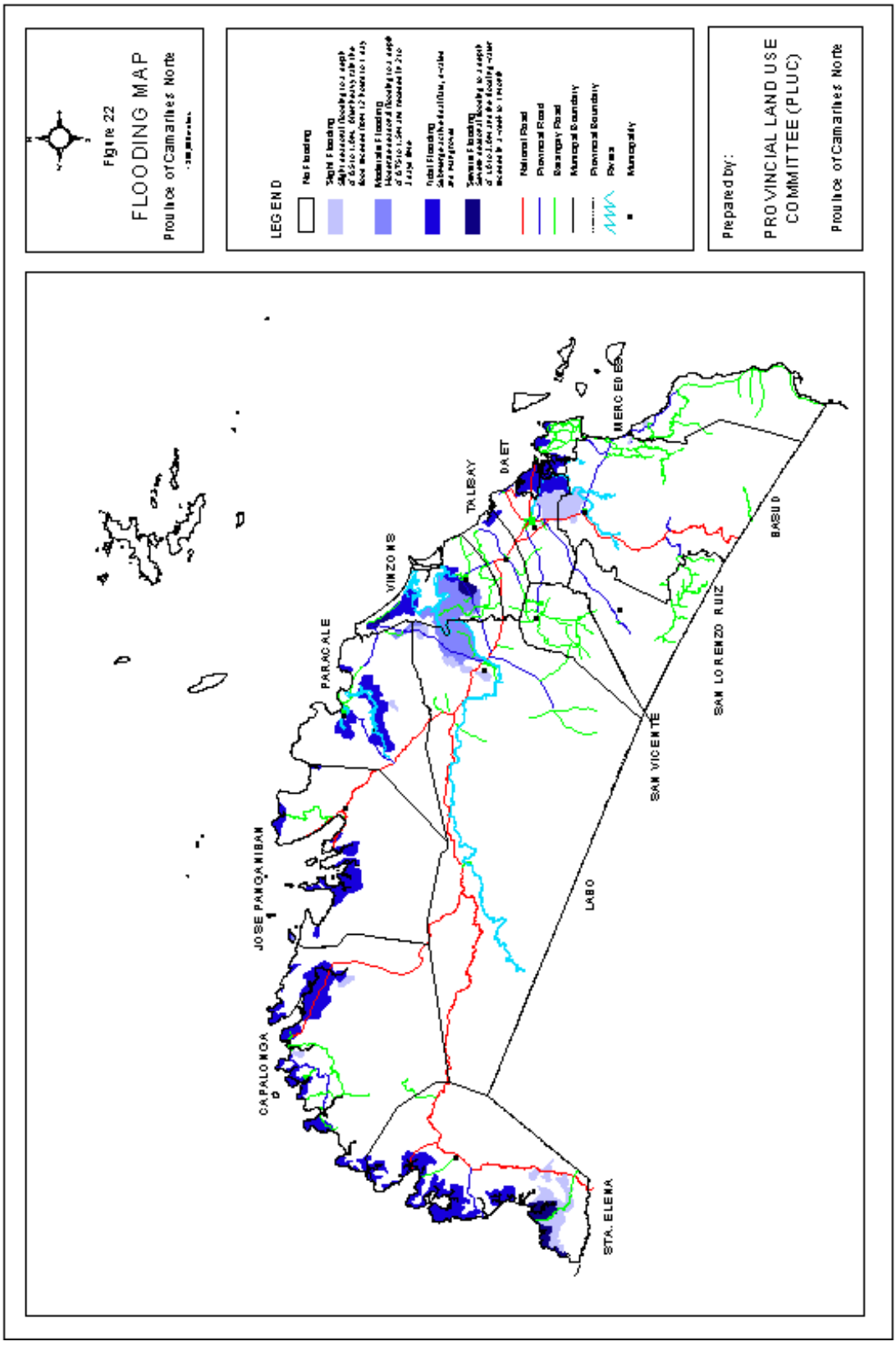
3.2.4.2.3 Flooding

Flooding in the low lying areas of the province (**Figure 22**) is commonly caused by accumulation of rain water and over flowing of rivers due to excessive run-off of its watershed. It is usually accompanied by typhoons which severely damage plants and animals. In the province, only the municipalities of Sta. Elena and Vinzons were found to be experiencing severe flooding of about 769.16 hectares and 376.71 hectares, respectively. This is 0.49% of the province's total land area. Moderate flooding occur in the municipalities of Labo, Paracale and Vinzons covering about 2,706.21 has. or 1.17% of the total land area. Slight flooding which occurred in most of the municipalities except Jose Panganiban, San Lorenzo Ruiz and San Vicente covers about 6,949.06 has. or 2.99%. Likewise, the municipalities of Basud, Mercedes, Daet, Jose Panganiban, Paracale, Sta. Elena, Talisay and Vinzons are having tidal flooding. Of these municipalities Sta. Elena has the most tidal flooding area of about 2,651.64 has. followed by Capalonga with 2,050.83 has. then Jose Panganiban with 1,555.78 has. It is also observed that majority of the urban area of Mercedes is tidal flooding area which is about 990.59 has. (**Table 49**).

Table 49
Environmentally Constrained Areas (ECAS) By Municipality
Province of Camarines Norte

MUNICIPALITY	EROSION AREAS (Has)				FLOODING AREAS (Has)					Earthquake - Induced Hazard (Has)		
	Severe	Moderate	Slight	T o t a l	Severe	Moderate	Slight	Tidal Flooding	Total	Clip or Fault Line	Thrust Fault Line	Total
Basud	2,594.28		15,989.24	18,583.52	-	-	603.94	31.39	635.33			
Capalonga	-	4,471.68	9,787.38	14,259.05	-	-	167.94	2,050.83	2,218.77	111.28	31.89	143.17
Daet	-	-	906.30	906.30	-	-	2,080.95	453.33	2,534.28	-	-	-
Jose Panganiban	0.82	993.04	9,099.71	10,093.57	-	-	-	1,555.78	1,555.78	66.79	175.27	242.05
Labo	4,711.83	6,297.69	29,009.34	40,018.85	-	1,120.96	552.62	-	1,673.58	179.48	195.14	374.62
Mercedes	2,137.95	246.39	6,911.16	9,295.49	-	-	93.79	990.59	1,084.38	-	29.86	29.86
Paracale	1,122.47	2,070.66	5,304.09	8,497.22	-	111.23	195.72	1,524.13	1,831.08	25.24	125.78	151.02
San Lorenzo Ruiz	869.57	-	8,419.04	9,288.61	-	-	-	-	-	-	-	-
San Vicente	422.56	144.31	5,157.42	5,724.29	-	-	-	-	-	-	-	-
Santa Elena	1,309.97	1,643.34	8,254.44	11,207.75	769.16	-	1,255.71	2,651.64	4,676.51	-	339.63	339.63
Talisay	-	-	3.16	3.16	-	-	1,221.31	106.43	1,327.74	-	-	-
Vinzons	-	-	-	-	376.71	1,474.02	777.10	667.40	3,295.23	-	-	-
TOTAL (has.)	**13,169.45**	**15,867.09**	**98,841.27**	**127,877.81**	**1,145.87**	**2,706.21**	**6,949.08**	**10,031.52**	**20,832.66**	**382.79**	**897.57**	**1,280.36**
%	**5.67**	**6.84**	**42.60**	**55.11**	**0.49**	**1.17**	**2.99**	**4.32**	**8.97**	**0.16**	**0.39**	**0.55**

Source: - Soil and Land Resource Evaluation Project, Bureau *of Soil and Water Management*
- Municipal Land Information Maps,, Land Management Sector, Region V
Note: Using digitized map in approximating the area


Figure 22
FLOODING MAP
Province of Camarines Norte
LEGEND
No Flooding
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

3.2.4.3 Network of Protected Agricultural Area System

Under this concept of protection, some agricultural lands are protected against any form of irreversible conversion such as urban uses. The main purpose of such protection is to keep and preserve the highly suitable agricultural lands for the long-term food security of the nation.

The NPAAS (**Figure 23**) in the province includes the highly restricted areas consisting of irrigated lands, irrigable/ efficient diversified croplands and ecologically fragile lands with less than 18% slope which represents lands within critical watershed/ brackish and freshwater wetlands and pasture lands whose further development will adversely affect the productivity of lowlands and stability of the upland ecosystem. These constitute about 11,976.26 has. or 5.14% of the total province's land area. Moderately restricted areas consisting of agro-industrial lands constitute about 103,288.30 has. or 44.51%, and conditionally restricted areas consisting of expansion areas and ecologically fragile lands cover about 38,924.46 has. or 16.77% of the province's total land area (**Table 50**).

Table 50
Network o Protected Agricultural Area System (NPAAS)
By Level of Restrictions
Province of Camarines Norte

LEVEL OF RESTRICTION	MAPPING SYMBOL	AREA (Has.)	% to total area
HIGHLY RESTRICTED	Irrigated Land		
	1.1 - 0 to 3% slope	6,824.40	2.94
	1.2 - > 3% slope	79.62	0.03
	Irrigable/Efficient Diversified Croplands		
	2.1 - 0 to 3% slope	4,815.85	2.07
	2.2 - 3 to 8% slope	29.6	0.01
	5.1 - Ecologically Fragile		
	High lands < 18% slope	226.79	0.09
	Sub-Total	11,976.26	5.14
MODERATELY RESTRICTED	Agro - Industrial Lands		
	3.1 - < 18% slope	92,893.06	40.03
	Agro - Industrial Lands		
	3.2 - 8 to 18% slope	10,395.29	4.48
	Sub-Total	103,288.30	44.51
CONDITIONALLY RESTRICTED	Expansion Areas		
	4.0 - <18% slope	24,489.06	10.55
	Ecologically Fragile Lands		
	5.2 - 18 to 30% slope (Erodible Lands)	13,381.67	5.77
	5.4 wet lands/ fishponds/ salt beds	1,053.73	0.45
	Sub-Total	38,924.46	16.77
	T O T A L	**154,189.02**	**66.42**

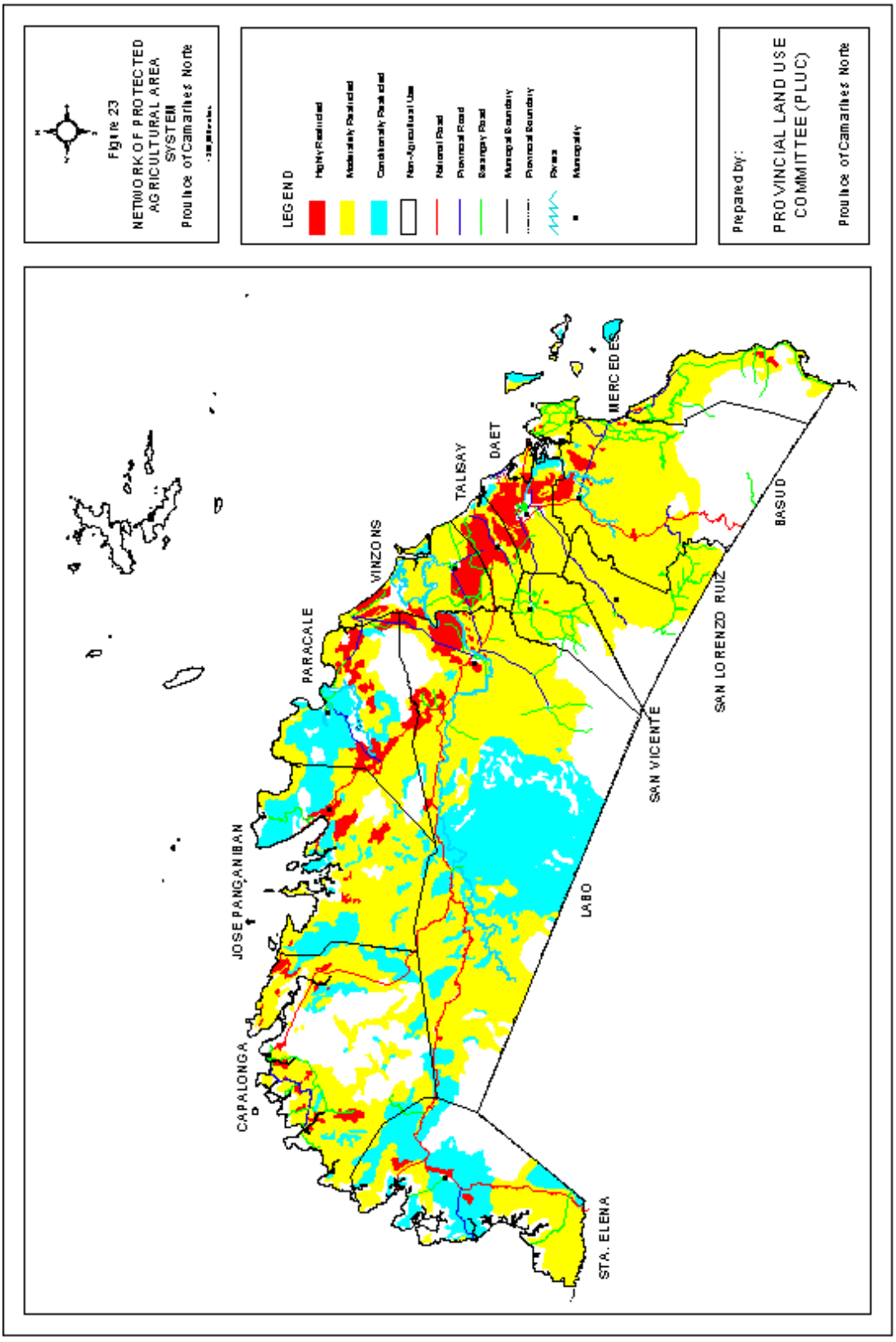
Source: - Soil and Land Resource Evaluation Project, Bureau of Soil and Water Management
- Municipal Land Information Maps, Land Management Sector, Region V
Note: Using digitized map in approximating the area

Of the 12 municipalities, Labo being the biggest in terms of land area has the most highly, moderately and conditionally restricted lands with 2,029.49 has., 28,845.36 has. and 18,885.07 has respectively. However, looking at the proportion of the highly restricted, moderately and conditionally restricted areas on the respective land area of the municipality, Talisay has the largest highly restricted area of about 1,360 has. or 44% of its total land area; followed by Daet with 1,608 has. or 34%. On the other hand, the entire municipality of San Lorenzo Ruiz is a moderately restricted area (**Table 51**).

Table 51
Network of Protected Agricultural Area System (Npaas) By Municipality
Province of Camarines Norte

MUNICIPALITY	Land Area	Highly Restricted	Moderately Restricted	Conditionally Restricted	Total
Basud	26,028	745.57	14,343.40		15,088.97
Capalonga	29,000	1,059.53	12,320.18	2,883.01	16,262.72
Daet	4,600	1,608.96	2,403.15	253.07	4,275.15
Jose Panganiban	21,444	905.49	10,439.20	5,332.14	16,676.83
Labo	58,936	2,029.50	28,845.34	18,885.08	49,759.91
Mercedes	17,369	224.09	5,980.22	489.90	6,694.21
Paracale	19,790	2,004.32	5,353.53	3,622.03	10,979.88
San Lorenzo Ruiz	11,937		7,093.44		7,093.44
San Vicente	5,749	15.99	3,832.78	15.39	3,864.16
Sta Elena	19,935	307.68	6,663.16	7,242.63	14,213.47
Talisay	3,076	1,360.10	1,604.31	59.32	3,023.73
Vinzons	14,143	1,715.05	4,399.63	141.88	6,256.56
Total	232,007	11,976.27	103,288.30	38,924.46	154,189.03

Source: - Soil and Land Resource Evaluation Project, Bureau of Soil and Water Management
- Municipal Land Information Maps, Land Management Sector, Region V
Note: Using digitized map in approximating the area


Figure 23
NETWORK OF PROTECTED AGRICULTURAL AREA SYSTEM
Province of Camarines Norte
LEGEND
Highly Restricted
Moderately Restricted
Conditionally Restricted
Non-Agricultural Use
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

3.2.4.4 Strategic Agriculture and Fishery Development Zones

The Province of Camarines Norte is suitable for agriculture and fishery production. **Table 52** shows the area used for agriculture and fishery production. For calendar year 2009, an aggregate area of 11,678.45 hectares was cultivated for rice of which 7,382.26 hectares are irrigated, 4,045.94 hectares rainfed and 250.25 hectares for upland. Forty four (44) percent or 3,285.15 hectares of the irrigated rice land are located at Daet, Talisay and Vinzons which is being served by Daet-Talisay Irrigation System. For rainfed and upland areas Labo is the biggest with 965.93 hectares and 160.00 hectares respectively.

A total of 569.5 hectares was cultivated for corn. Coconut ranks first in terms of crops cultivated with a total area of 99,185 hectares. A total of 1,423.93 has. and 937.73 hectares are cultivated for root crops and vegetables, respectively. The province's geo-physical and agro-climatic conditions are well suited for queen pineapple productions, thus, a total of 2,161 hectares are planted to this crop. A total of 863.28 hectares was devoted to fruits and trees and 235.05 for legumes (peanuts and other legumes). A total of 1,787.49 has. was devoted for banana, 932.67 hectares for citrus, 268.51 has. mango, 929.32 for pili, 264.95 has. for watermelon and 435 for papaya.

For industrial crops, a total of 1,135.41 were planted of which, 954.95 hectares for abaca and 180.46 hectares for coffee and cacao.

For fisheries, a total of 2,477 hectares for fishpond and 381,463.15 for municipal waters.

Table 52
Area Used For Agriculture & Fishery By Municipality: CY 2009
Province of Camarines Norte

Particulars	Basud	Capalonga	Daet	Jose Pang.	Labo	Mercedes	Paracale	San Lorenzo Ruiz	San Vicente	Sta. Elena	Talisay	Vinzons	TOTAL
1. Production Land Use													
a. Croplands													
a.1. Rice	**976.51**	**797.60**	**1,194.00**	**573.35**	**2,256.30**	**442.00**	**1,209.54**	**91.00**	**112.00**	**1,009.00**	**1,244.15**	**1,773.00**	**11,678.45**
➢ Irrigated	582.59	272.00	1,082.00	392.47	1,130.37	293.00	814.18	60.50	60.00	492.00	1,090.15	1,113.00	7,382.26
➢ Rainfed	393.92	517.35	112.00	155.88	965.93	144.00	385.36	25.50	47.00	485.00	154.00	660.00	4,045.94
➢ Upland		8.25		25.00	160.00	5.00	10.00	5.00	5.00	32.00			250.25
a.2. Corn	**6.00**	**1.50**	**110.00**	**12.00**	**35.00**	**35.00**	**179.00**	**38.00**	**10.00**		**20.00**	**123.00**	**569.50**
a.3. Coconut	**7,964.00**	**12,895.00**	**1,913.00**	**10,467.00**	**32,857.00**	**7,590.00**	**5,021.00**	**4,502.00**	**5,784.00**	**3,036.00**	**1,221.00**	**5,935.00**	**99,185.00**
a.4. Other food crops													
➢ Rootcrops	128.68	57.00	78.50	171.00	195.00	350.50	229.50	20.00	45.00	36.75	55.00	57.00	1,423.93
➢ Vegetables	29.39	55.00	95.20	75.00	267.14	55.00	62.00	65.00	35.00	58.00	73.00	68.00	937.73
➢ Pineapple	560.00	5.50	54.00	12.50	750.00	57.00	34.00	327.00	300.00	1.00	25.00	35.00	2,161.00
➢ Fruits & Trees	308.23	18.90	19.15		275.00	8.00	20.00	50.00	100.00	10.00	12.00	42.00	863.28
➢ Legumes		122.30	25.75	12.00	17.00	5.00	5.00	5.00	5.00	3.00	25.00	10.00	235.05
➢ Bananas	294.04	38.70	40.75	52.00	825.00	95.00	155.00	150.00	60.00	60.00	6.00	11.00	1,787.49
➢ Citrus	11.87	5.30	6.50	12.00	94.00	5.00	18.00	5.00	10.00	751.50	5.50	8.00	932.67
➢ Mango	182.91	20.00	5.60	5.00		6.50	16.00	15.00	6.00	8.00	3.50		268.51
➢ Pili	196.12	15.00	12.00	25.00	475.00	20.00	40.00	8.00	45.00	49.20	10.00	34.00	929.32
➢ Watermelon	82.00	1.20	26.75			10.00			25.00	10.00	35.00	75.00	264.95
➢ Papaya		2.00	20.00					1.50	15.00	1.00	2.00	2.00	43.50
a.5. Industrial Crops													
➢ Abaca	1.50	75.70	4.00	101.00	472.00	51.25	51.00	56.00	128.00	14.50			954.95
➢ Coffee & Cacao		25.00	5.03	11.00	113.43	6.00		10.00	5.00		5.00		180.46
b. Fishpond area (has.)	**27.00**	**976.00**	**114.90**	**256.00**	**15.50**	**279.26**	**364.92**	**11.81**	**5.00**		**43.50**	**383.55**	**2,477.44**
c. Municipal Marine waters (has.)	**664.75**	**42,908.90**	**5,720.53**	**46,315.68**		**53,850.00**	**71,565.44**			**7,820.10**	**4,290.76**	**148,326.98**	**381,463.15**
TOTAL	**11,433.01**	**58,020.60**	**9,445.66**	**58,100.53**	**38,647.37**	**62,865.51**	**78,970.40**	**5,355.31**	**6,690.00**	**12,868.05**	**7,076.41**	**156,883.53**	**506,356.38**

Source: PCA,FIDA,BFAR, MAO/MA/MPDO

3.3 Disaster Risk Reduction/Climate Change Adaptation ((DRR/CCA) Evaluation

3.3.1 Risk Evaluation

All twelve (12) municipalities are highly susceptible to flooding with Vinzons, Daet, Sta. Elena, Capalonga, Talisay and Labo having the most affected area. Nine (9) out of twelve (12) municipalities (Basud, Capalonga, Jose Panganiban, Labo, Mercedes, Paracale, San Lorenzo Ruiz, San Vicente and Sta. Elena) are prone to rainfall-induced landslide.

Basud and Mercedes, on the other hand, are prone to groundshaking with Intensity 7 and above. They are also prone to liquefaction hazard including the municipalities of Daet, Labo, San Lorenzo Ruiz, San Vicente and Talisay. Only Basud and San Lorenzo Ruiz are the areas prone to earthquake induced landslide. The same nine (9) coastal municipalities are prone to tsunami.

3.3.2 Exposure and Vulnerability Condition

The agriculture areas of the province are found in the flood-prone areas which will also result a decrease in production output and low family income.

The protected areas which are affected by rainfall-induced landslide like the Abasig-Matogdon-Mananap Natural Biotic Area is the major source of water in the seven (7) municipalities and the Bicol Natural Park and portion of Mt. Cadig, on the other hand, will be detrimental to biodiversity and will likewise affect the livelihood activities of farming communities in the multiple use zones.

The hazard on rainfall induced landslide will also exacerbate the mining problem that will cause erosion and soil sedimentation affecting quality of soil and water.

4. Economy

4.1 Labor Force and Employment

The province has a total household population belonging to 15 years old and over of about 316,000 in July 2002. One hundred eighty six thousand (186,000) are employed, nineteen thousand (19,000) are unemployed and one hundred eleven thousand (111,000) are not in the labor force (**Table 53**).

Of the 316,000 household population belonging to 15 years old and over, 88,000 are in the urban and 228,000 are in the rural areas.

Of those in the urban areas, 61,000 are in the labor force of which 86.89% are employed and 13.11% are unemployed.

Consequently, of the 144,000 rural residents who are in the labor force, 92.36% are employed and 7.64% are unemployed.

In terms of sex distribution, a large number of females of about 83,000 are not in the labor force. Unemployment is also higher among females with 7,000 or 10.29% of the females who were in the labor force compared to males with 8.82% or about 12,000.

Relatively, labor force participation rate or the ratio of the total number of persons in the labor force to the total population 15 years old and over is 64.87 in the same period.

Table 53
Population 15 Years Old Over By Sex And By Employment Status
Province of Camarines Norte

Area/Sex	Total	Labor Force Participation		In the Labor Force				Not in the Labor Force
				Employed		Unemployed		
	No.	No.	%	No.	%	No.	%	No.
Both Sexes	316,000	205,000	64.87	186,000	90.73	19,000	9.27	111,000
Urban	88,000	61,000	69.32	53,000	86.89	8,000	13.11	27,000
Rural	228,000	144,000	63.16	133,000	92.36	11,000	7.64	84,000
MALE	164,000	136,000	82.93	124,000	91.18	12,000	8.82	28,000
Urban	42,000	36,000	85.71	31,000	86.11	5,000	13.89	6,000
Rural	122,000	100,000	82.19	94,000	94.00	7,000	6.00	21,000
FEMALE	152,000	69,000	45.39	62,000	89.71	7,000	10.29	83,000
Urban	46,000	25,000	54.35	22,000	88.00	3,000	12.00	21,000
Rural	106,000	44,000	40.57	40,000	90.91	4,000	9.09	62,000

Source: National Statistics Office

4.2 Agriculture

The Province of Camarines Norte is suitable for agriculture and fishery production. Table 45 shows the area used for agriculture and fishery production. For calendar year 2009, an aggregate area of 11,678.45 hectares was cultivated for rice of which 7,382.26 hectares are irrigated, 4,045.94 hectares rainfed and 250.25 hectares for upland. Forty four (44) percent or 3,285.75 hectares of the irrigated rice land are located at Daet, Talisay and Vinzons which is being served by Daet-Talisay Irrigation System. For rainfed and upland areas Labo is the biggest with 965.93 hectares and 160.00 hectares respectively.

A total of 569.5 hectares was cultivated for corn. Coconut ranks first in terms of crops cultivated with a total area of 99,185.16 hectares. A total of 1,423.93 has. and 927.31 hectares are cultivated for root crops and vegetables, respectively. The province's geo-physical and agro-climatic conditions are well suited for queen pineapple productions, thus, a total of 2,161 hectares are planted to this crop. A total of 863.28 hectares was devoted to fruits and trees and 235.05 for legumes (peanuts and other legumes). A total of 1,787.49 hectares was devoted for banana, 929.32 hectares for citrus, 268.51 has. mango, 929.32 for pili, 264.95 has. for watermelon and 435 for papaya.

For industrial crops, a total of 1,135.41 were planted of which, 954.95 hectares for abaca and 180.46 hectares for coffee and cacao.

For fisheries, a total of 2,477.44 hectares for fishpond and 381,463.15 for municipal waters.

4.3 Production Forest

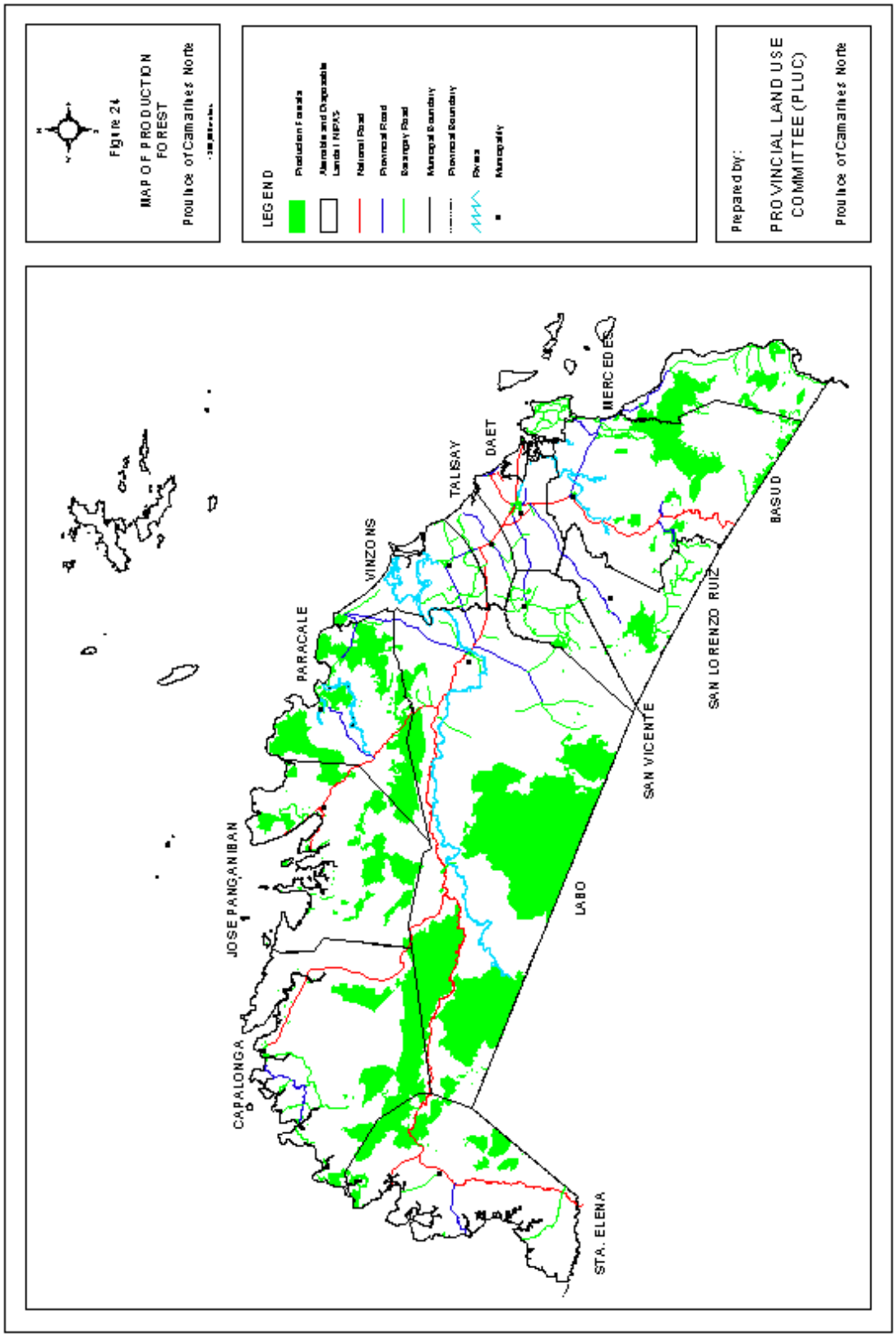
Production forest is distributed in the 10 municipalities of the province. The municipalities of Daet and Talisay, being located in low-lying areas, have no production forest. Of the 83,587.33 has. forestland of the province, 47,668.34 has. is classified as production forest which is about 20.5% of the province's total land area.

Of the 12 municipalities, Labo has the largest area covered of about 22,084.31 has. or 46.32% of the total production forest , followed by Paracale with about 6,886.54 has., then Capalonga with 4,753.17 has. (**Table 54 and Figure 24**).

Table 54
Production Forest By Municipality
Province of Camarines Norte

MUNICIPALITIES	PRODUCTION FOREST (has.)	PERCENT (%)
Basud	3,268.98	6.85
Capalonga	4,753.17	9.97
Daet	0	
Jose Panganiban	3,834.33	8.04
Labo	22,084.31	46.32
Mercedes	2,642.01	5.54
Paracale	6,886.54	14.45
San Lorenzo Ruiz	793.48	1.64
San Vicente	127.56	0.27
Santa Elena	3,183.30	6.68
Talisay	0	
Vinzons	104.62	0.22
TOTAL	**47,678.3**	**100.0**

Source of Basic Data: CENRO-DENR, Daet, Cam. Norte


Figure 24
MAP OF PRODUCTION FOREST
Province of Camarines Norte
LEGEND
Production Forests
Alienable and Disposable Lands (NIPAS)
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
JOSE PANGANIBAN
CAPALONGA
PARACALE
VINZONS
TALISAY
DAET
MERCEDES
BASUD
SAN LORENZO RUIZ
SAN VICENTE
LABO
STA. ELENA

4.4 Economic Structure

4.4.1 External Context of the Local Economy

Economic structure describes the external context of the economy of the province of Camarines Norte as it relates to the broader regional economy. **Table 55** shows the distribution of employment by sector/industry, among the different provinces in the region. In 2001, Bicol Region employed a total of 824,000 in agriculture sector, followed by Service Sector of 729,000 and Industry Sector of 261,000. Camarines Sur absorbed the highest employment in agriculture sector and in service sector with a total employed persons of 337,000 and 244,000 respectively. On the other hand, Albay province has the highest number of employed persons in the industry sector of about 96,000. Relative to the performance of the province of Camarines Norte, majority of the people were employed in the service sector which accounted to almost 88,000. This is followed by agriculture sector of 68,000 and industry sector of about 30,000. Among the six provinces, Camarines Norte ranked 5th in terms of employment in agriculture sector, and 4th in industry and service sectors.

Table 55 Data Matrix
Employed Persons by Type of Industry, By Province
Region V: April 2001, 2003

REGION/PROVINCE	Type of Industry ('000)						TOTAL	
	Agriculture		Industry		Service			
	2001	2003	2001	2003	2001	2003	2001	2003
Albay	109	128	96	82	194	172	399	382
Camarines Norte	68	83	30	29	88	83	186	195
Camarines Sur	337	380	66	67	244	222	647	669
Catanduanes	40	45	12	11	34	36	86	92
Masbate	164	143	25	21	79	100	268	264
Sorsogon	106	108	32	24	90	87	228	219
Region V-Bicol	824	887	261	234	729	700	1814	1821

Source: Labor Force & Employment Survey, NSO

In 2003, the economy of the region is still dominated by the agriculture sector as manifested by slight reduction in the number of employed person in the industry and service sectors and an increase in the number of employed person in the agriculture sector. For Camarines Norte, the increase in the number of employed person from 2001 to 2003 were mostly absorbed by the agriculture sector which resulted to an even distribution of employed persons for the agriculture and service sectors to about 83,000. On the other hand, employed person for the industry group slightly reduced from 30,000 in 2000 to 29,000 in 2003.

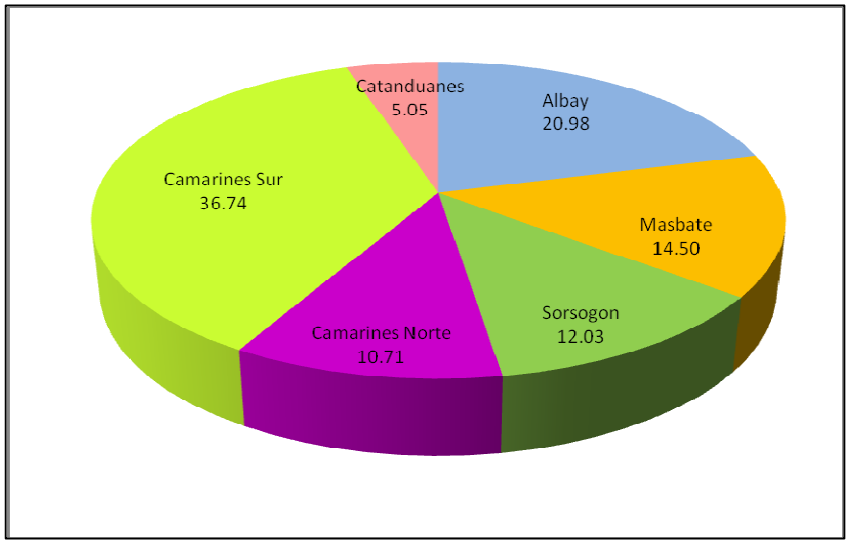
Joint Probability Table of Employed Persons by Type of Industry (**Table 56**) provides further analysis of the economic structure of the region/province. It reveals that agriculture is the dominant sector in the region, accounting for 48.71% of the total employed persons in 2003. Services is second at 38.44% followed by Industry Sector at 12.85%. This shows that the regional economy is relatively underdeveloped, with primary industries (agriculture, fisheries and forestry) providing the bulk of employment. The row totals show that Camarines Sur has the largest employment among the provinces accounting for almost 37% of the total employed person in the region. Albay is second with 21%, followed by Masbate 14%, Sorsogon 12% and Camarines Norte 11%. Catanduanes has the lowest share with only 5% (**Figure 25**).

Table 56 Data Matrix
Employed Persons by Major Industry Group
Camarines Norte: 2006

REGION / PROVINCE	Type of Industry (%)						TOTAL	
	Agriculture		Industry		Service			
	2001	2003	2001	2003	2001	2003	2001	2003
Albay	6.01	7.03	5.29	4.50	10.69	9.45	21.99	20.98
Camarines Norte	**3.75**	**4.56**	**1.65**	**1.59**	**4.85**	**4.56**	**10.25**	**10.71**
Camarines Sur	18.58	20.87	3.64	3.68	13.45	12.19	35.67	36.74
Catanduanes	2.21	2.47	0.66	0.60	1.87	1.98	4.74	5.05
Masbate	9.04	7.85	1.38	1.15	4.36	5.49	14.78	14.49
Sorsogon	5.84	5.93	1.76	1.32	4.96	4.78	12.56	12.03
Region V-Bicol	45.43	48.71	14.38	12.84	40.18	38.45	99.99	100

Source: Labor Force and Employment Survey, NSO

Figure 25
Pie Chart Showing Shares of Employed Person
Bicol Region, 2003



4.4.1.1 Patterns of Industry Concentration and Specialization

Table 57 shows the concentration table of employed persons by type of industry by province.

Concentration table is interpreted by column or by industry. It gives an indication of a relative concentration of an industry among the provinces. Given an industry, how it is distributed across the provinces.

Among the six (6) provinces of the Bicol Region, Agriculture is dominated by Camarines Sur as manifested by 40.90% employed in 2001 which increased to 42.84% in 2003. It is followed by Masbate with 19.90 which slightly reduced to 16.12% in 2003; and closely followed by Albay with 13.23% in 2001 to 14.43% in 2003. Camarines Norte ranked 5th with 8.25%employment in 2001 to 9.36% in 2003.

Table 57: Concentration
Employed Persons by Type of Industry, By Province
Region V: April 2001, 2003

REGION / PROVINCE	Type of Industry (%)					
	Agriculture		Industry		Service	
	2001	2003	2001	2003	2001	2003
Albay	13.23	14.43	36.78	35.04	26.61	24.57
Camarines Norte	**8.25**	**9.36**	**11.49**	**12.39**	**12.07**	**11.86**
Camarines Sur	40.90	42.84	25.29	28.63	33.47	31.71
Catanduanes	4.85	5.07	4.60	4.70	4.66	5.14
Masbate	19.90	16.12	9.58	8.97	10.84	14.29
Sorsogon	12.86	12.18	12.26	10.26	12.35	12.43
Region V-Bicol	100	100	100	100	100	100

Service sector is likewise dominated by Camarines Sur with 33.47% in 2001 which slightly reduced to 31.71% in 2003. It is followed by Albay with 26.61% and 24.57% in 2001 and 2003, respectively. Camarines Norte ranks 4th in 2001 with 12.07% employment, and 5th in 2003 with 11.86%.

For the Industry sector, it is dominated by Albay with 26.61% in 2001 to 24.57% in 2003. It is followed by Camarines Sur with 25.29%) and 28.63% in 2001 and 2003, respectively. Camarines Norte has an employment share of 11.49% in 2001 which increased to

12.39% in 2003. This shows that the slight reduction of employment in the service sector was absorbed by the industry sector.

Specialization is interpreted by row or by province. It gives an indication of the extent to which a province specializes in a particular industry. Given a province, how are industries distributed within?

Looking at the row total, we can see that in 2001, all provincial economies except for Albay and Camarines Norte followed by the over-all pattern with agriculture accounting for the dominant share of employment. Camarines Sur, Catanduanes and Sorsogon are the most specialized in agriculture, with 61.19%, 52.09%, 46.51%, respectively. Albay specialized in service sector with 48.62% share of employment in some manner with Camarines Norte with 47.31% (**Table 58**).

Table 58: Concentration
Employed Persons by Major Industry Group by Province
Region V: April 2001, 2003

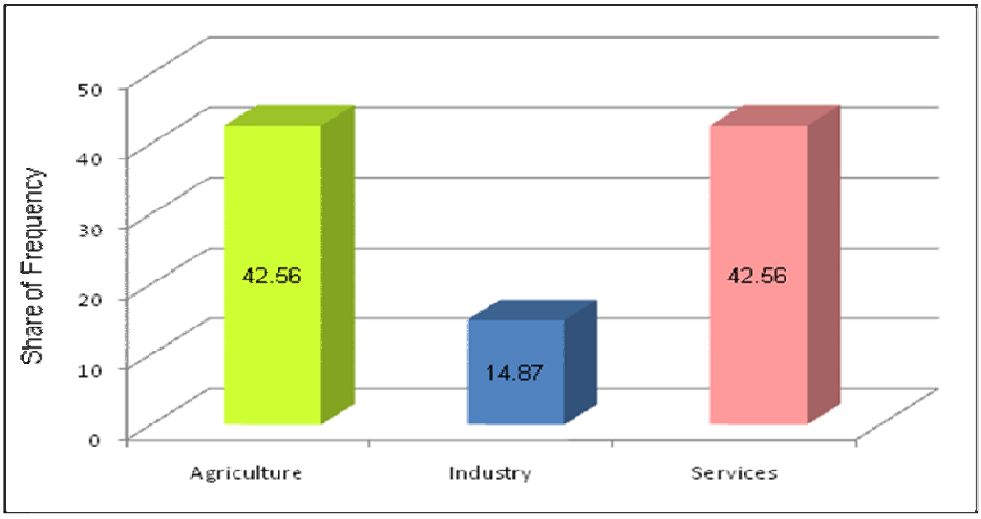
REGION / PROVINCE	Type of Industry (%)						TOTAL	
	Agriculture		Industry		Service			
	2001	2003	2001	2003	2001	2003	2001	2003
Albay	27.32	33.51	24.06	21.47	48.62	45.03	100	100
Camarines Norte	**36.56**	**42.56**	**16.13**	**14.87**	**47.31**	**42.56**	**100**	**100**
Camarines Sur	52.09	56.80	10.20	10.01	37.71	33.18	100	100
Catanduanes	46.51	48.91	13.95	11.96	39.53	39.13	100	100
Masbate	61.19	54.17	9.33	7.95	29.48	37.88	100	100
Sorsogon	46.49	49.32	14.04	10.96	39.47	39.73	100	100

In 2003, again agriculture accounted for the dominant share of employment among the provincial economies except for Albay which maintained its dominance in the service sector. The provincial economy of Camarines Norte has specialized in both the agriculture and service sectors with its even share of employment of 42.56% (**Figure 26** is a share diagram showing share of employment for service sector by province for year 2003 and **Figure 27** shows Camarines Norte share of employment by industry group for year 2003.

Figure 26
Share Diagram Showing Share of Employment
By Type of Industry, By Province: 2003



Figure 27: Histogram
Specialization: Camarines Norte Share of Employment
By Industry Group, 2003



4.4.1.2 Basic Sectors and Corresponding Industries of the Province of Camarines Norte

The economy of the province can be further describes through the analysis of industries of the province, taking into consideration the 2006 CBMS survey on the number of employed person by major industry group by municipality. **Table 59** Employed Persons by Major Industry Group and Joint Probability Table **(Table 60)** show that service sector absorbed the majority of the employment with about 66,816 or 48.55%. It is closely followed by Agriculture with 47,375 or 34.42%, and industry sector with 23,437 or 17.03%. This shows that the province has started to shift from agriculture towards the service sector, where most of the people are employed in the wholesale and retail trade; transportation, storage and communication; and community, social and personal services.

Table 59
Employed Persons by Major Industry Group: CY 2006
Province of Camarines Norte

MUNICIPALITY	Total Employed	AGRICULTURE		INDUSTRY				SERVICES				Others (NEC)
		Agriculture, Hunting & Forestry	Fishing	Mining and Quarrying	Manufac-turing	Electricity, Gas & Water	Construc-tion	Wholesale and Retail Trade	Transpor-tation, Storage & Comm'n	Comm'n, Social & Personal Services	Fin., Insuranc e, Real Estate & Buss. Services	
Basud	10,433	3,396	216	83	541	61	1,092	1,717	857	2,008	159	303
Capalonga	8,325	4,072	871	38	242	35	382	831	378	931	28	517
Daet	27,458	2,470	337	234	936	329	2,712	6,576	3,676	8,247	666	1,275
Jose Panganiban	12,006	1,633	1,554	2,442	273	88	800	1,975	724	2,027	170	320
Labo	26,130	10,985	71	1,152	1,303	128	1,638	4,600	1,790	3,202	132	1,129
Mercedes	11,949	1,778	3,698	50	744	21	823	2,096	729	1,862	72	76
Paracale	12,435	2,534	1,025	3,455	587	69	445	1,696	769	1,439	53	363
San Lorenzo Ruiz	4,039	1,728	13	5	148	10	362	409	225	986	47	106
San Vicente	2,491	981	2	7	108	7	251	352	199	475	19	90
Sta. Elena	11,968	4,007	1,624	39	273	43	496	1,929	836	2,051	145	525
Talisay	7,226	1,960	130	15	262	50	784	1,236	816	1,418	447	108
Vinzons	12,774	3,811	2,063	69	567	78	812	1,918	816	2,102	52	486
TOTAL FOR CN	**147,234**	**39,355**	**11,604**	**7,589**	**5,984**	**919**	**10,597**	**25,335**	**11,815**	**26,748**	**1,990**	**5,298**
			50,959				**25,089**				**65,888**	**5,298**

Source: 2006 CBMS Survey

Table 60: Joint Probability
Employed Persons by Major Industry Group: CY 2006
Province of Camarines Norte

MUNICIPALITY	Total Employed	AGRICULTURE		INDUSTRY				SERVICES				Others (NEC)
		Agriculture, Hunting & Forestry	Fishing	Mining and Quarrying	Manufac-turing	Electricity, Gas & Water	Construc-tion	Wholesale and Retail Trade	Transpor-tation, Storage & Comm'n	Comm'n, Social & Personal Services	Fin., Insurance, Real Estate & Buss. Services	
Basud	7.10	2.31	0.15	0.06	0.37	0.04	0.74	1.17	0.58	1.36	0.11	0.21
Capalonga	5.65	2.77	0.59	0.03	0.16	0.02	0.26	0.56	0.26	0.63	0.02	0.35
Daet	18.66	1.68	0.23	0.16	0.64	0.22	1.84	4.47	2.50	5.60	0.45	0.87
Jose Panganiban	8.17	1.11	1.06	1.66	0.19	0.06	0.54	1.34	0.49	1.38	0.12	0.22
Labo	**17.74**	**7.46**	**0.05**	**0.78**	**0.88**	**0.09**	**1.11**	**3.12**	**1.22**	**2.17**	**0.09**	**0.77**
Mercedes	8.11	1.21	2.51	0.03	0.51	0.01	0.56	1.42	0.50	1.26	0.05	0.05
Paracale	8.46	1.72	0.70	2.35	0.40	0.05	0.30	1.15	0.52	0.98	0.04	0.25
San Lorenzo Ruiz	2.74	1.17	0.01	-	0.10	0.01	0.25	0.28	0.15	0.67	0.03	0.07
San Vicente	1.68	0.67	-	-	0.07	-	0.17	0.24	0.14	0.32	0.01	0.06
Sta. Elena	8.14	2.72	1.10	0.03	0.19	0.03	0.34	1.31	0.57	1.39	0.10	0.36
Talisay	4.89	1.33	0.09	0.01	0.18	0.03	0.53	0.84	0.55	0.96	0.30	0.07
Vinzons	8.68	2.59	1.40	0.05	0.39	0.05	0.55	1.30	0.55	1.43	0.04	0.33
TOTAL FOR CN		**26.74**	**7.89**	**5.16**	**4.08**	**0.61**	**7.19**	**17.20**	**8.03**	**18.15**	**1.36**	**1.70**
		34.63		**17.04**				**44.74**				**3.61**

Based on concentration table of employed person by major industry group by municipality (**Table 61**) which gives an indication of the relative concentration of the industry among municipalities, agriculture, hunting and forestry are dominated by the municipality of Labo 27.91%, followed by Capalonga and Sta. Elena with 10.35% and 10.18% respectively. For fishing, it is concentrated in Mercedes 31.87%, followed by Vinzons 17.78%.

Under industry sector, specifically mining and quarrying, Paracale and Jose Panganiban dominated this sub-sector with 45.53% and 32.18% respectively. Manufacturing is concentrated in Labo with 21.77%, closely followed by Daet with 15.64% and Mercedes with 12.43%. Electricity, gas and water including construction are concentrated in the capital town of Daet.

For Services sector, majority of its sub-sectors which include wholesale and retail trade, transportation, storage and communication including community, social and personal services are concentrated in the municipality of Daet, followed by Labo. Talisay also dominates the finance, insurance, real estate and business services with 22.46%, next to Daet with 33.47%.

Looking at the row total of the specialization table (**Table 59**) that give an indication of the extent to which a municipality specializes in a particular industry, we can see that most of municipal economies followed an over-all pattern with agriculture accounting for the dominant share of employment. This includes Basud, Capalonga, Labo, Mercedes, San Lorenzo Ruiz, San

Vicente, Sta. Elena, Talisay and Vinzons. Jose Panganiban and Paracale specialize in industry sector particularly on mining and quarrying. Likewise, the capital town of Daet specializes in service sector particularly on wholesale and retail trade and community, social and personal services.

Table 61: Concentration Table
Employed Persons by Type of Industry
Region V: April 2001 & 2003

REGION/PROVINCE	Type of Industry (%)					
	Agriculture		Industry		Service	
	2001	2003	2001	2003	2001	2003
Albay	0.60	0.69	1.67	1.67	1.21	1.17
Camarines Norte	**0.81**	**0.87**	**1.12**	**1.16**	**1.18**	**1.11**
Camarines Sur	1.15	1.17	0.71	0.78	0.94	0.86
Catanduanes	1.03	1.00	0.97	0.92	0.98	1.02
Masbate	1.35	1.11	0.65	0.62	0.73	0.98
Sorsogon	1.02	1.01	0.97	0.85	0.98	1.03

Table 62: Specialization
Employed Persons by Major Industry Group: CY 2006
Province of Camarines Norte

MUNICIPALITY	Total Employed	AGRICULTURE		INDUSTRY				SERVICES				Others (NEC)
		Agriculture, Hunting & Forestry	Fishing	Mining and Quarrying	Manufac -turing	Electri-city, Gas & Water	Construc-tion	Wholesale and Retail Trade	Transporta-tion, Storage & Comm'n	Comm'n, Social & Personal Services	Fin., Insuranc e, Real Estate & Buss. Services	
Basud	100	32.55	2.07	0.80	5.19	0.58	10.47	16.46	8.21	19.25	1.52	2.90
Capalonga	100	48.91	10.46	0.46	2.91	0.42	4.59	9.98	4.54	11.18	0.34	6.21
Daet	100	9.00	1.23	0.85	3.41	1.20	9.88	23.95	13.39	30.03	2.43	4.64
Jose Panganiban	100	13.60	12.94	20.34	2.27	0.73	6.66	16.45	6.03	16.88	1.42	2.67
Labo	100	42.04	0.27	4.41	4.99	0.49	6.27	17.60	6.85	12.25	0.51	4.32
Mercedes	100	14.88	30.95	0.42	6.23	0.18	6.89	17.54	6.10	15.58	0.60	0.64
Paracale	100	20.38	8.24	27.78	4.72	0.55	3.58	13.64	6.18	11.57	0.43	2.92
San Lorenzo Ruiz	100	42.78	0.32	0.12	3.66	0.25	8.96	10.13	5.57	24.41	1.16	2.62
San Vicente	100	39.38	0.08	0.28	4.34	0.28	10.08	14.13	7.99	19.07	0.76	3.61
Sta. Elena	100	33.48	13.57	0.33	2.28	0.36	4.14	16.12	6.99	17.14	1.21	4.39
Talisay	100	27.12	1.80	0.21	3.63	0.69	10.85	17.10	11.29	19.62	6.19	1.49
Vinzons	100	29.83	16.15	0.54	4.44	0.61	6.36	15.01	6.39	16.46	0.41	3.80

4.4.2 Potentials for contributing to local economic growth

4.4.2.1 Economic Base Industries

Economic base industries also referred to as major exporting industries.

The identification of industries where the province of Camarines Norte is efficient of has an advantage compared to other provinces could be analyzed using location quotient a specific type of independence association measure. As implied by its name, location quotient provides an indication of the extent that the two variables are independent with each other to what extent, the province of Camarines Norte is associated with industry or service or agriculture. An industry that has a high location quotient with respect to a province suggests that the industry is over-represented in the province. This may be an indication that the industry is producing more that the requirement of the province, thus may be export oriented.

Table 63 shows that both in 2001 and 2003, agriculture is over represented in the provinces of Camarines Sur, Catanduanes, Masbate and Sorsogon. On the other hand, industry and service sectors are over represented in the provinces of Albay and Camarines Norte. In 2003, Catanduanes and Sorsogon were among the provinces where service sector is also over represented.

Table 63: Location Quotient
Employed Persons by Type of Industry
Region V: April 2001 & 2003

REGION / PROVINCE	Type of Industry (%)					
	Agriculture		Industry		Service	
	2001	2003	2001	2003	2001	2003
Albay	0.60	0.69	1.67	1.67	1.21	1.17
Camarines Norte	0.81	0.87	1.12	1.16	1.18	1.11
Camarines Sur	1.15	1.17	0.71	0.78	0.94	0.86
Catanduanes	1.03	1.00	0.97	0.92	0.98	1.02
Masbate	1.35	1.11	0.65	0.62	0.73	0.98
Sorsogon	1.02	1.01	0.97	0.85	0.98	1.03

Looking at the industry performance of the province of Camarines Norte per municipality (**Table 64**), it shows that the municipality of Basud, Capalonga, Labo, San Lorenzo Ruiz, San Vicente, Sta. Elena, Talisay and Vinzons have comparative advantage over other municipalities in terms of Agriculture, Hunting and Forestry. Fishing on the other is over-represented in Capalonga, Jose Panganiban, Paracale, Sta. Elena, Vinzons and most especially in the municipality of Mercedes.

Under the industry sector, mining and quarrying is over represented in Jose Panganiban and Paracale, manufacturing is over repreented in Basud, Labo, Paracale, San Vicente and Vinzons. The municipalities of Daet, Jose Panganiban and Talisay have comparative advantage in terms of electricity, gas and water, and construction is over represented in Basud, Daet, San Lorenzo Ruiz, San Vicente and Talisay.

Table 64: Location Quotient
Employed Persons by Major Industry Group: CY 2006
Province of Camarines Norte

Municipality	AGRICULTURE		INDUSTRY				SERVICES				Others (NEC)
	Agriculture, Hunting & Forestry	Fishing	Mining and Quarrying	Manufac-turing	Electricity, Gas & Water	Construc-tion	Wholesale and Retail Trade	Transporta-tion, Storage & Comm'n	Comm'n, Social & Personal Services	Fin., Insurance, Real Estate & Buss. Services	
Basud	1.22	0.26	0.15	1.28	0.94	1.45	0.96	1.02	1.06	1.13	0.81
Capalonga	1.83	1.33	0.09	0.72	0.67	0.64	0.58	0.57	0.62	0.25	1.73
Daet	0.34	0.16	0.17	0.84	1.92	1.37	1.39	1.67	1.65	1.79	1.29
Jose Panganiban	0.51	1.64	3.95	0.56	1.17	0.93	0.96	0.75	0.93	1.05	0.74
Labo	1.57	0.03	0.86	1.23	0.78	0.87	1.02	0.85	0.67	0.37	1.20
Mercedes	0.56	3.93	0.08	1.53	0.28	0.96	1.02	0.76	0.86	0.45	0.18
Paracale	0.76	1.05	5.39	1.16	0.89	0.50	0.79	0.77	0.64	0.32	0.81
San Lorenzo Ruiz	1.60	0.04	0.02	0.90	0.40	1.25	0.59	0.69	1.34	0.86	0.73
San Vicente	1.47	0.01	0.05	1.07	0.45	1.40	0.82	1.00	1.05	0.56	1.00
Sta. Elena	1.25	1.72	0.06	0.56	0.58	0.58	0.94	0.87	0.94	0.90	1.22
Talisay	1.01	0.23	0.04	0.89	1.11	1.51	0.99	1.41	1.08	4.58	0.42
Vinzons	1.12	2.05	0.10	1.09	0.98	0.88	0.87	0.80	0.91	0.30	1.06

Under the service sector, wholesale and retail trade is over represented n Daet, Labo and Mercedes; transportation, storage and communication in Basud, Daet, San Vicente and Talisay; community, social and personal services in Basud, Daet, San Lorenzo Ruiz, San Vicente and Talisay; and finance, insurance, real estate and business services in the municipalities of Basud, Daet, Jose Panganiban and Talisay.

Further, results of the workshop conducted by the PPDO in partnership with the Neda Region 5, which was participated in by LGUs, and industry players representatives identified the following as the industries where the province of Camarines Norte has export potentials.

a. Jewelry making (gold refinery/gold processing
b. Processed food and beverages
c. Aqua-marine products
d. Pineapple fruit trading
e. Pineapple fiber decortications
f. Fish processing
g. Coco-based by-products
h. Agricultural products
i. Abaca fiber
j. Mining (primary processing)
k. Quarrying (non-metallic resources)
l. Biofuel
m. Tourism
n. Organic fertilizer
o. Ganoderma
p. Bamboo furniture and by-products
q. Native products (handicrafts)
r. Handmade paper (paper out of pineapple fiber)

4.4.2.2 Local Employment Growth

The economic based industries (export industries) identified during the workshop which was participated by industry players were the industries that are generating substantial local employment or have a high potential to generate local employment growth, however, the extent of this employment growth varies.

Based on the workshop, the following are the industries whose extent of employment growth is strong (emerging strength): Jewelry making, processed food and beverages; aqua-marine products, pineapple fruit trading, pineapple fiber decortications, fish processing, coco-based by-products and abaca fiber.

On the other hand, the economic based industries whose extent of employment growth is logging or has high priority retention are the following: Calaguas Group of Islands, Quinamanukan Island, Eco-Tourism and River Resort Development, Organic Fertilizer, Ganoderma; Bamboo Furniture and By-Products, Handicrafts and Home Furnishing and Handmade Paper.

Lastly, the export industries whose extent of employment growth is constraint, characterized by limited prospects/weak base/external trend are as follows: Agricultural Products, Mining (Primary Processing), Quarrying and Biofuel (**Table 65**). Workshop Output: Identification of Economic-Based Industries.

Table 65
Identification of Local –Based Industries
Province of Camarines Norte

Export Industries (Economic Based Industries)	Competitive / Increasing Employment		Extent of Employment Growth			
	Yes	No	STRONG (emerging strength)	LAGGING (high priority retention)	CONSTRAINTS (limited prospects / weak base / external trend	POOR
1. Jewelry Making	✓		✓			
• Gold Refinery	✓		✓			
• Gold Processing	✓		✓			
2. Processed Food and Beverages						
• Coco-Vinegar	✓		✓			
• Pili-Pineapple	✓		✓			
• Pineapple Dehydrated	✓		✓			
• Barikolkol	✓		✓			
• Pineapple Beverage	✓		✓			
• Pineapple Vinegar	✓		✓			
• Dalandan	✓		✓			
3. Aqua-Marine Products	✓		✓			
• Lapu-lapu	✓		✓			
• Nocos (squid)	✓		✓			
• Alamang	✓		✓			
• Balao	✓		✓			
4. Pineapple Fruit Trading	✓		✓			
5. Pineapple Fiber Decortication	✓		✓			
6. Fish Processing	✓		✓			
7. Coco-Based By-Products	✓		✓			
• Virgin coco-oil	✓		✓			
• Coco Vinegar	✓		✓			
8. Abaca Fiber	✓		✓			
9. Tourism	✓		✓			
• Bagasbas Beach	✓			✓		
• River Resort Development	✓			✓		
• Mercedes Group of Islands	✓			✓		
• Ecotourism Sites	✓			✓		
• Quinamanukan Island	✓			✓		
• Calaguas Island	✓			✓		
10. Organic Fertilizer	✓			✓		
11. Ganoderma	✓			✓		
12. Bamboo Furniture and By-Products	✓			✓		
13. Native Products/ Handicraft	✓			✓		
14. Handmade Paper	✓			✓		
15. Mining (primary processing)	✓				✓	
16. Quarrying (non-metallic)	✓				✓	
17. Biofuel	✓				✓	

4.4.2.3 Industries that have the best potentials for contributing to local economic growth

4.4.2.3.1 Industries with Best Potentials

4.4.2.3.1.1 Pineapple Processing

With the advent of new technology and the concerted interventions of various government agencies, pineapple processing in the province is already gaining grounds.

Among the product lines that can be developed from pineapple are:

Food and Beverages

"Queen Formosa Pineapple" is a versatile fruit that can be processed into several food and beverage items. There are nine (9) major processed products that can be derived from pineapple such as juice, slices, chunks, tidbits, diced, cubes, spears, crushed and concentrate. Added to these are the several by-products that can be produced from pineapple fruit such as pineapple jam, marmalade, candied pineapple, frozen pineapple, nata de piña, pineapple vinegar, wine and dehydrated pineapple.

Pineapple Fiber

Pineapple fiber is extracted from fresh Formosa pineapple leaves through manual scraping and machine defibering process.

The manual scraping produces good quality fiber and makes possible the separation of the "liniwan" (the term used in Aklan for the white, fine and low in strength fiber) from the "bastos" (the term used in Aklan for coarse, brownish, and strong fiber). It is from the "liniwan" where the finest barong tagalog, camisas, Maria Clara's and doilies are made.

The manually scraped fiber is knotted and woven into cloth and sold as plain handwoven piña cloth or hand embroidered or machine embroidered or hand painted piña cloth.

The manually scraped fiber is being bought at Php 500.00 per kilo by the Labo Progressive Multi-Purpose Cooperative in Malasugui, Labo, Camarines Norte, the lone producer of handwoven

piña cloth in the Bicol Region. The knotted fiber is being bought by the same cooperative at Php 4,500.00 per kilo.

The Labo Progressive Multi-Purpose Cooperative now produces plain handwoven piña cloth, hand embroidered piña cloth, machine embroidered piña cloth, hand painted piña cloth, shawls, table runners, fans, pouch bags, handkerchiefs, scarves, etc.

The machine defibered fiber is used in the manufacture of textile, rugs, carpets, twines, and handmade paper.

Continuous development of the above mentioned products will offer greater opportunities and impact and result to sustained growth of the industry. The projects that will be put up or established will develop entrepreneurship in the countryside, sustain human resource development, enhance sustainable raw material development and production, strengthen the linkages between the industry, agriculture, private sectors, government institutions, non-government organizations and financial institutions.

4.4.2.3.1.2 Marine Products Processing

Marine products processing is a thriving industry in Camarines Norte. The very reason for this is the abundant supply of fish in the province particularly in the municipality of Mercedes. The abundance of fish and other marine products usually results to a sizeable amount not being sold and consumed. To avoid spoilage and wastage, unsold fish and other products may be preserved in the form of smoking, salting, and drying.

Marine animals particularly squids and various kinds of fishes are the primary raw materials in processed marine products. A particular variation of fish is suitable for a certain type of fish processing. Milkfish is a very good kind of fish for fish smoking process (tinapa). On the other hand, tamban fish is appropriately suited for fish salting (tuyo) and galunggong fish is very good for fish drying (daing). There are still other variations of fishes, which are appropriately suited to fish drying, fish smoking, and fish salting. Squids are another marine animals famous for drying process.

Mercedes, Camarines Norte is very famous for processed marine products. Raw materials for processed fish and squids are abundant in the locality – particularly in the San Miguel Bay. Though seasonally produced, varieties of fishes used as raw materials are locally yielded. Majority of fish used in fish smoking, however, are from Manila, which is brought to Mercedes through land transportation.

4.4.2.3.1.3 Mix-Media Furniture and Home Furnishings

Mix-media furniture and home furnishings is gaining popularity nowadays because of the stiff competition for purely indigenous low-end products.

Mix-media furniture and home furnishings combine the use of the indigenous raw materials and hardware materials such as metals and finishing materials employing highly-innovative designs.

This shift from low-end to mid-range and high-end products provides a competitive niche in the global market.

Aside from these industries, the Local Government Units (LGUs) have identified their respective One-Town One-Product (OTOP). These OTOP products are the ones believed to have strong potentials in each locality with primary consideration on the available raw materials, skilled manpower and market demand for the product.

The OTOP products are as follows:

Basud - Pineapple Food and Beverage
Capalonga - Mud Crab Fattening
Daet - Pineapple and Pili-Based Pastries
Jose Panganiban - Fine Jewelry
Labo - Pineapple Cloth
Mercedes - Processed Marine Products
Paracale - Fine Jewelry
San Lorenzo Ruiz - Pineapple Beverage
San Vicente - Pineapple Fiber
Sta. Elena - Dalandan Juice
Talisay - Dairy Products
Vinzons - Sweet Pastries

4.4.2.3.1 Industries with Declining Potentials

4.4.2.3.2.1 Handicrafts

The current strong competition of Philippine handicrafts with that of our Asian neighbors has put so much pressure on the local handicrafts industry. This once strong industry has suffered from this setback and held back the supposed upward trend for the industry. There are abundant raw materials available along with efficient and skilled manpower, however, market is so stiff due to competition that local manufacturers find it hard to get into the market.

4.4.2.3.2.2 Fine Jewelry

This is already a matured industry which has already enjoyed the peak of its market presence in the local arena. To this date, fine jewelry cannot go any further in terms of capturing new markets considering the high cost of gold being its major raw material.

4.4.2.3.2.3 Wood-Based Products

The current ban on logging is a major constraint in the wood-based products industry. Though there are available skilled manpower and there is a consistent high demand for these products, the unavailability of raw materials hampers the potentials of this industry to grow.

4.4.3 Local Factors

The local factors that may enhance the competitiveness and efficiency of the industries would include :

a) Availability of abundant raw materials

The province is endowed with a rich reservoir of raw materials which can be used for manufacturing and processing of various by-products.

b) Availability of skilled labor/manpower services;
c) Efficient transport and distribution facilities and services;
d) Investment incentives;
e) Reduced cost of doing business;
f) Business-friendly laws and regulations;
g) Low-cost financing programs;
h) Government support to SMEs;
i) Consistent high market demand

Proposed Plans/Programs/Project (2008-2033)

1) Basud River Recreational Center, Pineapple Processing Center, Piña Cloth Manufacturing and Ceramics Center in Basud
2) Business Center and Financial and Institutional Center in Daet
3) Nazareno Pilgrimage Site and Ceramics Center in Mataque, Capalonga
4) Special Economic Zone in Larap with light to heavy manufacturing industries, Island Beach Resorts, Tourism Estate, Gold/Iron/Copper Processing Center in Jose Panganiban
5) Provincial Industrial Center in Talobatib, Business Incubatin Center, Coco Coir Manufacturing, Cassava Processing Center & Feedmill, Handicrafts Production Center, Silica Beneficiation Plant with Glass/Bottles Factory, Waste Recycling Plant, Pina Cloth Manufacturing, and Abaca Fiber and By-Products Processing in Labo
6) Cold Storage and Marine Processing Center in San Roque, Soda Water Bottling in Lanot, Island Beach Resorts and Hydro-electric Power Plant in Colasi, Mercedes
7) Mining and Quarrying of Mineral deposits such as gold, Gold Processing Center and Fine Gold Jewelry Center in Paracale
8) Eco-Tourism and Nature Park Resort in San Lorenzo Ruiz
9) Eco-Tourism and Nature Park Resort at Mananap, San Vicente
10) Transshipment Terminal in Tabugon, Eco-Tourism and Nature Park at the Twin Falls in Bulala and Mt. Cadig, Cold Storage and Food Processing Center (Mini FTI), Accommodation Facilities, Livestock Auction Center with "AAA" Slaughterhouse and Gas Stations in Sta. Elena
11) Beach Resort and Wind Mill Power Plant in San Jose, Talisay
12) "Pasalubong" Industry Center, Seaweeds Processing Center and Nipa Wine Distillery in Vinzons

4.4.4 Tourism

Camarines Norte is endowed with aesthetic environment idea for tourism development. Some of the existing and potential attractions in the province include the following:

4.4.4.1 Land-Based Attractions

Colasi Falls – It is an attractive falls amid in pristine forest in Colasi, Mercedes. The falls is about 70 ft. high with flashing, blue cool water for swimmers, bathers and nature lovers. It is about 1½ hour ride by jeepney from Daet to Brgy. Colasi and 3-hour hike from the barangay proper up to the falls.

Mananap Falls – This falls is about 60 feet high with deep water ideal for swimming freshwater fishing, camping, and nature watching. It also offers opportunities for backpacking and trailing. You could be there after a 2-kilometer hike from from barangay Fabrica.

Nacali Falls – Approximately 60 feet high, this falls offer a good place for swimming, freshwater fishing, nature watching and backpack riding. It be can reached by hiking approximately 5-7 km. passing through Matacong hanging bridge in San Lorenzo Ruiz.

Sinagtala – About 22 hectares, this land, located at Barangay Lugui, Labo, was developed into an ideal resort destination. The fresh and cool flowing water of Matogdon River was trapped and turned into natural swimming polls offering the best place for picnicking and swimming. It also has facilities like cottages, picnic huts, restrooms and conference room for tourists.

Basud River – It is a wide river system with clear, deep and clean blue water. Awarded as the cleanest body of inland water in the Bicol Region in the search for Cleanest and Greenest Local Government Units Inland Body of Water category, it is ideal for river cruising, kayaking and swimming.

Mampurog River – This river is wide with clear and deep cold water, a nice place to wade in and explore. It is a very popular choice for swimming, excursions and picnics during summer.

4.4.4.2 Coastal Area-Based Attractions

Bagasbas Beach – The most popular beach resort in the province is in Barangay Bagasbas, Daet. You reach it after a five (5) minute ride on any type of motor vehicle from Daet Poblacion. The beach has a long and wide expanse of fine gray sand. During

clear but windy days, the big waves that roll in from the Pacific Ocean make it a paradise for surfing beginners and aficionados. It is considered one of the most beautiful beaches in the country.

Mercedes Group of Islands – The islands can be reached in about 30 to 45 minute motorboat ride from Mercedes town proper. The major attractions in these islands are its clean white beaches, corals, underwater sceneries, rock formations and fish sanctuary. Additional come-ons are scenic landscapes and seascapes, the attractive lighthouse in Canimog Island, unexplored Canton Cave, and the different types of seashells and tropical fishes that abound. The place is good for island hopping, swimming, bird watching, boating, snorkeling, trekking, scuba diving, golf course in Apuao Grande Resort, jet skiing, spear fishing, and other related activities.

Mangcamagong Beach – This is a clean gray beach facing San Miguel Bay with clean water suitable for swimming and outings. Its scenic and peaceful ambiance provide excursionists and tourists a nice place for relaxation. Cottages, restrooms, roadside eateries and sheds are available to tourists at reasonable prices. Here, you can broil capiz shells – a delicacy.

Quinamanukan Island – This tourist attraction offers wide white sand beach and clear water ideal for swimming and snorkeling. It is about 40 minutes ride by motorboat from the town proper of Vinzons.

Calaguas Group of Islands – This group of islands is suitable for water-based activities such as swimming, snorkeling, wind surfing and island hopping and land-based activities like trekking and sunbathing. The islands all have beaches with white, powdery sand similar to that found in Boracay. During good weather, you can reach them after a two-hour motorboat ride from Vinzons town proper.

San Jose Beach – It is known for its fine gray sand contiguous to Bagasbas Beach. It faces the Pacific Ocean and features strong winds ideal for wind surfing. It is also ideal for swimming, snorkeling, and jet skiing. About 20-30 minutes ride north from Daet.

Pag-asa Beach – Just 3 kilometers away from the town proper of Jose Panganiban, this beach became popular among enthusiastic swimmers, bathers and night promenaders.

Lanot Beach in Mercedes, near the boundary the province shares with Camarines Sur, has a natural hot spring and is a source of mineral water. It can be developed as a health spa or resort, accessible by sea from Mercedes and by land from Daet via Sipocot, Camarines Sur.

4.4.4.3 Man-Made Attractions

Kalayaan Park – One of the most beautiful parks in the Bicol Region with panoramic garden view, fountain, man-made lagoon, Wenceslao Q. Vinzons and Jose Rizal bronze statues (the tallest statue of Jose P. Rizal outside Metro Manila). It showcases the cultural, historical and natural resources of the province. It is located in front of the Provincial Capitol in Daet, the capital town of Camarines Norte.

Provincial Capitol – One of the most beautiful Provincial Capitols in the entire country. Reconstructed from 1986-1995, it provides a permanent seat for the Provincial Government of Camarines Norte. It has 12 big front columns or posts representing the 12 municipalities of the province.

Elevated Town Plaza – This tourist attraction sports panoramic garden view with fountain, benches, children's playground, fountain at its entrance, snack bar, piped-in music, wide screen public colored television and skating pink. It is only three (3) minutes away by tricycle from the terminal.

Rizal Mini Park – It is located beside the former Daet Municipal Hall and it is where the First Rizal Monument and Monument of the Martyrs of Camarines Norte were erected. It has a playground and benches. About 15-minute ride by tricycle from the Integrated Bus Terminal gets you to the Park.

Town Park – This is a mini-town park with panoramic garden view and mini sports complex in front of Talisay Municipal Hall, Talisay, about 10 minutes ride by jeepney or bus from Daet.

People's Park – This parks which has a panoramic garden view with fountain, benches and a monument of Rizal is located in Poblacion Labo, besides the Labo Sports Complex, about 15 minutes by jeepney or bus from Daet.

4.4.4.4 Cultural/Historical Attractions

First Rizal Monument – It is a three-tiered stone pylon with its square base supporting a triangle in two stages, the last one tapering off to a point. Built in 1898, the First Monument of Rizal in the Philippines is located across the Old Daet Municipal Hall. Its foundation, it is believed, is made of mortars and boulders from the demolished Old Spanish Jail in Daet where many patriots died, making it historically and culturally significant.

Laniton Landmark – It is the site of the first guerilla encounter against the Japanese Imperial Army at Barangay Laniton, Basud, Camarines Norte. It could be reached in about 15 to 20 minutes ride from Daet town proper.

Capalonga Shrine of the Black Nazarene – One of the famous tourist attractions of the province where all roads, it seems, lead to it every May 13. All devotees and/or pilgrims of different nationalities flock to pay homage to the miraculous image of the Black Nazarene, whose shrine is right in the town proper of Capalonga.

Vinzons Shrine – It is a two-storey house, the residence of Wenceslao Q. Vinzons, Sr., a hero during the Japanese War. It was converted into a shrine complete with public library and museum which stores the memorabilia of the hero. It is located in the town proper of Vinzons (formerly Indan).

Vinzons Church – One of the oldest churches in the Philippines which celebrated its 400 years anniversary in 1981.

Jose Maria Panganiban's Monument – This is a bronze statue (9 feet tall) erected in honor of Jose Maria Panganiban, a Filipino Propagandist in Spain and hero, dubbed as the "Avenger of Filipino Honor," who was born in Mambulao (formerly name of the Municipality of Jose Panganiban). It stands right in front of the Jose Panganiban Municipal Hall and contains the remains of the martyr which have been laid below it and inside the center of the monument's base.

13 Martyr's Monument – A monument erected in honor of the Paracale soldiers who were killed by the Japanese because they did not want to collaborate with the Japanese Authority. It is located in front of the Paracale Municipal Building.

4.4.4.5 Socio-Economic Attractions

Gold Mining Attractions – Sites of this industry are located at the barangays of Pinagbirayan, Gumaus, Tawig in Paracale and Barangay Luklukan Sur in Jose Panganiban. These are some of the richest gold mining sites in the province or region. Thousands of gold panners come here from the different provinces of Bicol and the provinces of Quezon and Batangas.

The abandoned mining areas in Jose Panganiban and Paracale serve as additional come-ons for the tourists, giving them an opportunity to pass through mining tunnels and feel the mining experience. These old mining sites will be identified and considered as historical areas.

Mercedes Fishing Village – It is widely known for the biggest catches during fishing seasons. Hundreds of fishing vessels of different tonnages, speed and capacity drop anchor in this community. At the height of the fishing season, this town's offshore looks like a miniature Manila Bay when hundreds of glaring electric lights are in full blaze on the masts and decks of numerous fishing boats.

4.4.5 New Establishment in the Industry and Services Sector

The province of Camarines Norte has continuously developed new industrial and service establishments to boost its growing economy. These establishments comprise manufacturing, mining and quarrying, trading and service firms.

For the period 2000-2002, the province has a total of 2,174 new establishments- 235 for the industry and 1,939 for the service sector. Of these, the service sector particularly trading is the dominant business in the province **(Table 66).**

Daet remains the province's primary industrial and service center with 55.8% share or 1,213 of the total new establishments. Labo ranked second with a total of 284 or 13% share, followed by Jose Panganiban, Paracale and Mercedes with 6%, 5% and 4% respectively.

San Vicente with less than 1% share and Talisay with 1.75% share remain stagnant in terms of opening up new establishments.

These new establishments in the province have helped tremendously in the betterment of the socio-economic status of the people by providing more employment and livelihood opportunities for them in non-farm activities. Also, this trend of developing new establishments in the services and industry sectors show that the province is gearing up towards a more vibrant economy in the future.

Table 66
New Establishments: Industry & Service Sectors
By Municipality: CY 2005-2007
Province of Camarines Norte

MUNICIPALITY	INDUSTRY SECTOR		SERVICE SECTOR		TOTAL	
	No.	%Share	No.	%Share	No.	%Share
Basud	39	8.52	93	3.33	132	4.06
Capalonga	19	4.15	83	2.97	102	3.13
Daet	134	29.26	1,381	49.39	1,515	46.56
Jose Panganiban	32	6.99	246	8.80	278	8.54
Labo	64	13.97	466	16.67	530	16.29
Mercedes	28	6.11	35	1.25	63	1.94
Paracale	46	10.04	165	5.90	211	6.48
San Lorenzo Ruiz	8	1.75	31	1.11	39	1.20
San Vicente	8	1.75	39	1.39	47	1.44
Sta. Elena	28	6.11	110	3.93	138	4.00
Talisay	21	4.59	73	2.61	94	2.89
Vinzons	31	6.77	74	2.65	105	3.23
TOTAL	458	100.00	2,796	100.00	2,174	100.00

Source: Department of Trade and Industry, Daet, Camarines Norte

4.4.6 Initiatives on the Existing and Proposed Development Areas

4.4.6.1 Special Economic Zone

The Philippine Economic Zone Authority (PEZA) under Board Resolution No. 99-168, dated June 30, 1999, approved the application of the Municipal Government of Jose Panganiban for the declaration of a 30-hectare property located in Barangay Larap as Special Economic Zone, to be known as the Global Industrial/Maritime Campaign – Special Economic Zone (GIMC0 – SEZ).

On December 2, 2003, President Gloria M. Arroyo issued Proclamation No. 508, creating and designating the 30-hectare property in Barangay Larap, Jose Panganiban, Camarines Norte as a Special Economic Zone.

The GIMCO-SEZ has already accomplished the requirements set forth in the registration agreement made and entered into by and between the Philippine Economic Zone Authority (PEZA) and the Municipal Government of Jose Panganiban, Camarines Norte. At present, they are already looking for possible locators in the area.

For the current industry, it is being proposed that a Special Committee or a Technical Working Group, which is composed of different government agencies and private sector group like Camarines Norte Chamber of Commerce and Industry (CNCCI) be created to synchronize all efforts that would support the LGU in the development of the Special Economic Zone.

4.4.6.2 Proposed Industrial Center

There is already an identified site for the Provincial Industrial Center (PIC) in Barangay Talobatib, Labo, Camarines Norte. However, there are still no infrastructure development activities being undertaken in the area.

For the current initiatives, the Department of Trade and Industry – Camarines Norte Provincial Office, and other government agencies are starting to develop projects that would be established in the PIC. Technology transfer activities as well as entrepreneurial development programs are being conducted to pool skilled workers and to enhance managerial competencies of the industry people. The Camarines Norte Chamber of Commerce and Industry is also supportive of the initiative.

4.5 Disaster Risk Reduction/Climate Change Adaptation (DRR/CCA) Evaluation

4.5.1 Risk Evaluation, Exposure and Vulnerability Assessment

Mercedes, Daet, Talisay and Vinzons are moderate risk in flooding wherein Mercedes is also moderate risk to agriculture and forestry from rainfall-induced landslide. The municipalities of Jose Panganiban and Paracale has moderate risk to rainfall-induced landslide.

The most affected of this situation is the agriculture sector wherein the province is dominated by this sector in which there is a high percentage of employment.

Employment in the service sector/industry is concentrated in the urban centers affected by flooding.

The Special Economic Zone in Jose Panganiban is also located in rainfall induced landslide area wherein operation might be hindered which will have an effect in the overall economy of the province.

Mining and quarrying activities are concentrated in the municipalities of Jose Panganiban and Paracale which contribute a large share in the employment and in the provincial economy. The risk is also a threat to the export and processing industries which has big concentration to local economic growth. This will probably decrease livelihood opportunities which will result to low income and high poverty incidence. The tourism industry will likewise be affected since these are also in the risk areas.

5.0 Transportation, Access and Circulation

Road transport is the primary mode of transportation in the province particularly in the urban areas. Sea transport is also available in the coastal municipalities and barangays. There is also the presence of airport facilities for air transport services.

a) Land Transport

The province has a total road length of 1,455.310 kilometers, 201.474 kms. national roads; 146.590 kms. provincial roads; 117.988 kms. municipal roads; and 989.258 kms. barangay roads (**Table 67**).

Table 67
Road Inventory by Classification: CY 2008
Province of Camarines Norte

Road Classification	Total Length (km)	SURFACE TYPE (km)			
		Concrete	Asphalt	Gravel	Earth
National Road *	201.474	51.982	134.759	14.733	-
Provincial Road *	146.590	16.490	105.051	25.049	-
Municipal Road **	169.988	57.570	40.007	32.267	40.144
Barangay Road **	989.258	31.669	47.371	404.184	506.034
TOTAL	1,507.310	157.711	327.188	476.233	546.178

Source: Dept. of Public Works & Highways
Provincial Engineer's Office
Note: * Updated as of 2008
** Updated as of 2005

Concrete roads totals to 157.711 kms. (10.46%); asphalt road is 327.188 kms. (21.71%); gravel and earth roads are 476.233 kms. (31.59%); and 546.178 kms. (36.24%), respectively. This shows that there is almost 70.25% of the total roads in the province to be upgraded to either asphalt or concrete.

Of the 201.474 kms. national roads, 51.982 kms. (25.8%) are concrete and 134.759 kms. (66.89%) are gravel. The Daang Maharlika which is part of the national roads, has a total length of 123.650 kms. consisting of 123.608 kms. asphalt and 0.042 kms. concrete.

Table 68
Inventory of National Road by Classification: CY 2008
Province of Camarines Norte

Name of Road	Total Length (km)	SURFACE TYPE (km)		
		Concrete	Asphalt	Gravel
Quirino Highway	1.663	-	1.663	-
Daang Maharlika	123.650	0.042	123.608	-
Bagong Silang - Capalonga Road	31.651	15.684	2.785	13.182
Talobatib-Jose Panganiban Port Road	20.420	18.472	0.427	1.521
Batobalani-Paracale Road	7.740	7.740	-	-
Daet-Poblacion Road	4.317	-	4.317	-
Daet-Airport Road	4.339	4.309	-	0.030
Daet-Mercedes Road	6.145	5.357	0.788	-
Daet-Gahonon Road	1.549	0.378	1.171	-
TOTAL	201.474	51.982	134.759	14.733

Source : Department of Public Works and Highways

Table 69
Inventory of Provincial Road by Classification: CY 2008
Province of Camarines Norte

Road Classification	Total Length (km)	SURFACE TYPE (km)		
		Concrete	Asphalt	Gravel
Daet-San Vicente Road	8.900	3.020	5.880	-
Labo-Contod-Vinzons-Cruzero Road	11.340	4.650	6.690	-
Daet-San Lorenzo Road	12.770	0.945	11.825	-
Daet-Mambalite Road	6.300	0.248	4.136	1.916
Labo-Tulay na Lupa Road	9.120	1.060	8.060	-
Labo-Fundado-Bakal Road	16.100	1.633	12.410	2.057
Jct. MSR San Vicente-Basiad Road	5.590	0.150	4.980	0.460
Jct. MSR Basud-Masalong Salong Road	15.520	1.220	11.964	2.336
Angas-Manguisoc Road	7.800	0.390	6.910	0.500
Jct. MSR Plaridel-Salvacion Road	7.000	-	3.976	3.024
Bulhao-Bakiad-Sta. Cruz Road	3.500	0.066	3.434	-
Jct. MSR Calabasa Road	0.780	0.070	0.710	-
Talisay-Sta. Cruz Road	4.400	0.634	3.766	-
Talisay-San Jose Road	6.090	0.468	5.622	-
Capalonga-Calabaca Road	11.800	0.452	5.325	6.023
Jct. San Felipe-Patag Road	8.350	-	3.387	4.963
Cadawingan-Guinatungan Road	3.700	-	-	3.700
Jct. Borabod-Awitan Road	1.400	0.164	1.236	-
Bagasbas-Mercedes Road	0.870	0.350	0.450	0.070
San Vicente-San Jose Road	4.090	-	4.090	-
J. Lukban St. (Poblacion, Daet)	0.540	0.540	-	-
Provincial Capitol Loop Road	0.250	0.250	-	-
Provincial High School Road	0.200	-	0.200	-
Provincial Hospital Loop Road	0.180	0.180	-	-
TOTAL	146.590	16.490	105.051	25.049

Source : Department of Public Works and Highways

The full stretch of this highway passes along the towns of Basud, Daet, Labo and Sta. Elena which are the main routes in going to and from the provinces of Quezon and Camarines Sur. These roads are likewise the main route in going to the different municipalities of the province.

Meanwhile, the 77.824 kms. national secondary roads in the province which are located in the towns of Paracale, Jose Panganiban, Mercedes and Capalonga, 51.94 kms. are concrete and 11.151 kms. are asphalt.

There are still a 14.733 kms. gravel surface road which is found along the Bagong Silang-Capalonga Road which need to be upgraded because this connects the municipality of Capalonga.

These national secondary roads also serve as access roads to the different barangays and municipality of the province.

At present, there is a total of 2,435.79 linear meter National Bridges in the province, of which 2,385.79 linear meters are concrete and 49.50 linear meters are steel.

Table 70
Inventory of National Bridges by Classification: CY 2008
Province of Camarines Norte

Bridges	Total Length (lm)	CLASSIFICATION				
		Steel	Concrete	Bailey	Timber	Others
Daang Maharlika	1,935.07	49.50	1,885.57	-	-	-
Bagong Silang - Capalonga Road	220.78	-	220.78	-	-	-
Talobatib-Jose Panganiban Port Road	101.00	-	101.00	-	-	-
Batobalani-Paracale Road	66.00	-	66.00	-	-	-
Daet-Poblacion Road	103.54	-	103.54	-	-	-
Daet-Mercedes Road	8.90	-	8.90	-	-	-
TOTAL	2,435.29	49.50	2,385.79	-	-	-

Source: Cams. Norte Engineering District, Prov'l Engineer's Office

On the other hand, there is a total of 1,046.50 linear meters provincial bridges, of which 207 linear meters are steel, 626.50 linear meters are concrete; 138 linear meters timber and 75 liner meters others (**Table 71**).

Table 71
Inventory of Provincial Bridges by Classification: CY 2008
Province of Camarines Norte

Bridges	Total Length (lm)	SURFACE TYPE (lm)			
		Steel	Concrete	Timber	Others
Capalonga-Calabaca Road	90.00	90.00	-	-	-
Daet-Mambalite Road	42.50	-	42.50	-	-
Daet-San Vicente-San Jose Road	9.00	-	-	-	9.00
Labo-Contod-Vinzons-Crucero Road	68.00	-	60.00	-	8.00
Labo-Tulay na Lupa	88.00	-	88.00	-	-
Labo-Fundado-Bakal Road	110.00	47.00	39.00	18.00	6.00
Basud-Mangcamagong-Masalong-salong Rd.	303.00	70.00	209.00	-	24.00
J. Lukban Street, Daet	50.00	-	50.00	-	-
Daet-Airport-Awitan Road	13.00	-	-	-	13.00
Jct. MSR-Calabasa Road	120.00	-	120.00	-	-
Jct. Plaridel-Salvacion Road	90.00	-	18.00	60.00	12.00
Jct. Cadawingan-Guinatungan Road	60.00	-	-	60.00	-
Jct. MSR-Basiad-Sta. Elena Road	3.00	-	-	-	3.00
TOTAL	**1,046.50**	**207.00**	**626.50**	**138.00**	**75.00**

Source: Camarines Norte Engineering District, Prov'l Engineer's Office

b) Water Transport

The province has one national port located in Jose Panganiban with facilities such as pier, causeway, and breakwater/seawall. This has been recommended for expansion, delineation and declaration as port zone under the administration of Philippine Ports Authority. The rehabilitation / upgrading of this port is also recommended for funding by PPA because full operation of this facility will help boost the economy of the province.

This is supported by 11 municipal fishing ports, most of which are either dilapidated or damaged, thus, require repair and rehabilitation for the development of the fishing industry in the province.

c) Air Transport

The province has two (2) airports which are significant in the economic development of the province. The first one is located in Bagasbas in Daet with area coverage of 37,845 hectares. This is only a feeder airport and has the minimal airport facilities. At present flight services are suspended because this can only accommodate light aircrafts. The other airport is located in Larap, Jose Panganiban with area coverage of approximately 35 hectares. This airport is currently unoperational but if this is upgraded will boost the economic activities in the province particularly the Jose Panganiban Special Economic Zone.

5.1 External Linkages

The Daang Maharlika is one of the most important external linkage in the province in going to the province of Camarines Sur and the Bicol Region and also the province of Quezon, the Calabarzon and Metro Manila, and other nearby provinces. The mode of transportation in going to that areas is through buses and vans.

The Daet airport if it become operational also serve as an important link between the province and Metro Manila especially for tourism, trade and commerce purposes. The Larap Airport and the National Port in Jose Panganiban will also provide a significant access for the development of industry and economic activities of the province particularly in the Jose Panganiban Special Economic Zone. Because of its strategic location to countries such as Hongkong, Japan, Taiwan, Korea and the East Coast, the presence of international transport facilities will pave way for the industrialization of the province.

The capital town of Daet which has much larger population wherein more varied services and in particular the presence of aiport and first rate infrastructure facilities, shall be developed to function as primary growth network specifically for transportation and communication linkaging to Naga City and other parts of the region.

Considering that the province is a fishery resource area the municipal fishing ports in Mercedes, Paracale, Sta. Elena, Capalonga and other coastal municipalities are also important infrastructure facilities in the fishing industry of the province. This will facilitate the transport of fishery products to aid from other provinces and regions.

These facilities therefore require the highest priority for expansion, upgrading, rehabilitation and improvement to facilitate the different aspects of development of the province.

5.2 Internal Circulation

The transport network for the municipality of Labo, which is a large town, will be connecting the lower level of urban centers composed of the municipalities of Vinzons, the perceived new towns of Tulay na Lupa and Bagong Silang with interconnection to Jose Panganiban Economic Zone. As a growth center, road network improvement of Labo must be towards the rural areas and its large area in response to its industrial development primarily being the Provincial Industrial Center and Institutional Center for Research and Development.

The road network for the municipality of Paracale must also be improved, considering this is a mineral production and processing area to provide the necessary support to the Jose Panganiban Special Economic Zone.

The national secondary roads and provincial roads in the province which provide access to the different municipalities of the province which needs to be improved/upgraded are:

- Daet-Mercedes Road – to the fishing town of Mercedes which also offers tourism through its beaches and islands.

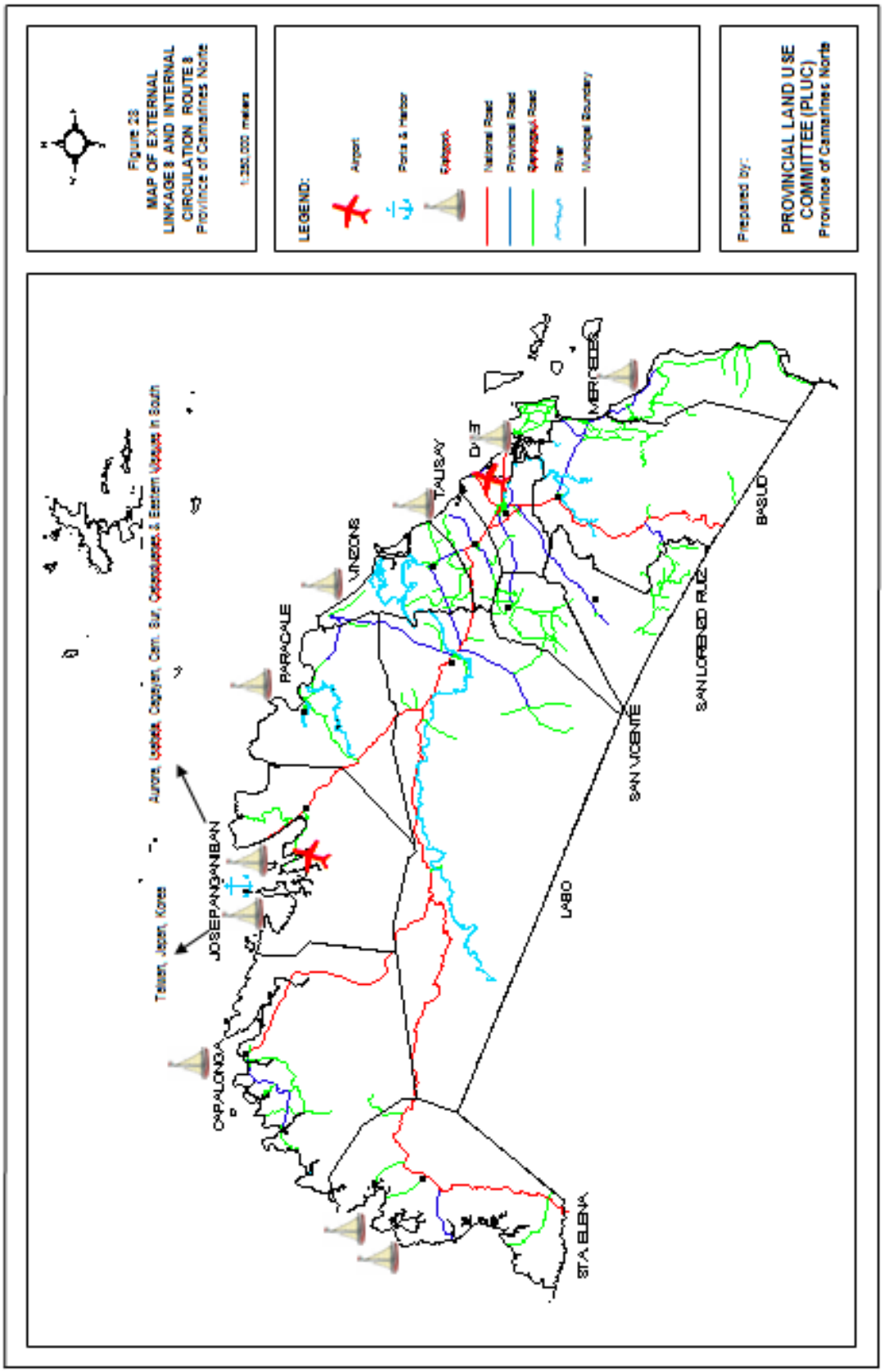
- Talobatib-Batobalani-Paracale-Jose Panganiban Road which leads to the mining and industrial towns of Paracale and Jose Panganiban.

- Bagong Silang-Capalonga Road – leading to the town of Capalonga which is famous of the pilgrimage of the Black Nazarene.

- The different provincial roads which connect to the different municipalities and key barangays which contribute to the socio-economic development of the province.

The different modes of transport within the province is through the mini-buses, aircon vans and jeepneys, whereas, transport within municipalities going to urban barangay are tricycles and jeepneys.

On the other hand, transport mode in going to the coastal barangays from its poblacion is through motorized bancas.


Figure 28
MAP OF EXTERNAL LINKAGE & AND INTERNAL CIRCULATION ROUTE S
Province of Camarines Norte
LEGEND:
Airport
Ports & Harbor
Bridges
National Road
Provincial Road
Barangay Road
River
Municipal Boundary
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
Aurora, Quezon, Cagayan, Cam. Sur, Catanduanes & Eastern Visayas in South
Taiwan, Japan, Korea
JOSEPANGANBAN
CAPALONGA
PARACALE
VINZONS
TALISAY
DAET
MERCEDES
BASUD
SAN LORENZO RUIZ
SAN VICENTE
LABO
STA. ELENA

5.3 Disaster Risk Reduction (DRR) / Climate Change Adaptation (CCA) Evaluation

5.3.1 Risk Evaluation

Flooding will affect barangay roads in the municipalities of Vinzons, Mercedes, Talisay and Capalonga including provincial roads of 81.28 kilometers and national roads of 75.15 kilometers. The municipalities of Daet and Vinzons have the highest roads affected with 18.94 and 17.79 kilometers respectively. Bridges in the municipalities of Daet, Labo, Basud and Capalonga are also highly susceptible to flooding and rainfall-induced landsides.

5.3.2 Exposure and Vulnerability Condition

The effect of flooding and rainfall-induced landslide to major transport routes will greatly affect major economic activities in the province. The internal circulation route within the capital town is greatly affected by such hazard specifically Daet Bridge Nos. 1 and 2 which are the access points in major centers of the province are located here.

Labo Bridge is also affected which is the only link of the different municipalities to and from Daet, nearby provinces, the region and Metro Manila. Because of these, marketing linkages of different agricultural products from the market zones of the province is affected.

6.0 Income, Employment, Service Access and Poverty

6.1 Employment/Unemployment

Camarines Norte has a total population 15 years old and over of 303,000 in 2001 which substantially increased to 323,000 in 2003. This is about 10.8% of the regions 2,986,000 and 0.6% of the country's 51,596,000 population 15 years old and over.

Labor Force Participation Rate (LFPR) in 2001 is 70.00%, slightly lower in the region's 71.9% and the country's 69%. This has increased to 89.7% in 2002 and again reduced to 65.7% in 2003.

Camarines Norte has an employment rate of 87.7% and unemployment rate of 12.3% in 2001, slightly lower in the region's employment rate of 88.3% and slightly higher than unemployment rate of 11.7%. In 2002, employment rate increased to 89.7% compared to the region's 87.6% and the country's 86.1%. This has further increased to 91.7% in 2003 which is higher in the regions employment rate of 90.4%.

Looking at the over-all trend of employment, Camarines Norte is performing positively a manifested by the increasing trend of employment from 87.7% in 2001 to 91.7% in 2003 (**Table 72**).

Table 72
Comparative Labor Force Participation Rate (LFPR),
Employment and Unemployment Rate
By Province, Region V, Philippines: 2001, 2002, 2003

Region / Province / Philippines	2001				2002				2003			
	Total 15 Years Old and Over (000)	Labor Force Participa-tion Rate	Employ-ment Rate	Unemploy-ment Rate	Total 15 Years Old and Over (000)	Labor Force Participa-tion Rate	Employ-ment Rate	Unemploy-ment Rate	Total 15 Years Old and Over (000)	Labor Force Participa-tion Rate	Emplo yment Rate	Unemploy-ment Rate
Albay	683	68.7	85.0	15.0	696	75.3	81.9	18.1	712	64.2	83.5	16.5
Camarines Norte	**303**	**70.0**	**87.7**	**12.3**	**313**	**72.2**	**89.7**	**10.3**	**323**	**65.7**	**91.7**	**8.3**
Camarines Sur	962	74.0	90.9	9.1	983	75.8	87.3	12.7	1,010	72.1	91.9	8.1
Catanduanes	135	70.7	89.4	10.6	138	74.8	92.0	8.0	142	70.7	92.6	7.4
Masbate	398	71.9	93.5	6.5	404	74.5	92.9	7.1	411	68.2	94.3	5.7
Sorsogon	376	74.2	81.8	18.2	383	66.5	90.5	9.5	388	61.2	92.0	8.0
REGION V	2,856	71.9	88.3	11.7	2,918	73.8	87.6	12.4	2,986	67.5	90.4	9.6
PHILIPPINES	48,742	69.0	86.7	13.3	50,167	69.9	86.1	13.9	51,596	67.1	87.8	12.2

Considering the 2006 employment data using the 2006 Community-Based Monitoring System (CBMS) Survey, Camarines Norte has a labor force participation rate of 56.1%; employment rate of 89.2% and unemployment rate of 10.8%. Among the twelve (12) municipalities, San Lorenzo Ruiz has the highest employment rate of 91.2%, and Talisay has the least with 86.8% (**Table 73**).

Table 73
Population 15 Years Old and Over by Employment Status
Province of Camarines Norte, 2006

LABOR AND EMPLOYMENT	MUNICIPALITY												
	Basud	Cap	Daet	J. Pang.	Labo	Mer	Par	SLR	San Vicente	Sta. Elena	Talisay	Vinzons	TOTAL
Total 15 Years Old and Over	19,796	16,663	55,281	26,203	43,934	24,960	34,474	7,618	5,313	22,994	14,206	23,700	295142
Total Labor Force	10,792	9,284	31,279	13,536	30,888	13,634	13,935	4,429	2,800	13,208	8,327	13,557	165,669
Total employed	9,709	8,327	27,491	12,041	27,907	11,891	12,436	4,039	2,491	11,979	7,226	12,232	147,769
Total Unemployed	1,083	957	3,788	1,495	2,981	1,743	1,499	390	309	1,229	1,101	1,325	17,900
Not in the Labor Force	9,004	7,379	24,002	12,667	13,046	11,326	20,539	3,189	2,513	9,786	5,879	10,143	129,473
Labor Force Participation Rate	54.5	55.7	56.6	51.7	70.3	54.6	40.4	58.1	52.7	57.4	58.6	57.2	56.1
Employment Rate	90.0	89.7	87.9	89.0	90.3	87.2	89.2	91.2	89.0	90.7	86.8	90.2	89.2
Umployment Rate	10.0	10.3	12.1	11.0	9.7	12.8	10.8	8.8	11.0	9.3	13.2	9.8	10.8

Source: 2006 CBMS Survey

6.2 Family Income

Camarines Norte has a total number of families of 90,963 in 1997 with a total income of P9,134,330.00 and an average family income of P77,548.00. This is slightly higher than the region's average family income of P77,132.00 but lower than the national average family income level of P123,168.00.

Among the six provinces of Bicol, Albay has the highest average family income, next to Camarines Sur.

In year 2000, the total number of families of Camarines Norte has increased to 96,191 with a total income of P9,134,330.00 and an average family income of P94,960.00.

Looking at the trend, the previous level of average family income (1997) of Camarines Norte has grown by 22.5% in year 2000 which is equivalent to a growth rate of 7.5% per year. Thus, comparing with other provinces of the region, Camarines Norte already ranks 4th in terms of provinces with highest average family income level. Its 2003 average family income of P94,960.00 is relatively higher than the region's average family income of P89,224.00 but still lower than the national average family income level of P144,039.00 (**Table 74**).

Table 74
Total and Average Income by Province
Region V, Philippines: 1997-2000

PROVINCE	TOTAL FAMILIES		TOTAL INCOME ('000)		AVERAGE INCOME PER FAMILY	
	1997	2000	1997	2000	1997	2000
ALBAY	215,216	207,051	19,237,222	22,787,467	89,386	110,057
CAMARINES NORTE	90,963	96,191	7,053,982	9,134,330	77,548	94,960
CAMARINES SUR	306,627	296,136	23,893,128	30,309,226	77,922	102,349
CATANDUANES	45,907	42,243	3,838,077	4,462,776	83,605	105,645
MASBATE	166,270	334,105	9,291,418	20,584,597	55,882	61,611
SORSOGON	143,894	121,194	11,417,482	10,596,430	79,346	87,434
REGION V	968,877	1,096,921	74,731,309	97,874,826	77,132	89,227
PHILIPPINES	14,192,462	15,269,655	1,748,060,769	2,199,431,875	123,168	144,039

Taking into consideration the 2006 CBMS Survey on the total and average family income by municipality, it shows that the average household income in Camarines Norte is already P188,895.00 (**Table 75**). These data further indicate that the average family household income in the province is kept on increasing.

Table 75
Total and Average Household Income by Municipality
Province of Camarines Norte: 2006

MUNICIPALITY	TOTAL HOUSEHOLDS	TOTAL INCOME	AVERAGE INCOME PER HOUSEHOLD
Basud	6,144	584,206,714	95,086
Capalonga	5,882	322,804,911	54,880
Daet	18,609	8,436,099,385	453,334
Jose Panganiban	6,569	415,749,569	63,290
Labo	16,900	1,062,564,738	62,874
Mercedes	8,696	514,779,733	59,197
Paracale	9,377	2,000,411,037	213,332
San Lorenzo Ruiz	2,542	174,681,354	68,718
San Vicente	1,927	142,790,508	74,100
Sta. Elena	7,848	482,832,418	61,523
Talisay	4,697	3,075,025,357	654,679
Vinzons	8,062	1,158,665,258	143,719

6.3 Poverty Characteristics

In year 2000, the annual per capita poverty threshold in the province of Camarines Norte is P11,505.00, a little bit higher than the region's annual per capita threshold of P11,375.00 and the country's P11,458.00. At this level, the poverty incidence among families in the province is 52.7% with a magnitude of poor families of 50,670.00. It ranks 7th nationwide in terms of province with highest and 2nd regionwide, next to Masbate which has a poverty incidence among families of 61.3%. However, in terms of magnitude of poor families, Camarines Norte ranks 4th regionwide with Camarines Sur having the highest magnitude of poor families of about 120,762. On the same year,

the poverty incidence among population in Camarines Norte is 57.3% with a magnitude of 301,147.

In 2003, at the annual per capita poverty threshold level of P12,727.00 of the province of Camarines Norte the poverty incidence among families has reduced to 46.1% with a magnitude of around 44,874. This little improvement in the performance of Camarines Norte has placed it in rank 11th nationwide. Related to this, the province's poverty incidence among population has also reduced to 55.5% compared to 57.3% level in year 2000, with a magnitude of poor population of 269,604.

This trend has further improved in year 2006, with the province's annual per capita poverty threshold of P14,854.00 which is slightly lower than the national and regional levels of P15,057.00 and P15,015.00 respectively, the poverty incidence among families has further reduced to 38.4%, and with a magnitude of only 39,421. This has placed Camarines Norte into rank 37 nationwide, and rank 3rd regionwide, overtaking Camarines Sur. Looking at the magnitude of poor families, Camarines Norte ranks second regionwide in terms of province with less number of poor families, next to Catanduanes. Relatedly, it has a poverty incidence among population of 49.3% with a total magnitude of poor population of about 256,708 (**Table 76** and **Table 77**).

Table 76
Annual Per Capita Poverty Thresholds and Poverty Incidence of Families
CY 2000, 2003 and 2006

PROVINCE	Annual Per Capita Poverty Threshold (P)			POVERTY INCIDENCE AMONG FAMILIES						MAGNITUDE OF POOR FAMILIES		
	2000	2003	2006	2000		2003		2006		2000	2003	2006
				%	Rank	%	Rank	%	Rank			
PHILIPPINES	**11,458**	**12,309**	**15,057**	**27.5**		**24.4**		**26.9**		**4,146,663**	**4,022,695**	**4,677,305**
REGION V	**11,375**	**12,379**	**15,015**	**45.3**	**2**	**40.6**	**4**	**41.8**	**4**	**407,176**	**383,625**	**422,278**
Albay	12,144	12,915	16,128	40.3	30	34.4	35	37.8	40	83,398	76,200	88,676
Camarines Norte	11,505	12,727	14,854	52.7	7	46.1	11	38.4	37	50,670	44,874	39,421
Camarines Sur	11,054	11,873	14,634	40.8	28	40.1	23	41.2	27	120,762	121,936	134,599
Catanduanes	11,587	11,815	13,654	43.9	21	31.8	46	37.3	42	18,541	13,604	16,999
Masbate	11,019	12,504	14,248	61.3	1	55.9	3	51.0	8	83,660	81,804	80,512
Sorsogon	11,146	12,452	15,687	41.1	26	33.7	39	43.5	21	50,146	45,207	62,071

Source: National Statistics Coordination Board

Table 77
Annual Per Capita Poverty Thresholds and Poverty Incidence of Pop'n
CY 2000, 2003 and 2006

PROVINCE	Annual Per Capita Poverty Threshold (P)			POVERTY INCIDENCE AMONG POPULATION (%)			MAGNITUDE OF POOR POPULATION		
	2000	2003	2006	2000	2003	2006	2000	2003	2006
PHILIPPINES	**11,458**	**12,309**	**15,057**	**33.0**	**30.0**	**32.9**	**25,472,782**	**23,836,104**	**27,616,888**
REGION V	**11,375**	**12,379**	**15,015**	**52.6**	**48.5**	**51.1**	**2,540,660**	**2,332,719**	**2,643,799**
Albay	12,144	12,915	16,128	48.4	42.7	46.2	553,629	464,510	552,881
Camarines Norte	11,505	12,727	14,854	57.3	55.5	49.3	301,147	269,604	256,708
Camarines Sur	11,054	11,873	14,634	47.2	47.1	49.9	765,373	750,674	846,030
Catanduanes	11,587	11,815	13,654	51.9	36.8	46.8	117,740	76,609	105,075
Masbate	11,019	12,504	14,248	70.2	63.4	59.5	482,818	470,670	487,672
Sorsogon	11,146	12,452	15,687	51.4	43.5	55.3	319,952	300,652	395,434

Source: National Statistics Coordination Board

The municipal level small area poverty estimates for year 2003 provides an indepth picture of the poverty situation in Camarines Norte. Among the 12 municipalities of the province, the municipality of Capalonga has the highest poverty incidence of 54.03% with a magnitude of poor population of about 14,822. It ranks 313th nationwide in terms of poorest municipality. It is followed by the municipality of Paracale which ranked 400th with a poverty incidence of 50.19% and a magnitude of poor population of 20,962. Talisay has the lowest poverty incidence of only 30.50% with a magnitude of about 6,391 considering that the municipality of Labo is the biggest municipality in terms of land area, it has also the highest number of poor population of around 33,506 (**Table 78**).

Table 78
Municipal Level Small Area Poverty Estimates: 2003
Province of Camarines Norte

Municipality	Poverty Incidence	Rank (Nationwide)	Magnitude of Poor Population	Poverty Gap	Severity of Poverty
Basud	38.63	766	13,122	10.82	4.21
Capalonga	54.03	313	14,822	17.38	7.42
Daet	30.56	1,034	26,496	9.61	4.15
San Lorenzo Ruiz	48.68	443	5,284	15.38	6.59
Jose Panganiban	43.44	604	20,079	13.25	5.49
Labo	42.29	640	33,506	12.53	5.08
Mercedes	47.57	479	18,837	14.47	5.59
Paracale	50.19	400	20,962	16.21	7.02
San Vicente	40.08	712	3,578	12.03	4.95
Santa Elena	49.35	426	17,711	15.42	6.49
Talisay	30.51	1,035	6,391	8.25	3.14
Vinzons	44.27	577	16,317	13.52	5.57

Source: 2003 City and Municipal Level Poverty Estimates, NSCB

Data on income gap, poverty gap and severity of poverty are other means-based to measure the depth of poverty in the province.

Income gap refers to the measure of amount needed by poor families to eradicate poverty. This is computed by dividing the total number of poor families from the total income shortfall of families below poverty threshold (expressed in proportion to the poverty line). Thus, in year 2000, the average income shortfall of poor families in the province of Camarines Norte is 33.2%, compared to the region's 31.2% and the country's 29.1%. Among the six (6) provinces of Bicol, Catanduanes has the highest income gap of 35.0% and Albay has the least with 27.9%. In year 2003, the income gap of Camarines Norte has increased to 34.7%, about 1.5% increase from year 2000 level. However, it has reduced to 27.3% in 2006 or about 7.4% reduction from 2003 income gap level. This trend is a manifestation that the improving economic activities in the province has contributed in the considerable reduction of income gap in the province.

Poverty gap on the other hand refers to the measure of amount needed to eradicate poverty. It is computed by dividing the total number of families from the total income shortfall of families below poverty threshold (expressed in proportion to the poverty line). In year 2000, the average income shortfall of families in Camarines Norte is 17.5%, higher than the regional level of 14.1% and national level of 8.0%. However, the province's poverty gap has reduced to 16.0% in 2003 and further reduced to 10.5% in 2006. As can be noted, the 2006 poverty gap of the province is already below the regional poverty gap of 12.6%, but still slightly higher than the national level of 7.7%. Among the six province of the region, Camarines Norte already ranked 2nd in terms of provinces with low poverty gap next to Catanduanes. Masbate is still the province with high poverty gap of around 12.5%.

Another means to measure the depth of poverty is the data on severity of poverty. This is a measure of inequality among the poor. The higher the severity of poverty, the more severe the poverty in a locality. In year 2000, poverty is most severe in the province of Masbate with a severity of poverty of 9.1%, followed by the province of Camarines Norte with 7.5%. This ranking holds true in year 2003 where Masbate and Camarines Norte were still the two provinces with high severity of poverty of about 11.4% and 7.1% respectively. However, in year 2006, with the improving economic activities in Camarines Norte, its severity of poverty drastically reduced to 4.0%, a 3.1% reduction from the 2003 level of 7.1%. As a result, Camarines Norte ranked 2nd in terms of provinces in Bicol with low percentage of severity of poverty, next to Catanduanes. Comparing the province's performance with the Bicol Region, it is already lower by 1.1% with the region's 5.1% severity of poverty but still higher than the country's 3.1% (**Table 79**).

Table 79
Income Gap, Poverty Gap and Severity of Poverty by Province
Region V, Philippines: 2000, 2003, 2006

PROVINCE / REGION / PHILIPPINES	INCOME GAP					POVERTY GAP					SEVERITY OF POVERTY				
	2000	2003	2006	INC./DEC (%)		2000	2003	2006	INC./DEC (%)		2000	2003	2006	INC./DEC (%)	
				03-00	06-03				03-00	06-03				03-00	06-03
Albay	27.9	30.3	30.2	2.3	-0.1	11.3	10.4	11.4	-0.8	1	4.3	4.3	4.6	0.0	0.3
Camarines Norte	33.2	34.7	27.3	1.5	-7.4	17.5	16.0	10.5	-1.5	-5.5	7.5	7.1	4.0	-0.4	-3.1
Camarines Sur	31.3	31.0	30.6	-0.4	-0.4	12.8	12.4	12.6	-0.4	0.2	5.4	5.1	5.1	-0.3	0.0
Catanduanes	35.0	27.3	25.0	-7.7	-2.3	15.4	8.7	9.3	-6.7	0.7	6.7	3.5	3.3	-3.2	-0.2
Masbate	34.0	40.6	33	6.6	-7.6	20.9	22.7	16.8	1.9	-5.9	9.1	11.4	7.4	2.3	-4.1
Sorsogon	28.1	25.6	28.1	-1.6	1.6	11.6	8.9	12.2	-2.7	3.3	4.2	3.3	4.6	-0.9	1.3
Region V	31.2	32.7	30.1	1.5	-2.6	14.1	13.2	12.6	-0.9	-0.7	5.8	5.8	5.1	-0.1	-0.7
Philippines	29.1	28.7	28.8	-0.4	0.1	8.0	7.0	7.7	-1.0	0.7	3.4	2.8	3.1	-0.6	0.3

Source: National Statistics Coordination Board

Human Development Index (HDI) is a summary measure of human development. It measures the average achievement in three basic dimensions of human development namely: Longevity, as measured by life expectancy at birth; knowledge, as measured by basic enrolment ratio, high school graduate ratio and functional literacy rate; standard of living, as measured by real income per capita.

In 1997, the Human Development Index of Camarines Norte is 0.496, placing the province rank 56th nationwide. This has steadily improved to 0.500 in year 2000 and 0.525 in year 2003.

Among the provinces, Camarines Sur has the highest Human Development Index of 0.558 in year 2003 and Masbate has the least of about 0.442 (**Table 80**).

Table 80
Human Development Index (HDI)
Bicol Provinces: CY 1997, 2000 and 2003

Province	Y E A R					
	1997		2000		2003	
	Rank	HDI	Rank	HDI	Rank	HDI
Albay	44	0.517	40	0.530	44	0.541
Camarines Norte	56	0.496	59	0.500	50	0.525
Camarines Sur	49	0.514	46	0.520	34	0.558
Catanduanes	38	0.538	52	0.511	48	0.529
Masbate	74	0.494	73	0.400	73	0.442
Sorsogon	63	0.489	62	0.487	49	0.527

Considering the specific dimension of human development, it can be noted that Camarines Norte has high life expectancy index of 0.667 but low income index of only 0.324. However, among the six province of bicol, Camarines Norte still ranked 2nd in terms of high income index, next to Camarines Sur (**Table 81**).

Table 81
Human Development Index By Province, By Component: CY 2003

Provinces	Life Expectancy at Birth		Life Expectancy at Birth			Income	
	Age in Years	Index	% of High School Graduate	Combined Enrolment Ratio	Index	Real Per Capita Income	Index
Albay	69.0	0.733	47.6	91.7	0.623	18,129	0.267
Camarines Norte	65.0	0.667	41.4	92.8	0.585	20,376	0.324
Camarines Sur	71.3	0.772	42.4	87.5	0.574	20,477	0.327
Catanduanes	66.6	0.694	42.2	91.9	0.588	19,656	0.306
Masbate	64.8	0.664	28.5	90.0	0.490	14,454	0.173
Sorsogon	69.1	0.735	40.5	90.7	0.572	18,393	0.274

Source: National Statistical Coordination Board
Philippine Human Development Index

The Gini coefficient is a measure of statistical dispersion, commonly used as a measure of inequality of income distribution o inequality of wealth distribution. It is defined as a ratio with values between 0 and 1. A low Gini coefficient indicates more equal income or wealth distribution, while a high Gini coefficient indicates more unequal distribution.

In 1997, Camarines Norte has a Gini Index of 34.5, second from among the six bicol provinces with lowest Gini Index, next to Sorsogon with only 32.3. This indicates that income or wealth distribution in the provinces of Sorsogon and Camarines Norte are more equal than other provinces of Bicol. However, it could be noted that the Gini Index of Camarines Norte is keep in increasing from 42.5 in 2000 and 50.7 in 2003 (**Table 82**). This shows that there is a more unequal distribution of income and wealth in the province. Thus, considering the 2003 data, Camarines Norte now ranks first among the six Bicol provinces where income/wealth is unequally distributed.

Table 82
Gini Coefficient, Bicol Provinces
CY 1997, 2000 and 2003

Province	Inequality Measures		
	Gini Index 1997	Gini Index 2000	Gini Index 2003
Albay	42.1	40.4	43.9
Camarines Norte	34.5	42.5	50.7
Camarines Sur	36.7	40.4	47.4
Catanduanes	38.1	48.7	38.3
Masbate	38.9	37.0	46.7
Sorsogon	32.3	36.1	36.4

Source: Phil. Human Development Report, 2005

6.4 Social Services

6.4.1 Health

6.4.1.1 Hospital Bed-Population Ratio

The province has 12 hospitals, three (3) run by the government and nine (9) privately owned, with combined capacity of 443 beds. Hospital bed ratio is estimated at 1:1,160 in CY 2007 a bit higher than the national ratio of 1:1,107. For CY 2008, the bed population ratio of the province was 1:1,174 or 18% lower than the region's 1:1,440 and 12% higher than the Philippines bed population ratio of 1:1,037. For CY 2033, the projected hospital bed population ratio in the province is accounted to 1:1,605 (**Table 83**).

Table 83
Hospital Bed-Population Ratio
CY 2007, 2008 and 2003

Philippines / Region / Province	No. of Beds	2007		2008		2009	
		Actual Pop'n	Hospital Bed Pop'n Ratio	Estimated Pop'n	Hospital Bed Pop'n Ratio	Estimated Pop'n	Hospital Bed Pop'n Ratio
Philippines	87,136	88,574,614	1,017	90,381,536	1,037	149,741,082	1,718
Bicol Region	3,591	5,109,796	1,423	5,171,116	1,440	6,967,822	1,940
Camarines Norte	443	513,785	1,160	520,087	1,174	711,082	1,605

6.4.1.2 Health Personnel

Table 84 indicates the number of health personnel per municipality. Medical services are brought to the rural areas through 16 rural health units provincewide with 16 doctors, 7 dentists and 6 dental aids, 17 nurses, 19 sanitary inspectors, 15 medical technicians, 958 active barangay health workers, 109 barangay health scholars, 342 trained attendants and 40 non-technical personnel.

Table 84
Number of Health Personnel by Municipality, CY 2007
Province of Camarines Norte

MUNICIPALITY	HEALTH PERSONNEL										
	BHS	Doctors	Dentist	Nurses	Mid-wives	Sanitary Inspector	Med Tech	Active BHWs	Dental Aids	Trained Brith Attendants	Trained Brith Attendants
Basud	9	1	1	2	10	1	1	108	1	31	2
Capalonga	8	0	1	2	8	1	1	39	1	32	1
Daet	21	3	1	3	15	3	1	96	0	7	15
Jose Panganiban	7	2	1	2	7	2	2	107	1	0	0
Labo	17	3	1	3	19	3	3	144	1	68	2
Mercedes	8	1	0	1	8	2	1	90	0	33	0
Paracale	10	1	1	1	9	1	1	63	1	32	2
San Lorenzo Ruiz	4	1	Visiting	0	4	1	1	42	1	25	1
San Vicente	3	1	0	1	3	1	1	29	0	16	0
Sta. Elena	9	1	0	1	9	1	1	117	0	63	9
Talisay	4	1	1	1	4	1	1	60	0	21	0
Vinzons	7	1	Visiting	1	7	2	1	45	0	15	8
TOTAL	107	16	7	18	103	19	15	940	6	343	40

Health personnel at the Provincial Health Office (PHO) have 48 doctors, 7 dentist, 61 nurses, 36 nursing attendants, 94 midwives, 17 rural sanitary inspectors, 22 medical technical technologist, 7 nutritionist, 5 pharmacist, 3 radiologist and 12 malaria technicians with administrative support staff and non-technical personnel. With a population of 513,785 in CY 2007, the doctor-population ratio is computed at 1:8,028. With a projected population of 711,083 in CY 2033 the number of doctor-population ratio is 1:11,110.

Given the standard of 1 government physician per 20,000 population, we have still enough until the end of the planning period.

In terms of other health personnel, public health nurse to population ratio is accounted to 1:9,116, rural midwife-population ratio of about 1:3,609, government dentist-population ratio of about 1:50,791, sanitary inspector-population ratio of 1:19,752, barangay health worker-household ratio of 1:148 household (**Table 85**).

Table 85
Health Personnel – Population Ratio: CY 2008
Province of Camarines Norte

Health Personnel	No. of Health Personnel	Ratio to Pop'n / Household	Standard	Remarks
1. Government Physicial	64	1:11,110	1:20,000 pop'n	Within the standard
2. Nurse	78	1:9,116	1:20,000 pop'n	Within the standard
3. Rural Health Midwife	197	1:3,609	1:5,000 pop'n	Within the standard
4. Dentist	14	1:50,791	1:50,000 pop'n	Within the standard
5. Rural Sanitary Inspector	36	1:19,752	1:20,000 pop'n	Within the standard
6. Barangay Health Worker	958	1:15 hh	1:20 hh	Within the standard
7. Barangay Nutrition Scholar	107	1:2.64/bgy	1 per bgy.	175 Bgy Nutrition Scholar is needed in CY 2033

6.4.1.3 Morbidity and Mortality

Among the leading causes of morbidity in the province are upper respiratory tract infection, acute lower respiratory tract infection and pneumonia, acute respiratory infection, hypertension, acute febrile illness, etc. (**Table 86**).

Table 86
Leading Causes of Morbidity: CY 2007
Province of Camarines Norte

Cause	Number	Rate/100,000 Population
1. Upper Respiratory Tract Infection	17,377	3,326.70
2. Acute Lower Respiratory Tract Infection & Pneumonia	17,020	3,258.35
3. Acute Lower Respiratory Tract Infection	12,286	2,352.06
4. Hypertension	7,802	1,493.63
5. Acute Febrile Illness	4,417	845.60
6. Pneumonia	2,687	514.41
7. Wound	2,177	416.77
8. Acute Upper Respiratory Infection	1,970	377.14
9. Urinary Tract Infection	1,819	348.23
10. Acute Watery Diarrhea	1,399	267.83

Source: Provincial Health Office

On the other hand, the leading cause of mortality are pneumonia, myocardial infection, degenerative disease, all forms of cancer, cerebro vascular accidents, PTB, cardio vascular disease, hypertension and accidents (**Table 87**).

Table 87
Leading Causes of Mortality: CY 2007
Province of Camarines Norte

Cause	Number	Rate/100,000 Population
1. Pneumonia	369	70.64
2. Myocardial Infection	307	58.77
3. Degenerative Diseases	199	38.09
4. Cancer all forms	191	36.56
5. Cerebro Vascular Accidents	169	33.33
6. PTP	136	26.82
7. Cardio Vascular Diseases	114	21.82
8. Hypertension	83	16.37
9. Accidents	65	12.44

Source: Provincial Health Office

6.4.1.4 Live births

Live births in the province have a total of 12,314 in CY 2007 which increased by 1,520 or 14.08% against 10,794 in CY 2006. Male has 6,293 which is higher than female by 272 in CY 2007 (**Table 88**).

Table 88
Number of Live Births by Sex & by Municipality:CY 2006-2007
Province of Camarines Norte

Municipality	CY 2006			CY 2007		
	Male	Female	Total	Male	Female	Total
Basud	449	367	816	424	438	862
Capalonga	392	377	769	402	373	775
Daet	1,008	914	1,922	1,171	969	2,140
Jose Panganiban	543	509	1,052	617	607	1,224
Labo	1,010	936	1,946	1,137	1,060	2,197
Mercedes	312	333	645	657	645	1,302
Paracale	470	472	942	511	517	1,028
San Lorenzo Ruiz	117	95	212	111	133	244
San Vicente	112	111	223	118	128	246
Sta. Elena	478	440	918	441	476	917
Talisay	249	246	495	241	219	460
Vinzons	775	379	1,154	463	456	919
TOTAL	5,915	5,179	11,094	6,293	6,021	12,314

Maternal Mortality Rate (MMR) measures maternity related mortality among women during pregnancy, childbirth and postpartum except those from accidental or incidental causes. In CY 2007, MMR was reported at 4 or 0.32% per 1,000 livebirths that is very much lower by 0.79% from 1.11% or 12 in year 2006.

MMR in most municipalities have decreased except for San Lorenzo Ruiz with previously 0 records but this year, said municipality recorded 1 or 4.10% (**Table 89**).

Causes of maternal deaths are hemorrhage, abortion, pre-eclampsia and abruption placenta.

Table 89
Maternal Mortality Rate per 1,000 Livebirths by Municipality
CY 2005-2007
Province of Camarines Norte

MUNICIPALITY	2005	2006	2007	PROGRESS
Basud	2.36	1.23	1.16	0.07
Capalonga	2.73	3.90	1.29	2.61
Daet	1.07	0.52	0.47	0.05
Jose Panganiban	1.73	0.95	0.82	0.13
Labo	0.53	0.51	0.00	0.51
Mercedes	0	0	0.00	0.00
Paracale	1.11	1.06	0.00	1.06
San Lorenzo Ruiz	4.33	0	4.10	(4.10)
San Vicente	0	0	0.00	0.00
Sta. Elena	6.09	2.18	0.00	2.18
Talisay	0.0	2.02	0.00	2.02
Vinzons	0	1.17	0.00	1.17
CAMARINES NORTE	**1.34**	**1.11**	**0.41**	**0.70**

Source: Provincial Health Office

Infant Mortality Rate (IMR) per 1,000 live births specifically measures the risk of dying among children less than one year old. In CY 2007, IMR recorded 15.43% wherein it increased by 0.42% against 15.01% in 2006 (Table 90).

Seven municipalities recorded a decreased in IMR. It can be attributed to the continuous efforts and interventions made by the Provincial Government with the help of UNICEF and other government agencies.

The municipality of Sta. Elena marked the highest increased of 12% in IMR, followed by Paracale with 10.17%, Talisay 7.6%, Labo 7.55% and San Vicente with 3.65%.

Table 90
Infant Mortality Rate by Municipality: CY 2005-2007
Province of Camarines Norte

MUNICIPALITY	2005	2006	2007	PROGRESS
Basud	9.45	11.03	9.28	1.75
Capalonga	21.86	15.60	12.90	2.70
Daet	16.03	21.85	18.69	3.16
Jose Panganiban	9.52	20.91	12.25	8.66
Labo	9.55	5.65	13.20	(7.55)
Mercedes	25.10	21.71	13.06	8.65
Paracale	34.48	19.11	29.28	(10.17)
San Lorenzo Ruiz	34.63	0.00	0.00	0.00
San Vicente	0.00	4.48	8.13	(3.65)
Sta. Elena	17.05	7.63	19.63	(12.00)
Talisay	17.24	14.14	21.74	(7.60)
Vinzons	15.76	22.25	10.88	11.37
CAMARINES NORTE	**16.17**	**15.01**	**15.43**	**(0.42)**

Source: Provincial Health Office

The leading causes of infant mortality are pneumonia, congenital anomalies, prematurity/acute respiratory distress syndrome, aspiration pneumonia, sepsis/septicemia, AGE, asphyxia.

Undertive mortality is the number of deaths underfive (5) years of age per 1,000 underfive children population in a given year. Underfive Mortality Rate (UFMR) in year 2007, reported at about 286 or 23.1%. It slightly decreased by 0.2% from 23.3 in 2006. Paracale exhibited the highest undertfive mortality rate of 38.4% which is 0.4% lower against 38% in 2006 (**Table 91**).

Table 91
Underfive Mortality Rate by Municipality: CY 2005-2007
Province of Camarines Norte

MUNICIPALITY	2005		2006		2007	
	No.	%	No.	%	No.	%
Basud	11	13.00	14	17.20	10	11.60
Capalonga	29	39.60	24	31.20	22	28.40
Daet	49	36.20	45	23.40	46	21.50
Jose Panganiban	29	25.10	31	29.50	27	22.10
Labo	27	14.30	24	12.30	46	20.90
Mercedes	23	48.00	31	48.10	30	23.00
Paracale	31	34.50	32	38.00	42	38.40
San Lorenzo Ruiz	8	34.60	3	14.20	3	12.30
San Vicente	1	4.10	1	4.50	6	24.40
Sta. Elena	23	28.00	15	16.30	20	21.80
Talisay	9	23.10	9	18.20	9	19.60
Vinzons	24	29.00	22	25.80	25	27.20
CAMARINES NORTE	**264**	**25.4**	**251**	**23.3**	**286**	**23.1**

Source: Provincial Health Office

The leading causes of underfive mortality in the province are pneumonia, congenital anomalies, acute respiratory distress syndrome (ARDS)/prematurity, sepsis/septicemia, aspiration pneumonia, acute gastroenteritis (AGE), central nervous system infection, and malnutrition.

Fully Immunized Children (FIC) is one who, by its birthday, has already received 3 doses of Oral Polio Vaccine and DPT and 1 dose of BCG and measles vaccine.

In year 2007, 8 out of 10 children or 80.28% (9-11 months old) received complete immunization. A slight increase of 0.75% from year 2006. The municipality of Daet increased by 19.14%, followed by Basud with 8.78%. Other municipalities have decline on the performance from 2006-2007, these are San Lorenzo Ruiz with the decreased of 10.54%, Talisay with 7.27%, Labo 4.35%, Sta. Elena 3.17% and Mercedes with 2.53%. It can be attributed to lack of supplies and health personnel who are charging fee for supplies used in the immunization like syringes, etc. (**Table 92**).

Table 92
Percentage of Fully Immunized Children: CY 2005-2007
Province of Camarines Norte

MUNICIPALITY	2005	2006	2007	PROGRESS
Basud	80.45	84.21	75.43	8.78
Capalonga	87.67	78.11	79.12	1.01
Daet	84.41	74.60	93.74	19.14
Jose Panganiban	83.27	87.77	90.29	2.52
Labo	56.40	92.25	87.90	(4.35)
Mercedes	75.22	69.28	66.75	(2.53)
Paracale	69.53	72.31	72.38	0.07
San Lorenzo Ruiz	58.29	69.44	58.90	(10.54)
San Vicente	76.46	79.44	80.54	0.80
Sta. Elena	89.53	80.64	77.47	(3.17)
Talisay	61.86	66.61	59.34	(7.27)
Vinzons	76.59	72.40	73.16	0.76
CAMARINES NORTE	**80.65**	**79.53**	**80.28**	**0.75**

Source: Provincial Health Office

The percentage of underweight pre-school children in the province slightly decreased by 1.61% from 16.61% in CY 2007 and 18.22 in 2006. Most of the municipalities have decreased in underweight except for Jose Panganiban and San Lorenzo Ruiz with slight decreased of 0.14 and 0.54 respectively (**Table 93**).

Table 93
Percentage of Underweight Pre-School Children
By Municipality: CY 2005-2007
Province of Camarines Norte

MUNICIPALITY	2005	2006	2007	PROGRESS
Basud	16.55	16.11	13.20	2.91
Capalonga	20.98	18.27	17.76	0.51
Daet	9.74	9.50	6.25	3.25
Jose Panganiban	20.24	18.70	18.84	(0.14)
Labo	17.90	16.34	14.79	1.56
Mercedes	25.74	24.49	22.71	1.78
Paracale	26.49	24.68	23.72	0.96
San Lorenzo Ruiz	22.31	17.90	18.44	(0.54)
San Vicente	15.75	24.88	21.38	3.50
Sta. Elena	19.37	22.89	18.14	4.75
Talisay	17.15	20.11	18.31	1.80
Vinzons	21.01	23.92	21.52	2.40
CAMARINES NORTE	**18.40**	**18.22**	**16.61**	**1.61**

Source: Provincial Health Office

Percentage of underweight school children in the province decreased by 1.4% from 26.5% in 2006 against 25.10% in 2006. The municipality of Vinzons had the highest decreased in underweight school children with 10.25% while San Vicente had an increased of 4.6% (**Table 94**).

Table 94
Percentage of Underweight School Children
By Municipality: CY 2005-2007
Province of Camarines Norte

MUNICIPALITY	2005	2006	2007	PROGRESS
Basud	23.21	30.20	24.69	5.51
Capalonga	21.48	23.20	25.68	(2.48)
Daet	19.67	24.20	21.32	0.88
Jose Panganiban	26.87	25.40	20.80	4.60
Labo	23.19	21.50	21.81	(0.31)
Mercedes	26.33	31.00	34.02	(3.02)
Paracale	26.53	31.60	33.74	(2.14)
San Lorenzo Ruiz	25.37	22.10	23.04	(0.94)
San Vicente	25.37	17.80	23.04	(5.24)
Sta. Elena	17.96	29.60	28.77	0.83
Talisay	26.46	27.10	26.88	0.22
Vinzons	28.09	31.90	23.18	10.25
CAMARINES NORTE	**23.97**	**26.50**	**25.10**	**1.40**

Source: Provincial Health Office

6.4.2 Education

There are about 18,904 children 3-5 years old enrolled in pre-school/day care classes or with early childhood care and development in the province. This represents 44.29% of the total number of children 3-5 years old of 42,680. It increased by 889 or 4.93% from SY 2006-2007 enrolment (**Table 95**).

Table 95
Children with Early Childhood Care and Development
SY 2005-2006, 2006-2007 & 2007-2008
Province of Camarines Norte

TYPE OF SCHOOL	SY 2005-2006	SY 2006-2007	SY 2007-2008
PTA Organized Pre-schools	3578	4,474	4,607
Pre-School Contracting Scheme	275	1,049	2,292
Private Pre-Schools	1,529	1,512	1,257
Day Care Centers	9,807	10,980	10,748
TOTAL	**15,189**	**18,015**	**18,904**

Public elementary school has fourteen (14) districts in the province with a total of 252 schools. The total enrolment for SY 2007-2008 is about 88,554, wherein 45,969 are male and 42,585 are female. Daet North District has the most number of enrolments with 9,423, followed by Paracale District with 8,869, Labo East with 7,941, Mercedes with 7,899, Sta. Elena with 7,296 and Labo West with 7,260. Total academic classroom is about 2,254 (**Table 96**).

Table 96
Public Elementary School Enrolment
By District: SY 2007-2008
Province of Camarines Norte

SCHOOL DISTRICT	Enrolment SY 2007-2008			No. of Academic Classroom
	Male	Female	Total	
Basud	3,351	3,263	6,614	174
Capalonga	3,291	2,912	6,206	156
Daet North	4,844	4,575	9,423	206
Daet South	2.073	2,044	4,117	223
Jose Pang. East	2,995	2,722	5,717	157
Jose Pang. West	1,816	1,641	3,457	76
Labo East	4,173	3,768	7,941	205
Labo West	3,790	3,470	7,260	114
Mercedes	4,050	3,849	7,899	177
Paracale	4,607	4,262	8,869	200
SLR-San Vicente	1,988	1,851	3,839	116
Sta. Elena	3,814	3,482	7,296	160
Talisay	1,804	1,581	3,385	87
Vinzons	3,370	3,161	6,531	203
CAMARINES NORTE	**45,969**	**42,585**	**88,554**	**2,254**

Source: Department of Education

For private elementary school, the province has seventeen (17) mostly located in Daet. These are Seventh Day Adventist Multi-Grade Schools in Basud, Capalonga, Daet and Sta. Elena, Capalonga Parochial School, Chung Hua High School, ICL School, La Consolacion College, Model Center of Excellence Academy, Our Lady of Lourdes College Foundation, St. John de Apostle Academy in Labo, St. Luke's Christian School, St. Martin School in Cam. Norte, St. Maximilian Ma. Kolbe LC, Sunny Garden School for Kids, Vinzons Parochial School and Zion Christian Foundation in Daet. Thirteen (13) are sectarian and four (4) are non-sectarian. Total enrolment for SY 2007-2008 is about 1,610 (**Table 97**).

Table 97
Private Elementary School Enrolment: SY 2007-2008
Province of Camarines Norte

SCHOOL	MALE	FEMALE	TOTAL
Basud Advent Hope Academy, Inc.	19	11	30
Capalonga Parochial School	47	47	94
Capalonga Seventh Day Adventist Multi-Grade School	51	63	114
Chuang Hua High School, Daet	170	155	325
Daet Seventh Day Adventist Multi-Grade School	40	41	81
ICL School, Daet	61	42	103
La Consolacion College, Daet	161	183	344
Model Center for Excellence Academy,Daet	12	15	27
Our Lady of Lourdes College Foundation, Daet	23	21	44
Sta. Elena Seventh Day Adventist Multi-Grade School	61	70	131
St. John the Apostle Academy, Labo	0	16	16
St. Luke's Christian School, Daet	76	48	124
St. Martin School of CN, Daet	22	20	42
St. Maximilian Ma. Kolbe Learning Center, Daet	0	0	0
Sunny Garden School for Kids, Daet	30	19	49
Vinzons Parochial School	34	38	72
Zion Christian Foundation, Daet	9	5	14
CAMARINES NORTE	**816**	**794**	**1,610**

Source: Department of Education

Cohort Survival Rate is the percentage of the enrolment of a certain cohort of pupils/students in the beginning grade/year of a certain level who reached the final grade/year of the required number of years for the level. In SY 2006-2007 cohort survival rate was 98.48 percent, which has an increased of 7.36 percent from 91.12 percent in SY 2005-2006.

Drop-out rate in public elementary school was decreased by 0.12 percent from 0.36 percent in SY 2006-2007 and 0.24 in SY 2005-2006 (**Table 98**).

Table 98
Performance Indicators in Public Elementary School: SY 2005-2006 & 2006-2007
Province of Camarines Norte

INDICATORS	SY 2005-2006	SY 2006-2007
Gross Enrolment Ratio	101.05	103.19
Net Enrolment Ratio	85.69	87.35
Cohor Survival Rate	91.12	98.48
Drop-out Rate	0.36	0.24

Source: Department of Education

Public secondary school in the province has a total of 52 schools with 516 classrooms. Enrolment for SY 2007-2008 totaled to 33,435, which decreased by 122 from the previous year of 33,557.

For private secondary schools, the province has a total of eighteen (18) accredited learning institutions located in different towns. Enrolment for private secondary school totaled to 4,837 in SY 2007-2008, which was increased by 515 from 4,322 in SY 2006-2007 (**Table 99**).

Table 99
Enrolment in Public & Private Secondary School: SY 2006-2007 & 2007-2008
Province of Camarines Norte

TYPE OF SCHOOL	SY 2006-2007	SY 2007-2008
Public	33,557	33,435
Private	4,322	4,837
TOTAL	**37,879**	**38,272**

Source: Department of Education

The performance indicator for secondary school shows that gross enrolment ratio has 65.51 percent, net enrolment ratio 48.92 percent, cohort survival rate 62.09 percent, and drop-out rate 10.15 percent (**Table 100**).

Table 100
Performance Indicators in Public Secondary School: SY 2005-2006 & 2006-2007
Province of Camarines Norte

INDICATORS	SY 2005-2006	SY 2006-2007
Gross Enrolment Ratio	64.48	65.51
Net Enrolment Ratio	46.99	48.92
Cohort Survival Rate	52.66	62.09
Drop-out Rate	9.43	10.15

Source: Department of Education

The province has ten (10) tertiary schools/colleges. Eight (8) are offering complete degree courses wherein five (5) of these are also offering post secondary school/vocational courses. Camarines Norte State College is the only public college in the province with four campuses located in Daet, Jose Panganiban, Mercedes and Labo (**Table 101**).

Table 101
Existing Tertiary Schools/Colleges: CY 2007
Province of Camarines Norte

SECONDARY SCHOOL/COLLEGE	LOCATION	CATEGORY	
		Offers Complete Degree Courses	Post Secondary School (Voc,/Tech)
Camarines Norte College	Labo	/	/
Cam. Norte State College			
- Main Campus	Daet	/	-
- J. Pang, Campus	J. Pang.	/	/
- Mercedes Campus	Mercedes	/	-
- Labo Campus	Labo	/	-
Camarines Norte School of Law	Talisay	/	-
Heroes Memorial College	Daet	/	-
La Consolacion College	Daet	/	-
Mabini College	Daet	/	/
Our Lady of Lourdes College	Daet	/	/
Our Lady of Peñafrancia College	Daet	-	/
Sta. Elena College	Sta. Elena	/	/
Capalonga College	Capalonga	-	/

Source: Various College in the province

The latest 2003 survey of FLEMMS in the province noted for the decreased of 21.11 percent in functional literacy from 90.01 percent in 1994 to 69.90 percent in year 2003. Because of this result, the provincial government has traced out the area wherein the survey has been conducted and it was found out that most of the sampled barangays were located in the far flung areas of the province. In the 1994 Functional Education Mass Media Survey, the province has noted for the high percentage in both basic and functional literacy of 97.55 and 90.01 percent respectively. The province is the highest among six (6) provinces in Bicol Region and higher than the country's basic and functional literacy of 93.87 and 83.79 percent respectively. Female slightly dominates male by 0.20 percent in basic literacy and 5.71 percent in functional literacy.

For the Multi-Indicator Cluster Survey (MICS) result conducted in CY 2000, the province basic literacy was 99.24 percent wherein females have 99.29 percent and 99.20 percent for males. The MICS 2007 conducted by National Statistics Office has the result for Female Youth Basic Literacy of 99.8% (**Table 102**).

Table 102
Literacy Status: CY 1994, 2000, 2003 & 2007
Province of Camarines Norte

LITERACY	1994 FLEMMS			MICS 2000	2003 FLEMMS			MICS 2007
	Phil.	Bicol Region	Cam. Norte	Cam. Norte	Phil.	Bicol Region	Bicol Region	Cam. Norte
Basic Literacy	**93.87**	**94.87**	**97.55**	**99.24**	**93.4**	**95.0**	**97.1**	**-**
Male	93.74	94.78	97.45	99.20	92.6	93.8	97.2	**-**
Female	93.99	94.97	97.65	99.29	94.3	96.3	97.0	**-**
Female Youth Basic Literacy (15-54 Yrs. Old)								**99.80**
Functional	**83.79**	**82.83**	**90.01**		**84.1**	**80.1**	**69.9**	**-**
Literacy	81.73	81.25	87.22		81.9	76.6		**-**
Male	85.89	84.48	92.93		86.3	83.8		**-**
Female								

Source: ***Functional Literacy Education and Mass Media Survey***
Multi-Indicator Cluster Survey

6.4.3 Housing

Latest data in housing was in year 2000 of the National Statistics Office (NSO) showed that the occupied housing units totaled to 90,838 wherein 86,919 are single house, 1,792 are duplex and 1,165 multi-unit residential. For other buildings, commercial/industrial/agricultural 194, institutional living quarters 32, other housing units 28 and 708 not reported.

The ratio of households to occupied housing units is 1.01 percent while household population to occupied housing unit was 5.18 percent (**Table 103**).

Table 103
Occupied Housing Units, Number of Households, Household Population and Ratio of Households and Households Population to Occupied Housing Units by Type of Building: CY 2000
Province of Camarines Norte

TYPE OF BUILDING	Occupied Housing Units	No. of HHs	HHs Pop'n.	RATIO	
				Households to Occupied Housing Units	HH Pop'n to Occupied Housing Units
Camarines Norte	**90,838**	**91,866**	**470,087**	**1.01**	**5.18**
Single	86,919	87,749	450,849	1.0	5.19
Duplex	1,792	1,910	8,740	1.07	4.88
Multi-Unit Res.	1,165	1,234	5,387	1.06	4.62
Commercial/Industrial/ Agricultural	194	196	831	1.01	4.28
Institutional living quarter	32	36	201	1.13	6.28
Other housing units	28	28	125	1.00	4.46
Not Reported	708	713	3,954	1.01	5.58

Source: National Statistics Office

6.4.3.1 Housing Backlog

Additional housing units needed in the province due to doubled up households is accounted to 1,048 units, the highest of which is in the municipality of Daet with 260 units, followed by Labo, Mercedes, Sta. Elena and the least in the municipality of San Vicente with housing backlog of 173, 155, 109 and 7 units respectively.

Those made up of light materials and makeshift / salvaged / improvised houses that need to be replaced totalled to about 2,993 units bringing to a total housing backlog of 4,041 units provincewide (**Table 104**).

Table 104
Housing Backlog: CY 2008
Province of Camarines Norte

Municipality	Additional Units needed due to Doubled Up Households	Units to be Replaced		Total
		Makeshift / Salvaged / Improvised	Made of Light Materials	
Basud	50	135	47	232
Capalonga	56	164	62	282
Daet	260	455	90	805
Jose Panganiban	93	246	74	413
Labo	173	361	124	658
Mercedes	155	341	89	585
Paracale	64	153	90	307
San Lorenzo Ruiz	16	17	12	45
San Vicente	7	44	22	73
Sta. Elena	109	72	94	275
Talisay	16	55	34	105
Vinzons	49	114	98	261
CAMARINES NORTE	**1,048**	**2,157**	**836**	**4,041**

Table 105
Future Housing Needs by Municipality: CY 2033
Province of Camarines Norte

Municipality	Housing Needs due to Increased in the Number of Households	Housing Made of Light Materials to be Replaced	Total
Basud	3,008	473	3,481
Capalonga	3,387	418	3,805
Daet	17,078	1,655	18,733
Jose Panganiban	3,044	600	3,644
Labo	7,074	1,134	8,208
Mercedes	2,763	527	3,290
Paracale	4,873	662	5,535
San Lorenzo Ruiz	614	141	755
San Vicente	650	120	770
Sta. Elena	2,512	484	2,996
Talisay	1,477	287	1,764
Vinzons	1,760	456	2,216
CAMARINES NORTE	**48,240**	**6,957**	**55,197**

6.5 Utility/Infrastructure Services

6.5.1 Water

Of the 91,866 households in Camarines Norte, 68,201 households or 74.24% are served by Level I, II and Level III Water System. This implies that 23,665 households or 25.76% are the total number of household unserved by these water systems. **(Table 106)**

Table 106
Summary of Total Coverage of
Water Supply System; CY 2008
Province of Camarines Norte

LEVEL	Number of Household	Total Household Served	% of Household Served
I		32,443	30.39
II		17,730	16.61
II		28,064	26.29
TOTAL	106,747	68,237	62.92

Source CNWD, Municipal Water System/ District
Provincial Engineer's Office
Municipal Engineer's Office

The Level III Water Supply of the province as of 2003 is served by the Camarines Norte Water District which covers 7 municipalities. Four (4) municipalities such as Jose Panganiban, Paracale, Sta. Elena and San Lorenzo Ruiz have their own Level III water systems and 1 Barangay Waterworks Service Association in Talobatib, Labo, Camarines Norte. A total of 68,237 individual connections is being served by these Water District and Municipal Water Systems in the 11 municipalities of the province. Only the municipality of Capalonga is not yet being served by a Level III water facility.

Level III Water Supply of the province still proved deficient in responding to the requirements since these existing water District and Municipal Water Systems served only 63.90% of the total population in the area. Meanwhile, household connections have only 26.29% individual connections in relation to the number of households in the service areas. This means that a very large percentage of households in the covered area are not yet served with Level III facilities. As to water supply assets, sources are 10 springs, 2 dams and 10 deep wells.

In terms of households served by piped water supply system, as of 2003, 19,420 households (21.1%) were served out of the 91,866 households in the province. The municipality of

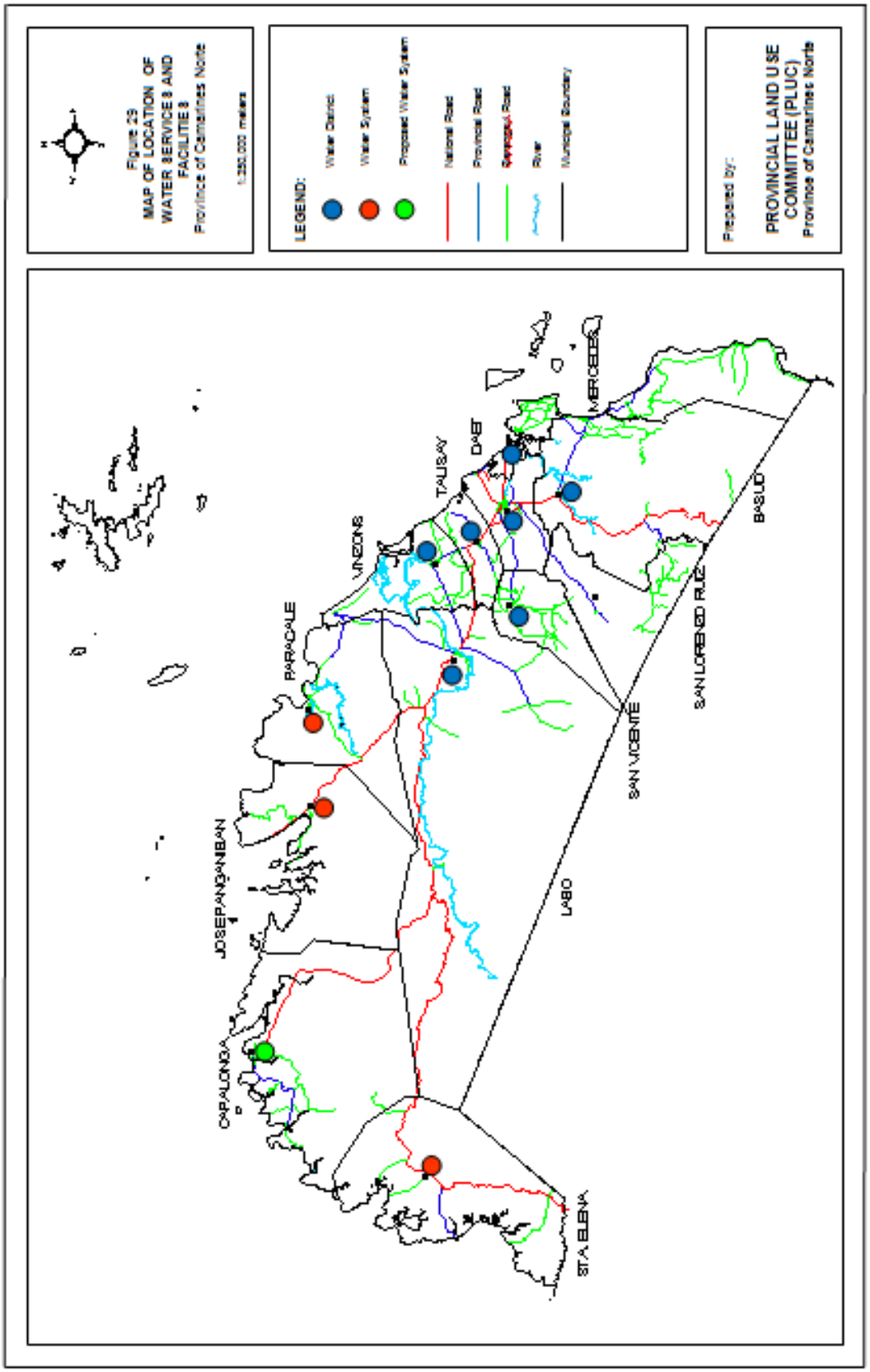
Daet has the highest of 9,547 households or 58.7% of the total number of households in the municipality.

This situation shows that the low percentage of population served is due to the low percentage also of individual connections and minimal number of water sources for Level III. It may also be noted that the Camarines Norte Water District, which serves 7 municipalities, population served is still a small percentage of the total population in the service area **(Table 107).** It is however, notable that 4 municipalities have existing municipal Water Systems and Barangay Talobatib in Labo has an existing Rural Waterworks and Sanitation Association which provides Level III water supply. **(Figure 34)**

Table 107
Household Served by Level III Water Supply Facilities
By Municipality: CY 2008
Province of Camarines Note

Municipality	Actual Household Number (CY 2007)	Household Served by Category			Total Household Served	Percentage of Household Served
		Domestic	Commercial/ Industrial	Gov't		
Basud	7,678	1,174	11	19	1,204	15.68
Capalonga	5,908	-	-	-	-	-
Daet	19,998	11,505	1,299	163	12,967	64.87
Jose Panganiban	10,468	700	59	10	769	7.34
Labo	18,046	3,014	193	36	3,243	17.97
Mercedes	9,125	1,577	79	25	1,681	18.42
Paracale	9,816	1,377	146	8	1,531	15.59
San Lorenzo Ruiz	2,531	392	-	9	401	15.84
San Vicente	2,028	449	5	21	475	23.42
Sta. Elena	8,106	1,070	61	6	1,137	14.03
Talisay	4,891	2,245	33	18	2,296	46.94
Vinzons	8,162	2,284	53	23	2,360	28.91
T O T A L	**106,747**	**25,787**	**1,939**	**338**	**28,064**	**26.29**

Source: CNWD, Municipal Water System/ District


Figure 29
MAP OF LOCATION OF WATER SERVICES AND FACILITIES
Province of Camarines Norte
LEGEND:
Water District
Water System
Proposed Water System
National Road
Provincial Road
Barangay Road
River
Municipal Boundary
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA ELENA

6.5.2 Sanitation Facilities

Households with sanitary toilet is about 75.80 percent of the estimated number of households and it also increased by 5.5 percent point from 2005 -2007. Likewise, among municipalities percent of households with sanitary toilet is highest in Daet (92.88 percent) and the least is in Mercedes which recorded about 51.67 percent (Table 108).

Table 108
Households with Sanitation Facilities
By Municipality: CY 2005-2009
Province of Camarines Note

Municipality	2005		2006		2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
Basud	5,757	78.59	6,651	85.20	6,753	86.44	6,830	87.00	5,036	87.52
Capalonga	3,474	65.67	3,548	65.44	3,650	64.72	3,655	63.84	1,569	64.95
Daet	12,659	82.62	19,125	83.99	14,810	85.54	14,810	91.13	14,235	92.88
San Lorenzo Ruiz	7,160	75.69	7,293	75.15	7,482	75.28	7,650	73.99	9,350	74.95
Jose Panganiban	11,609	77.38	12,745	78.25	13,003	78.67	13,339	79.76	8,505	81.63
Labo	4,684	52.61	4,768	53.18	4,811	62.36	4,861	52.55	3,190	51.67
Mercedes	4,528	51.56	4,608	52.42	4,710	53.58	5,212	57.68	5,250	61.65
Paracale	1,896	78.64	1,961	80.04	1,970	80.44	2,003	78.15	989	78.98
San Vicente	1,823	92.82	1,668	86.11	1,706	86.73	1,732	87.21	1,460	92.83
Santa Elena	4,704	64.66	4,757	67.56	4,430	63.24	4,942	69.76	2,954	75.68
Talisay	2,985	65.89	3,435	72.93	3,430	72.82	3,468	73.27	2,890	73.29
Vinzons	5,456	66.37	4,779	59.72	4,934	60.88	5,372	64.30	4,539	66.71
CAMARINES NORTE	**66,735**	**70.54**	**75,338**	**71.42**	**71,689**	**73.17**	**73,874**	**78.58**	**59,967**	**75.80**

6.5.3 Power

The efficient provision of power services is one major factor of development especially in the rural and far-flung areas. The demand of population and industrial activities will depend on the pronounced availability of services.

There is one (1) rural electric cooperative, the Camarines Norte Electric Cooperative, operating in the province under the supervision of the National Electric Administration (NEA). CANORECO covers the 12 municipalities of the province. As of 2003, a total of 252 barangays or 92.31% of the 273 barangays in the province have been energized. The 9 additional barangays in Sta. Elena are not yet included in the service coverage of CANORECO, which are still under the service area of the province of Quezon. Number of house connections stood at about 61,893 or 94.51% of the potential households to be connected. (**Table 109)**

In an effort to energize island and coastal barangays, CANORECO has served 105 solar system, 65 units in Mercedes, 20 in Paracale and 20 in Vinzons. **(Table 1110)**

Table 109
Number of Energized Barangays, Signed-Up Members and House Connections by Municipality as of December 2008
Province of Camarines Norte

MUNICIPALITY	Date Energized	NO. OF BARANGAYS			No. of Potential Households	Household Served	
		Covered	Served	Percent		Number	%
Basud	May 1976	29	29	100.00	7,678	5,184	67.52
Capalonga	Sept. 1978	22	22	100.00	5,908	3,606	61.04
Daet	May 1976	25	25	100.00	19,988	22,410	112.12
Jose Panganiban	May 1976	27	26	96.30	10,468	7,730	73.84
Labo	May 1976	52	50	96.15	18,046	12,339	68.38
Mercedes	May 1976	26	26	100.00	9,125	6,250	68.49
Paracale	May 1976	27	27	100.00	9,816	7,212	73.47
San Lorenzo Ruiz	July 1977	12	12	100.00	2,531	1,625	64.20
San Vicente	May 1976	9	9	100.00	2,028	1,438	70.91
Sta. Elena *	May 1976	19	10	52.63	6,106	3,990	49.22
Talisay	May 1976	15	15	100.00	4,891	3,895	79.64
Vinzons	May 1976	17	18	94.74	8,162	5,066	62.07
CAMARINES NORTE		282	269	95.39	106,747	80,745	75.64

Source: CANORECO

Note: Nine (9) disputed barangays in Sta. Elena have been served by QUEZELCO and not included in this report.

Table 110
Barangays with Solar System
Province of Camarines Note

Municipality	No. of Household Served	Date Installed
MERCEDES		
Apuao	**25**	**July 23 2004**
Caringo	**20**	**On-going**
Quinapaguian	**20**	**On-going**
PARACALE	**20**	**September 3, 2003**
Macolabo		
VINZONS	**20**	**June 11, 2003**
Pinagtigasan		
TOTAL	**105**	

Source: CANORECO

6.5.4 Drainage/Flood Control

As of 2008 inventory, the province has a total aggregate length of 6,096.3 meters of flood control and drainage structures which are located in the rivers and creeks in 7 municipalities of the province. All the 13 structures are either partially damaged or with leakage and need immediate repair and rehabilitation.

For seawall and shore protection, the province has an aggregate length of 2,514.25 linear meters of seawall / shore protection and 5,011.88 linear meters of river control. Majority of these facilities are in good condition but some are partially damaged and needs repair.

Table 111
Inventory of Flood Control and Drainage Structure: CY 2008
Province of Camarines Note

Name of River / Road	Name of Structure	Length (m)	Location of Structure	Type of Structure	Description of Maintenance Works Undertaken	Status/Condition	Remarks
Mabulao Creek	Mabulao Revetment	504.50	Barangay I, Daet, Camarines Norte	Rubble Concrete (Gravity Type)	Repair/rehab of revetment	Urgency C (small repair is necessary)	Needs immediate repair/rehab
Mabulao Creek	Mabulao Revetment	504.50	Barangay II, Daet, Camarines Norte	Rubble Concrete (Gravity Type)	Repair/rehab of revetment	Urgency C (small repair is necessary)	Needs immediate repair/rehab
Mabulao Creek	Mabulao Revetment	504.50	Bgy. Cobangbang, Daet, C. Norte	Rubble Concrete (Gravity Type)	Repair/rehab of revetment	Urgency C (small repair is necessary)	Needs immediate repair/rehab
Mabulao Creek	Mabulao Revetment	504.50	Bgy. Camambugan, Daet, C. Norte	Rubble Concrete (Gravity Type)	Repair/rehab of revetment	Urgency C (small repair is necessary)	Needs immediate repair/rehab
Matogdon River	Matogdon Revetment	429.00	Bgy. Anahaw, Labo, Camarines Norte	Reinforced concrete/ riprap & G. Riprap with steel pipe piles	Repair/rehab of revetment	Urgency A (Damaged to large area of revetment)	Needs immediate repair/rehab
Labo River	Labo Revetment	665.80	Bgy. Anahaw, Labo, Camarines Norte	Reinforced concrete/ riprap & G. Riprap	Repair/rehab of revetment	Urgency B (Small revetment damaged with small leakage)	Needs immediate repair/rehab
Basud River	Basud Revetment	148.00	Bgy. Poblacion, Basud, Camarines Norte	Reinforced concrete/ riprap & G. Riprap	Repair/rehab of revetment	Urgency A (Damaged to large area of revetment)	Needs immediate repair/rehab
Daet River	Daet Revetment	1736.46	Bgy. San Isidro, Daet, Camarines Norte	Reinforced concrete/ riprap & G. Riprap	Repair/rehab of revetment	Urgency A (Damaged to large area of revetment)	Needs immediate repair/rehab
Talisay River	Talisay Revetment	520.00	Bgy. Poblacion, Talisay, Camarines Norte	Reinforced concrete/ riprap & G. Riprap	Repair/rehab of revetment	Urgency B (Small revetment damaged with small leakage)	Needs immediate repair/rehab
Madsimalo River	Paracale Revetment	205.00	Bgy. Poblacion, Paracale, Camarines Norte	Reinforced concrete/ riprap & G. Riprap	Repair/rehab of revetment	Urgency B (Small revetment damaged with small leakage)	Needs immediate repair/rehab
Minasag River	San Lorenzo Revetment	284.00	Bgy. Poblacion, Paracale, Camarines Norte	Reinforced concrete/ riprap & G. Riprap with pipe piles	Repair/rehab of revetment	Urgency A (Damaged to large area of revetment)	Needs immediate repair/rehab
Alayao River	Alayao Revetment	50.00	Bgy. Magsaysay, Capalonga, Camarines Norte	Reinforced concrete/ riprap & G. Riprap	Repair/rehab of revetment	Urgency A (Damaged to large area of revetment)	Needs immediate repair/rehab
Linawan River	Linawan Revetment	40.00	Bgy. Bactas, Basud, Camarines Norte	Reinforced concrete/ riprap & G. Riprap	Repair/rehab of revetment	Urgency A (Damaged to large area of revetment)	Needs immediate repair/rehab

6.5.5 Solid Waste Management

6.5.5.1 Liquid and Solid Waste Disposal

8 of the 12 municipalities have existing and operational dump site/landfill areas for liquid and solid waste disposal which include the municipality of Talisay with composting type. The four other municipalities: Basud; Mercedes; San Lorenzo Ruiz; and San Vicente are still in the proposed stages. At present, these LGUs are promoting backyard composting for their garbage disposal.

Majority of the operational dump site areas ranges from 1 to 4 hectares. The municipality of Daet which is the center of service establishments and large population has only 2.1 hectares. **(Table 112)**

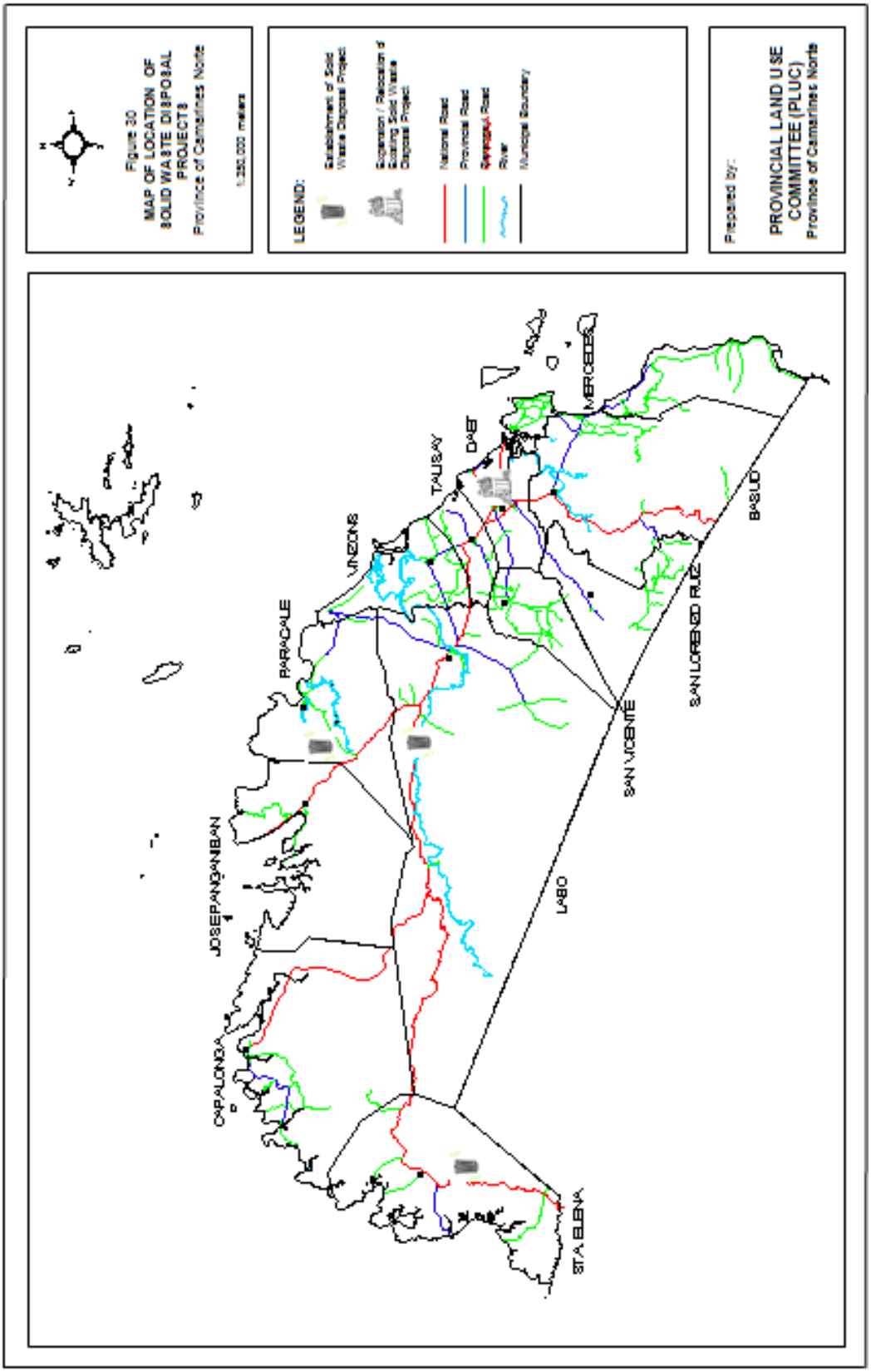
The Provincial Government in its alliance building with local government units will establish a 3.0 hectares sanitary landfill in the municipality of Labo which will cater to the growing need for the liquid and solid waste disposal of the province.

The Municipal Government are likewise yet to formulate their Solid Waste Management Plan as mandated.

Table 112
Existing Liquid and Solid Waste Disposal System
Province of Camarines Norte

LOCATION	AREA (ha.)	STATUS/ REMARKS
1. Basud Dump Site (Binatagan)	1	Proposed
2. Mataque, Capalonga Dump Site	4.5	Operational
3. Bibirao, Daet Dump Site	2.1	Operational
4. J. Panganiban Dump Site (Larap) Old Mining Pit	2-5	Operational
5. Labo Dump Site (Masalong)	3.0	Operational
6. Mercedes Dump Site	1.0	Proposed
7. Paracale Dump Site	2.0	Operational
8. San Lorenzo Ruiz Dump Site (Langga)	5.0	Proposed
9. San Vicente Dump Site (Asdum)	1.0	Proposed
10. Sta. Elena Dump Site (Brgy. Villa San Isidro)	1.0	Operational
11. Talisay Dump Site (Caawigan)	1.0	Operational
12. Vinzons Dump Site (Sitio Mantigbi, Cal. Sur)	1.80	Operational

Source: Municipal Planning and Development Office


Figure 30
MAP OF LOCATION OF SOLID WASTE DISPOSAL PROJECTS
Province of Camarines Norte
1:250,000 meters
LEGEND:
Establishment of Solid Waste Disposal Project
Expansion / Relocation of Existing Solid Waste Disposal Project
National Road
Provincial Road
Barangay Road
River
Municipal Boundary
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA ELENA

6.5.6 Irrigation System

The province of Camarines Norte has a potential area for irrigation development of about 16,889 hectares. The National Irrigation System servicing to about 2,903 hectares to the municipalities of Basud, Labo, Mercedes, Talisay and Vinzons. Some irrigation facilities were established by other government agencies and private sector. Total irrigated area accounted to about 43.24% of the potential irrigable areas and 56.76% are the remaining areas to be developed.

Table 113
Potential & Irrigated Area by Municipality: 2007
Province of Camarines Norte

Municipality	Potential Irrigable Area (Has.)	Irrigated Area (has.)	% to Potential Irrigable Area
Basud	1,799	655.96	36.46
Capalonga	946	287.00	30.34
Daet	2,971	1,097.77	36.95
San Lorenzo Ruiz	1,119	324.00	28.95
Jose Panganiban	3,802	1,821.00	47.90
Labo	819	287.00	35.04
Mercedes	1,381	385.00	27.88
Paracale	200	94.00	47.00
San Vicente	190	60.00	31.58
Santa Elena	456	443.00	97.15
Talisay	1,391	1,256.98	90.37
Vinzons	1,815	1,112.00	61.27
CAMARINES NORTE	**16,889**	**7,823.71**	**46.32**

Source: National Irrigation Administration
- Office of the Provincial Agriculturist

Based on the status of irrigation projects in the different municipalities, Jose Panganiban has the highest irrigation areas served of 1,821 hectares. However, this is only 48% of the potential irrigable area in the municipality with 3,802 has. compared to Talisay which has the next highest area coverage of 1,257 has. but with a total of 90.37% area served out of the 1,391 has. potential irrigable areas of the municipality.

6.5.7 Government Building and Structures

The existing government buildings and other public administrative support infrastructure in the province consist of the following:

6.5.7.1 Administrative Support Infrastructure

The Provincial Government as the center of government in the province houses all the different offices of the Provincial Government with some national government agencies such as the Department of the Interior and Local Government (DILG), Commission on Election (COMELEC) and Commission on Audit (COA). An audio-visual and conference hall and radio communication center, which connects the Provincial Government to the different municipalities are also located in the third floor of the Provincial Capitol.

Meanwhile, the 3 storey Provincial Library Building is located within the Provincial Capitol Grounds and houses the Provincial Library at the 2nd floor which caters to students and researchers all throughout the province. The Provincial Knowledge Center of the Provincial Government is also inside the provincial library. Located at the ground floor is the Provincial Museum and 2 offices of the Provincial Government and the 3rd floor is the Legislative District Office of the Congressman and Offices of the Sangguniang Panlalawigan members.

National Government Agencies in the province have their own office/administrative buildings, however, some NGAs house their respective offices in rented commercial buildings.

6.5.7.2 Hall of Justice

The existing Hall of Justice in the province is located in Camambugan, Daet and are being occupied by 4 Regional Trial Courts (RTC Branch Nos. 38, 39, 40 and 41) and their respective offices. Also housed at the Hall of Justice are the various offices under the Department of Justice such as the Provincial Prosecutor's Office, Provincial Attorney's Office and Parole and Probation Office.

6.5.7.3 Parks and Open Spaces

There are four (4) existing parks in the province which consist of the Kalayaan Park, Rixal Mini Park, Bagasbas Children's Park and the Bicol National Park. These are open areas which are ideal for recreation facilities.

All municipalities, however, have parks and plaza.

6.5.7.4 Public Assembly Area

The Camarines Norte Agro Cultural and Sports Center and the Camarines Norte Eco Athletic Field are the two major centers for public assemblies and sports activities.

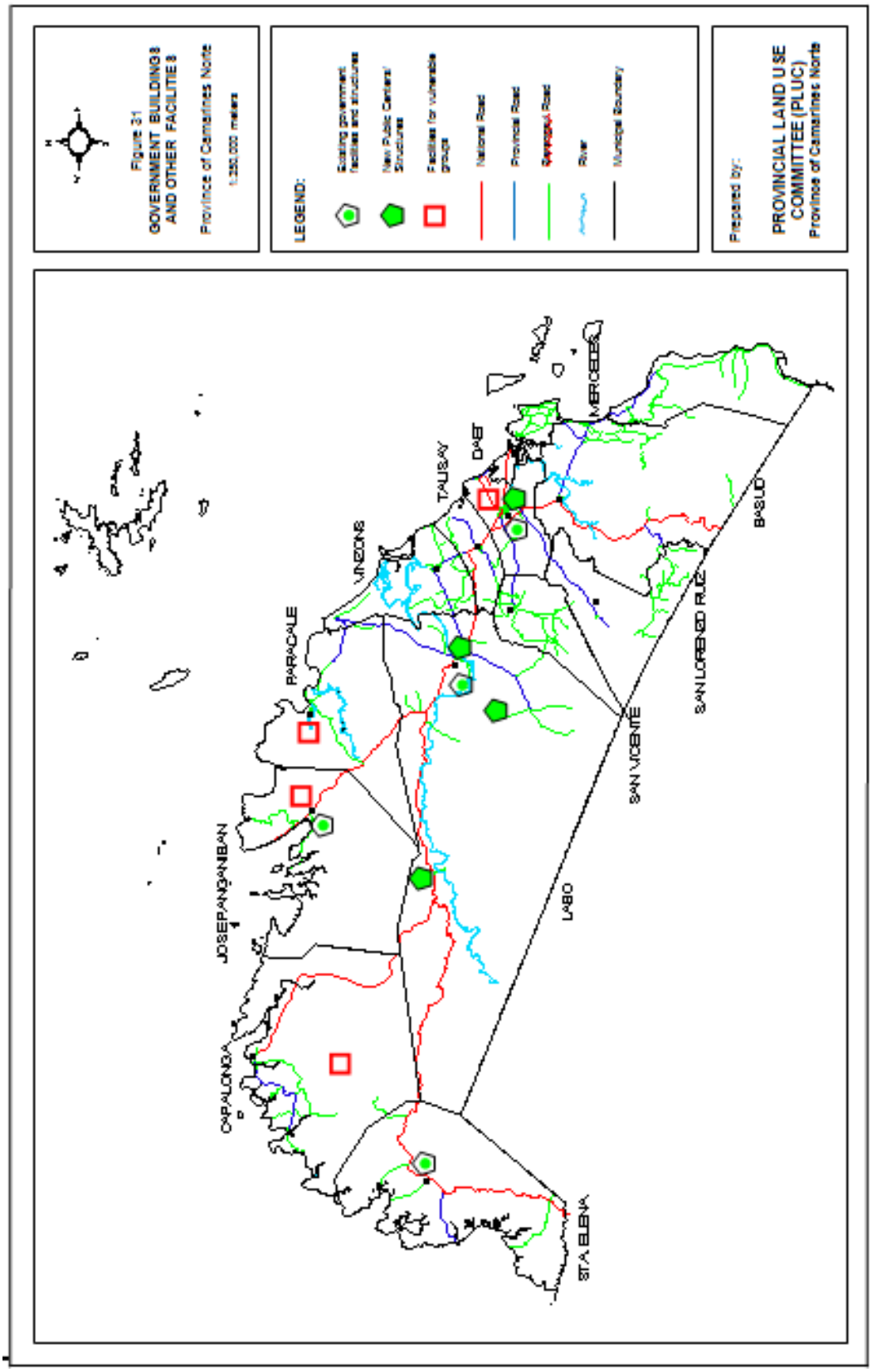
The Agro-Cultural and Sports Center has a basketball court, multi-purpose hall and stage, gym with sports facilities and a little theatre. Facilities at the Eco Athletic Field, on the other hand, include a grandstand, bleachers, track oval, swimming pool, basketball court and watch tower.

All municipalities have their respective public assembly areas and/or multi-purpose centers for public gathering and activities.

6.5.7.5 Other Government Buildings

Other government structure include economic, social, protective and tourism infrastructure facilities being operated in support to various development programs and projects of the provincial government and other national government agencies.

Some of these structures are the Provincial Nursery, Daet Seed Farm, BFAR Complex, Cassava Processing Plant, Center for Abused Women and Children, TESDA Training Center, Provincial Jail, Provincial Tourist Inn and Beach House.


Figure 31
GOVERNMENT BUILDINGS AND OTHER FACILITIES
Province of Camarines Norte
1:250,000 meters
LEGEND:
Existing government facilities and structures
New Public Centers/ Structures
Facilities for vulnerable groups
National Road
Provincial Road
Barangay Road
River
Municipal Boundary
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
BASUD
SAN LORENZO RUIZ
SAN VICENTE
PARACALE
LABO
JOSE PANGANIBAN
CAPALONGA
STA. ELENA

6.6 Disaster Risk Reduction/Climate Change Adaptation Evaluation

6.6.1 Risk Evaluation

On health services, affected by rainfall induced landslide are private hospitals which are located in the area. On the other hand, government hospitals in Daet as well as private hospitals in Labo are also within the flooding areas including rural health units and other health facilities which are found in these affected areas.

For the education sector, there are schools/school buildings located in flooding and rainfall induced landslide areas and a high percentage of these are exposed to geologic hazards.

6.6.2 Exposure and Vulnerability Condition

These areas which are exposed to flooding and rainfall induced landslide will have prevalence of mosquito and water borne diseases and climate change related diseases. Such hazards will also affect health and education facilities and equipment including services. Not to mention that school buildings are being used as evacuation centers during calamities and disasters which affect regular school days.

7.0 Alternative Spatial Strategies

To achieve the vision, alternative spatial strategies were generated: 1) 2008 Trend Alternative; 2) Core Metro; 3) Bi-Polar Strategy and 4) Multi-Center with Satellite.

7.1 2008 Trend or the "Do Nothing" Alternative

Under this strategy, the province shall remain predominantly rural with minimal growth in urbanity and is projected to achieve a slower pace of development. Except for Daet the small municipalities shall remain to be widely dispersed and underdeveloped, especially the interior municipalities of San Vicente and San Lorenzo Ruiz.

The 2033 population would be 711,083 for "Do Nothing Alternative" **(Table 114)** with Daet having the largest population of 164,165 or about 23.09% with San Vicente having the least share of 12,263 or 1.72% of the total population. The 2033 urban population trend is estimated at 306,713 or 43.0% **(Table 115)** with Daet having the largest share of 164,165 or 53.52% while the rural population is estimated at 404,370 or 57% **(Table 116)** with Labo having the largest share of 24% of 96,242.

Table 114
Total Population Estimates By Municipality: CY 2033
Alternative Strategies
Province of Camarines Norte

MUNICIPALITY	Total Pop'n 2007	Do Nothing		Core Metro		Bi-Polar		Multiple Centers	
		2033 POP	% share of Growth	2033 POP	% share of Growth	2033 POP	% share of Growth	2033 POP	% share of Growth
Basud	36,763	49,237	6.92	66,238	7.18	63,685	6.77	63,681	6.31
Capalonga	29,683	44,165	6.21	49,275	5.34	60,269	6.41	45,318	4.49
Daet	94,184	164,165	23.09	170,890	18.52	175,479	18.66	168,725	16.72
Jose Panganiban	49,028	61,256	8.62	79,437	8.61	78,340	8.33	102,115	10.12
Labo	88,087	117,069	16.46	167,654	18.17	132,189	14.06	154,067	15.26
Mercedes	44,375	55,441	7.80	70,720	7.66	48,978	5.21	66,748	6.61
Paracale	46,856	66,744	9.39	70,246	7.61	50,688	5.39	64,513	6.39
San Lorenzo Ruiz	12,299	14,821	2.08	25,932	2.81	24,516	2.61	25,012	2.58
San Vicente	9,615	12,263	1.72	25,215	2.73	23,212	2.47	21,232	2.1
Sta. Elena	40,300	50,350	7.08	82,919	8.98	165,074	17.56	134,219	13.3
Talisay	22,942	28,886	4.06	51,155	5.54	57,412	6.11	51,639	5.12
Vinzons	39,653	46,686	6.57	63,254	6.85	60,373	6.42	70,417	6.98
Tulay na Lupa								20,815	2.06
Bagong Silang								20,760	2.06
CAMARINES NORTE	**513,785**	**711,083**	**100.00**	**922,935**	**100.00**	**940,215**	**100.00**	**1,009,261**	**100.00**

Note: The varying increase of population estimates per alternative include the possible in-migration from other provinces.

Table 115
Urban Population Estimates By Municipality: CY 2033
Alternative Strategies
Province of Camarines Norte

MUNICIPALITY	2007 Urban Pop'n	Do Nothing		Core Metro		Bi-Polar		Multiple Centers	
		Urban Pop'n 2033	% Share of Urban Growth	Urban Pop'n 2033	% Share of Urban Growth	Urban Pop'n 2033	% Share of Urban Growth	Urban Pop'n 2033	% Share of Urban Growth
Basud	5,547	7,430	2.42	9,876	2.83	10,145	2.44	23,598	3.77
Capalonga	6,481	9,641	3.14	10,052	2.88	15,712	3.78	20,130	3.22
Daet	94,184	164,165	53.52	87,239	24.97	97,453	23.47	168,725	26.96
Jose Panganiban	16,299	20,361	6.64	45,408	13.00	40,807	9.83	74,464	11.90
Labo	15,673	20,827	6.79	62,257	17.82	65,278	15.72	93,179	14.89
Mercedes	19,570	24,449	7.97	38,720	11.08	45,789	11.03	49,981	7.99
Paracale	17,565	25,022	8.16	30,633	8.77	26,235	6.32	45,755	7.31
San Lorenzo Ruiz	6,898	8,312	2.71	4,879	1.40	5,100	1.23	9,039	1.44
San Vicente	4,108	5,239	1.71	2,190	0.63	2,412	0.58	5,155	0.82
Sta. Elena	8,549	10,679	3.48	28,735	8.22	77,756	18.73	88,874	14.20
Talisay	2,521	3,174	1.04	14,538	4.16	14,562	3.51	15,715	2.51
Vinzons	6,297	7,414	2.42	14,899	4.26	13,966	3.36	23,317	3.72
Tulay na Lupa								3,755	0.60
Bagong Silang								4,182	0.67
TOTAL URBAN POP'N CAMARINES NORTE	203,692	306,713	100.00	349,426	100.00	415,215	100.00	625,869	100.00

Table 116
Rural Population Estimates By Municipality: CY 2033
Alternative Strategies
Province of Camarines Norte

MUNICIPALITY	2007 Rural Pop'n	Do Nothing		Core Metro		Bi-Polar		Multiple Centers	
		Rural Pop'n 2033	% Share of Rural Growth	Rural Pop'n 2033	% Share of Rural Growth	Rural Pop'n 2033	% Share of Rural Growth	Rural Pop'n 2033	% Share of Rural Growth
Basud	31,216	41,807	10.34	48,362	8.43	53,540	10.2	40,083	10.45
Capalonga	23,202	34,524	8.54	29,223	5.1	34,557	6.58	25,188	6.57
Daet	0	0	0	83,651	14.59	78,026	14.86	0	0
Jose Panganiban	32,729	40,895	10.11	25,029	4.36	37,533	7.15	27,651	7.21
Labo	72,414	96,242	23.80	105,397	18.38	50,487	9.62	60,888	15.88
Mercedes	24,805	30,992	7.66	32,000	5.58	3,189	0.61	16,767	4.37
Paracale	29,291	41,722	10.32	39,613	6.91	24,453	4.66	18,758	4.89
San Lorenzo Ruiz	5,401	6,509	1.61	20,478	3.57	19,416	3.7	15,973	4.17
San Vicente	5,507	7,024	1.74	23,025	4.01	20,800	3.96	16,077	4.20
Sta. Elena	31,751	39,671	9.81	34,184	5.96	87,318	16.63	45,345	11.83
Talisay	20,421	25,712	6.36	38,767	6.76	25,100	4.78	35,924	9.37
Vinzons	33,356	39,272	9.71	52,542	9.16	51,167	9.75	47,100	12.29
Tulay na Lupa				21,665	3.78	18,540	3.53	17,060	4.45
Bagong Silang				19,573	3.41	20,874	3.98	16,578	4.32
TOTAL RURAL POP'N CAMARINES NORTE	310,093	404,370	100	573,509	100	525,000	100	383,392	100

Under this strategy, development will be sporadic and concentration of economic activities will be towards the urban centers especially in the capital town of Daet as business and services center.

Following the current trend, the projected employment of the province by the year 2033 is 416,640 at an annual growth rate of 4% from 186,000 in 2002. The direction of growth will be towards services sector with 199,707 employment or 48% share of growth of 110,707 out of 230,640 increase. Agriculture would still be a major employer with 147,418 or 34% share of growth. Industry will have a share of growth of 18% or a total employment of 69,515 **(Table 117).**

Table 117
Employment Estimates By Sector: CY 2033
Alternative Strategies
Province of Camarines Norte

SECTOR	2002 EMPLOYMENT		DO NOTHING			CORE METRO		
	NO.	% Share of Growth	2033 Employment	Share of Growth		Share of Growth		2033 Employment
				NO.	%	NO.	%	
1. Agriculture, Fishery and Forestry	69,000	37.1	147,418	78,418	34	28	67,808	136,808
2. Industry	28,000	15.05	69,515	41,515	18	23	55,700	83,700
3. Services	89,000	47.85	199,707	110,707	48	49	118,664	207,664
CAMARINES NORTE	186,000	100	416,640	230,640	100	100	242,172	428,172

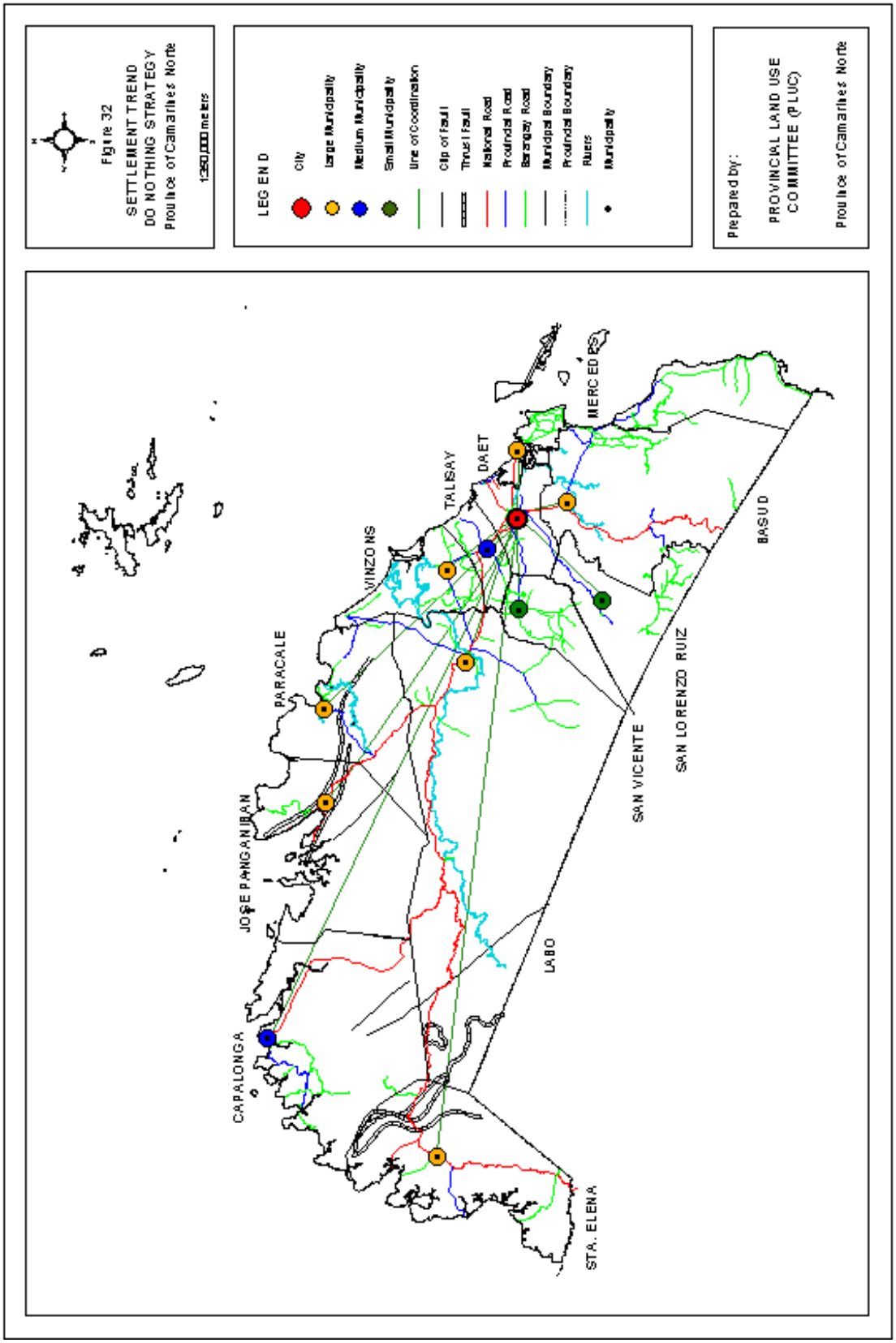
SECTOR	2002 EMPLOYMENT		BI-POLAR			MULTIPLE CENTERS		
	NO.	% Share of Growth	2033 Employment	Share of Growth		Share of Growth		2033 Employment
				NO.	%	NO.	%	
1. Agriculture, Fishery and Forestry	69,000	37.1	136,462	67,462	26.00	16.00	46,128	115,128
2. Industry	28,000	15.05	92,868	64,868	25.00	26.00	74,958	102,958
3. Services	89,000	47.85	216,140	127,140	49.00	58.00	167,214	256,214
CAMARINES NORTE	186,000	100	445,470	259,470	100	100	288,300	474,300

The levels in urban hierarchy for 2033 trend showed that several municipalities showed potential for growth and rose from the rank of medium to large towns to include Sta. Elena, Jose Panganiban, Paracale, Vinzons, Basud and

Mercedes. While the municipality of Capalonga remains in the same rank of medium town, Talisay rose from small to medium town in 2033 **(Table 118).**

Table 118
Hierarchy of Center: CY 2003 & 2033
Alternative Strategies
Province of Camarines Norte

LEVELS IN URBAN HIERARCHY	HIERARCHY OF CENTERS IN 2003	ALTERNATIVE STRATEGIES (2033)			
		Do Nothing	***Core Metro***	***Bi-Polar***	***Multi Centers***
CITY		Daet	Daet Labo	Daet	Daet Labo
LARGE MUNICIPALITY	Daet Labo	Basud Jose Panganiban Labo Mercedes Paracale Sta. Elena Vinzons	Basud Capalonga Jose Panganiban Mercedes Paracale Sta. Elena Talisay Vinzons	Basud Capalonga Jose Panganiban Labo Sta. Elena Talisay Vinzons	Basud Capalonga Jose Panganiban Mercedes Paracale Sta. Elena Talisay Vinzons
MEDIUM MUNICIPALITY	Jose Panganiban Paracale Mercedes Vinzons Sta. Elena Basud Capalonga	Capalonga Talisay	San Lorenzo Ruiz San Vicente	Mercedes Paracale	San Lorenzo San Vicente
SMALL/ NEW MUNICIPALITY	Talisay San Lorenzo San Vicente	San Lorenzo Ruiz San Vicente		San Lorenzo Ruiz San Vicente	Tulay na Lupa Bagong Silang


Figure 32
SETTLEMENT TREND
DO NOTHING STRATEGY
Province of Camarines Norte
1:250,000 meters
LEGEND
City
Large Municipality
Medium Municipality
Small Municipality
Line of Coordination
Clip of Fault
Thrust Fault
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE
COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

Daet shall remain as the center of trade and commerce, and institutional activities with all other municipalities as its satellite **(Figure 35)** Population movement within the province shall be generally towards the urban area of Daet, although increasing conflicts with protection land use, particularly in the Bicol National Park, non-NIPAS protection forests of Labo and other protection areas along the coast are likely to happen. Conversion of highly production lands for urban development in the municipality of Daet, Talisay and Mercedes is likely to happen. The general land use for the trend is projected to be agricultural except for the municipalities of Jose Panganiban, Paracale and part of Labo which is projected to remain industrial in nature.

With the above concept, the scenario for 2033 Trend alternative includes:

1. Increasing conflict on land uses (e.g. encroachment of settlements in protection areas
2. Non-complementary of the different land using activities of the municipalities
3. Inadequate delivery of basic services
4. Non-enhancement of development opportunities.
5. Development bias in favor of urban areas
6. Slow-paced provincial growth.

Advantages and disadvantages for this spatial strategy includes:

Advantages

- Minimal government intervention
- Continuous concentration and upgrading of infrastructure facilities
- Development is concentrated in Daet
- Rural population growth rate is higher that that of the urban
- Low level of agricultural conversion or reclassification required (where more extensively irrigated lands are located) because the premise of urban expansion is distributed to all municipalities
- Minimal amount of environmental degradation because new developments will simply be accommodated as accretions to already existing built-up areas.
- High level of access by the population to urban areas

Disadvantages

- High-density settlements development area in Daet
- Incompatibility of land uses of some adjacent areas
- Indiscriminate cutting or burning of trees in forest areas
- Inadequate parks and open spaces in urban areas
  Illegal occupants in private and public lands
- Basic services and economic opportunities are frequently concentrated in major settlement areas; (the logical flow of development is centrifugal – an outward movement)
- Haphazard type of land use pattern which tends to wipe out potential areas for planned urban development because the direction and space for

urban development is the collective decisions of individual land owners

- State of infrastructure facilities and utilities serves to preserve the existing urban pattern
- Prime agricultural lands which serve as the main source of livelihood are exposed to strong land conversion pressure
- Uncontrolled urban sprawl (pollution, flooding, environmental degradation, health and hygiene hazards, traffic flow, etc.)
- Use of roadside areas for urban uses (because of personnel accessibility considerations, natural tendency is to impede traffic movement along major routes and at the same time limits the road widening capacity in anticipation for future demand
- Except for Daet no single municipality will attain any significant level of primacy over the rest of the municipalities in the province

7.2 The Alternative to the Base Plan

7.2.1 The Core Metro Development Strategy

This spatial development strategy is based on the concept that the province needs a relatively strong core metro zone that will spur economic growth and development. Under this concept, development shall be packed into one continuous body with Daet and Labo as an integrated urban center. Specifically, Daet serves as center of commerce and trade and institutional center and Labo as agro-industrial center and research and development center. This metropolitan approach also encompasses the two adjoining towns of Talisay and Vinzons.

Under this strategy, Daet and Labo shall be categorized as cities in the hierarchy of centers with a population of 170,890 and 167,654, respectively in year 2033 **(Table 114).** Large town are the municipalities of Basud, Mercedes, Vinzons, Talisay, Jose Panganiban, Paracale, Capalonga and Sta. Elena; while San Lorenzo Ruiz and San Vicente are medium towns. **(Figure 36)**

The projected employment of the province by year 2033 is 428,172 with an annual growth rate of 4.2% from 186,000 in 2002. **(Table 117)** The industry sector is expected to have a faster rate of growth as light to heavy manufacturing industries are expected to be established in the Provincial Industrial Center.

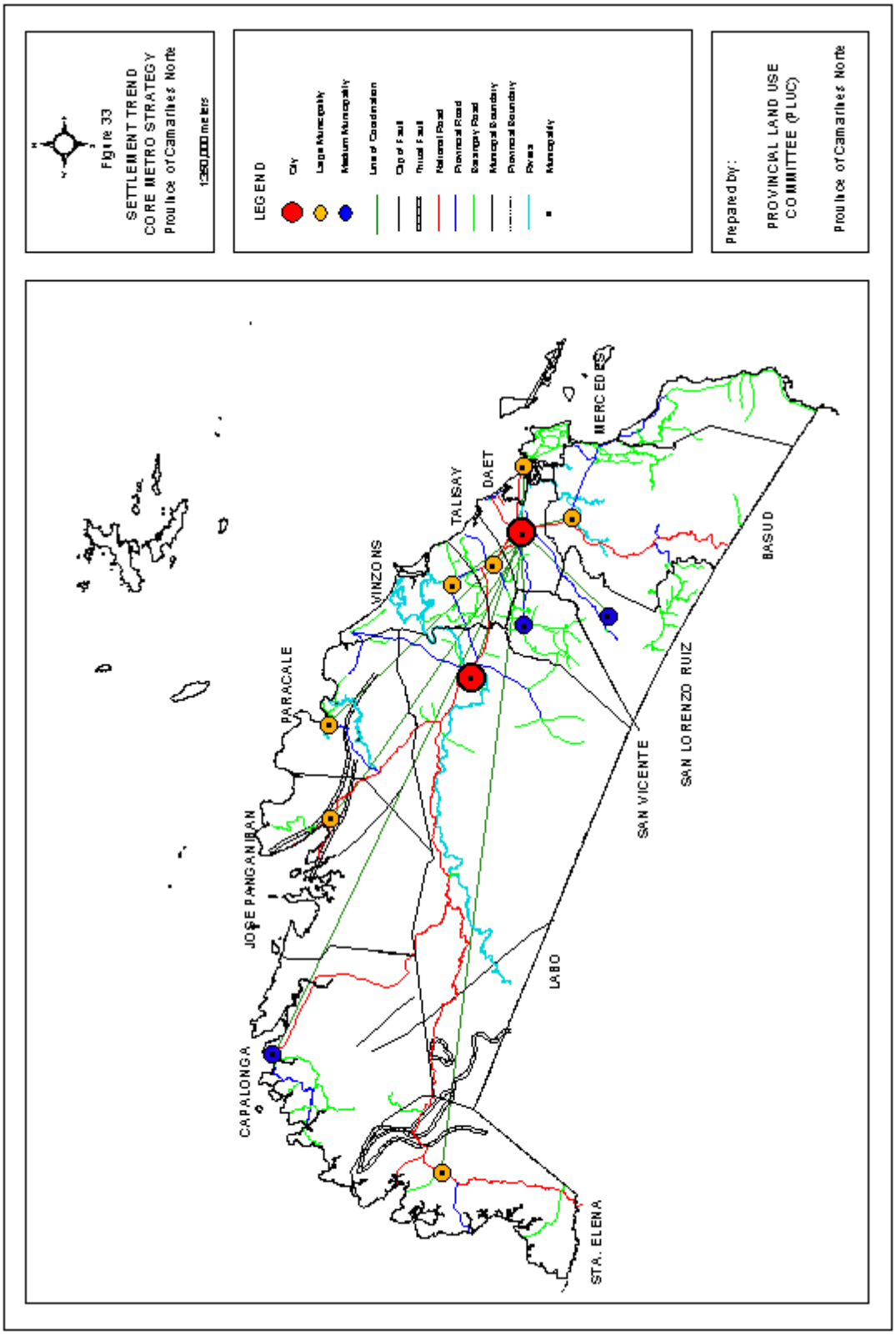
With this concept, the scenario would be possible conversion of highly restricted areas along Daet and Labo including its influenced municipalities and extensive utilization of major agricultural production areas that are non-negotiable for conversion.

There will be decongestion of urban population from Daet to Labo and integration of urban functions will follow. Infrastructure development will focus along Daet-Labo corridor and faster development growth as integral part of the core metro while all other municipalities will remain as satellites of these two growth nodes that will function as supplier of goods.

Advantages and disadvantages for this spatial strategy includes:

Advantages

- Increased infra support requirement particularly within the core metro zone of Daet and Labo
- Development of economic opportunities within the core metro zone
- Increased investment particularly in Labo and Daet
- Opening of new ventures and job opportunities in the core metro zone
- Optimum utilization of development opportunity areas particularly in Labo
- Minimal encroachment of settlements in forest protection areas particularly in Abasig-Matogdon-Mananap Natural Biotic Area


Figure 33
SETTLEMENT TREND
CORE METRO STRATEGY
Province of Camarines Norte
1:250,000 meters
LEGEND
City
Large Municipality
Medium Municipality
Line of Coordinates
City of Fault
Minor Fault
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE
COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
WINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

Disadvantages

- Urban population will be concentrated along the core metro zone
- Conversion of agricultural areas to non-agricultural uses particularly in Daet, Talisay, Vinzons & Labo
- Encroachment of settlements in highly restricted agricultural production areas particularly in Vinzons, Daet and Talisay
- Increased pressure on social services, power and water facilities within the urban areas
- Increased volume of waste/pollution and traffic congestion within the core metro zone
- Infrastructure developments are focused along the Daet-Labo-corridor

7.2.2 The Bi-Polar Development Strategy

The Bi-Polar Spatial Strategy involves the growth of two centers on both sides of the province --- Daet on the East and Sta. Elena on the west. The two (2) centers will have cluster municipalities which will avail of its services and facilities.

These two centers will serve as central points of collection and distribution of goods and services of its satellite municipalities, such as wholesale and retail trade, banking, professional services, administrative services, educational institutions, entertainment, and base of business organizations. Daet as a small city will serve the municipalities of Basud, San Lorenzo Ruiz, San Vicente, Mercedes, Talisay, Vinzons, Paracale and Labo. Likewise, Sta. Elena will be serving the municipalities of Capalonga, and the nearby municipalities in the provinces of Quezon and Camarines Sur. Being the entry point to Bicol Region, Sta. Elena is ideal as center of collection and distribution of goods.

For this strategy, the scenario will be:

By year 2033, the population of the province is expected to be 940,215 **(Table 114)**. The biggest share of population will be contributed by the two centers, Daet contributing 18.66% or about 175,479 and Sta. Elena with 17.56% or 165,074.

Making Sta. Elena as a new center will disperse concentration of population from Daet. Population will tend to establish settlements along the Daet – Sta. Elena corridors, and will concentrate within the vicinity of Sta. Elena.

Some agricultural production areas may be converted into commercial and industrial uses, and maybe utilized in the development of roads and bridges.

Encroachment of settlements within the protection areas would

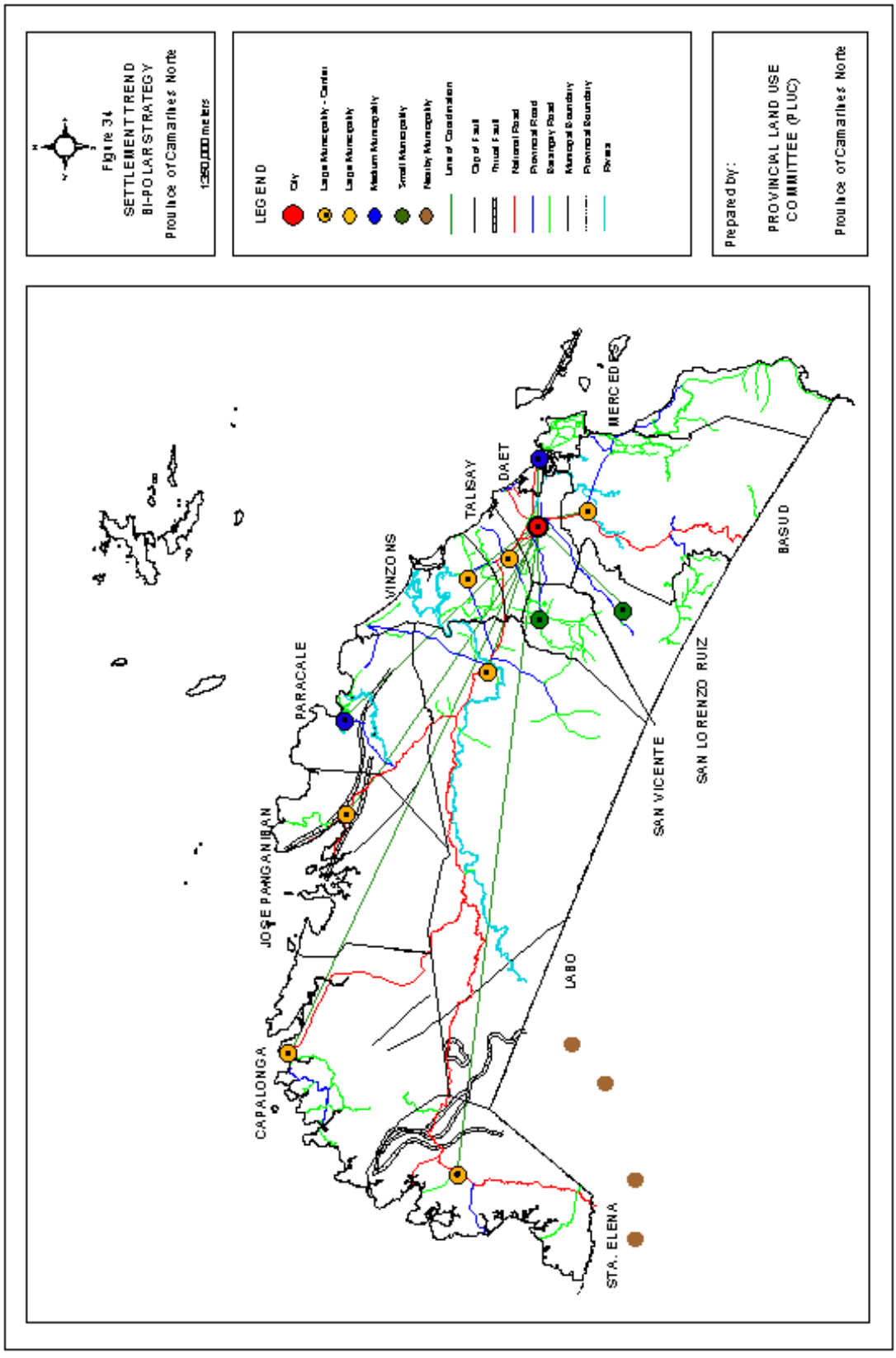
be minimal since there are still available areas open for settlements. Protection forests and mangrove areas are not accessible for settlements.

Creation of Sta. Elena as center will require development of more roads, bridges, and other infrastructure support facilities such as government buildings and social infrastructures to include hospitals, health centers and schools.

Under the Bi-Polar Spatial Strategy there will be changes in the category of municipalities as well as in some barangays. Sta. Elena as a new center will also provide what Daet offers, while Daet will become a small city. Labo, Capalonga, Jose Panganiban, Paracale and Basud will become large towns, while San Vicente and San Lorenzo Ruiz will become medium towns. Small towns will be the emerging town of Bagong Silang and Tulay na Lupa. **(Figure 37 and Table 118)**

Economic development will be dispersed between the business and services center of Daet and agro-processing in Sta. Elena. Agro Industries are expected to flourish along with service establishments.

The projected employment would be 445,470 with an annual growth rate of 4.5%. The services sector will have the biggest contribution to the economy with 127,140 additional employment or almost half of the total growth. Agriculture would still be the second major employer with 26% share of growth while industry will have the fastest rate of growth with 25% share of the total **(Table 117)**


Figure 34
SETTLEMENT TREND
BI-POLAR STRATEGY
Province of Camarines Norte
1:250,000 meters
LEGEND
City
Large Municipality - Center
Large Municipality
Medium Municipality
Small Municipality
Nearby Municipality
Line of Coordination
City of Fault
Trivial Fault
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
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VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

Given the above scenario the advantages would be:

- Reduced heavy dependency on overburdened Daet
- Compatible mix of land uses in Sta. Elena
- Provision of needed services and opportunities in outlying municipalities within each core influence or tributary area.
- Sta. Elena can accommodate future growth

Disadvantages:

- Congestion occurs at central core
- Encroachment of settlements along the corridor
- Encroachment of settlement in Mt. Cadig and mangrove areas
- Presence of thrust fault in Sta. Elena
- Possible conversion of mangrove areas into other uses
- Conversion of agricultural production areas into commercial and industrial uses in Sta. Elena
- Public investment is high because of new infrastructure facilities
- Costly circumferential road network

7.2.3 Multi-Center Development Strategy

This concept will create a dispersed but closely integrated system of urban centers with four activity centers as new focal points of growth, namely;

Daet -- City / Commercial and Business Center
Labo –- City / Institutional and Government Center
Jose Panganiban –- Special Economic Zone
Sta. Elena –- Transshipment point

The four identified growth centers shall be developed with distinct levels of development and functions to serve as growth nodes of their respective satellite municipalities and at the same time mutually supporting each others development areas and strengthen urban-rural linkages within the province.

The scenario will be a dispersed concentration of population and economic activities from Daet and Labo urban centers to the growth centers of Jose Panganiban and Sta. Elena which can be achieved by creating new areas for dispensing industry, commerce and settlements.

The hierarchy of settlements under the multiple centers spatial development shall be classified into five (5) levels, namely: city, large municipality, medium municipality and new municipality **(Figure 38).** The roles of each municipality based on its potential shall also be identified to support the development of the growth center.

Population is expected to reach 1,009,261 to include possible in migration from other provinces. The municipality of Daet has the highest population estimate of 168,725 followed by Labo with 154,067, Sta. Elena with 134,219 and Jose Panganiban with 102,115. The lowest

population estimate is accounted in the new emerging towns of Bagong Silang and Tulay na Lupa with 20,760 and 20,815 respectively. **(Table 114)**

The growth centers are expected to catalyze the socio-economic development of the satellite municipalities wherein each growth center shall be supported with varying types and levels of investments, in order for them to provide distinct roles and functions in the provincial development.

In as much as under this spatial development there will be rational distribution of population, settlement sites will be properly allocated and agri-industrial sites of adequate size can be properly located. The populace will have a wider range of choices for housing and basic services and there will be sufficient allocation of recreational parks and open spaces. Traffic congestion can also be avoided and circulation of transport is expected to be efficient.

However, there are also disadvantages in this spatial development specifically on the environment and infrastructure development. There is a high probability of landowners to convert their agricultural lands to other land uses and the expansion of urban land uses into the center's surrounding agricultural areas. This is due to the opportunities available for big investments and other developments. The opening of circumferential roads may threaten the forestlands and the development of major infrastructures will require high costs.

The Provincial Industrial Center (PIC) in Labo, the Special Economic Zone in Jose Panganiban and the Agro-industrial center in Sta. Elena when fully operational will be teaming with industrial and service establishments.

Industry is expected to have a major contribution to the economy. Resource-based industries such as mining and quarrying, agro-processing, ceramics, furniture and jewelry are expected to boom and bring about the much-needed value added for the province in terms of employment generation and revenues.

On the other hand, the services sector is also expected to provide vast employment opportunities as various service establishments are expected to flourish to complement the booming industries. Tourism and tourism-related activities, information and communications, wholesale and retail trade, finance, transportation and other community and private services are also expected to help boost the province's economy.

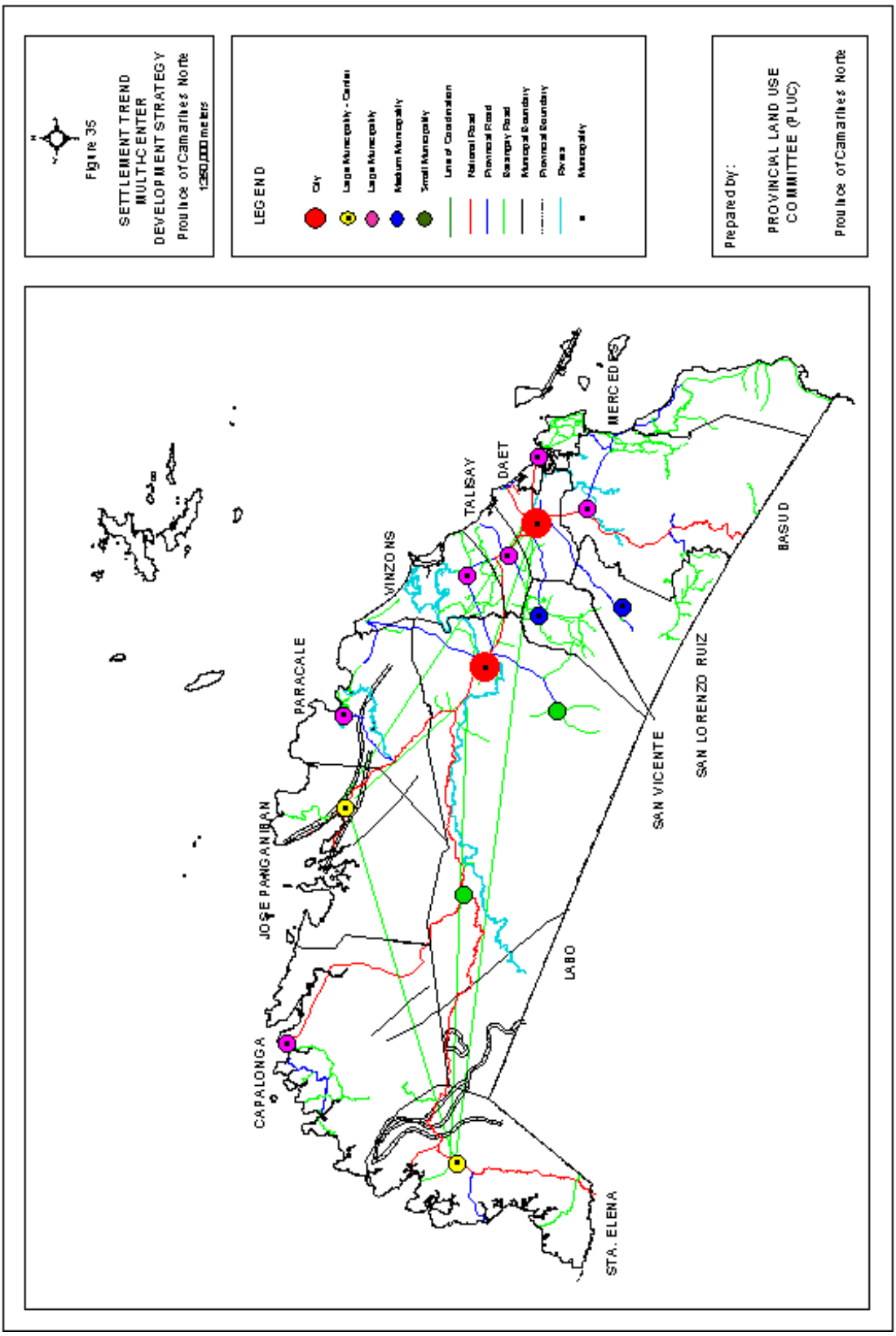
The projected employment for the year 2033 **(Table 117)** is 474,300, with an increase of 288,300 jobs which is 255% over the 2002 employment of 186,000 at an annual growth rate of 50%. As the province is expected to shift from agricultural-dependent economy towards agro-industrialization, the industry sector will have the rate of growth of 8.6% per annum followed by services of 6.1% per annum. Agriculture though expected to continuously increase production and maximize the

potentials of the identified development opportunity areas will have the lowest rate of growth at 2.2% per annum.

In terms of sectoral distribution, the services sector is expected to have the highest share of 54% or 256,214 employment. Agriculture would still be a major employer with 115,218 or 24% share, Industry, though has the fastest rate of growth will have a total employment of 102,958 or 22% share.

Of the total projected employment for 2033, it is assumed that there will be migration of high-level management team, technical experts and highly specialized skilled manpower not readily available in the province.

Under this strategy, economic development is geared towards agri-industrialization. Economic activities and opportunities will spur not only in the urban centers but also in the rural areas in order to minimize pressure on the extraction and processing of natural resources into indulging in a more industrialized and skilled activities.


Figure 35
SETTLEMENT TREND
MULTI-CENTER
DEVELOPMENT STRATEGY
Province of Camarines Norte
1:250,000 meters
LEGEND
City
Large Municipality - Center
Large Municipality
Medium Municipality
Small Municipality
Line of Coordination
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
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STA. ELENA

7.3 Evaluation of Alternatives

The Provincial Land Use Committee – Provincial Technical Working Group have studied and evaluated each alternatives and was done in a consultative process.

These alternative spatial development strategies were subjected to a public consultation participated in by various stakeholders to determine through a consultative process the preferred spatial strategy to be adopted by the province using the Goal Achievement Matrix (GAM) as an evaluation tool. The criteria used in the evaluation were the basic elements of the vision namely:

a.) Natural environment
b.) Built-environment
c.) Local economy
d.) People as society
e.) Local leadership; and
f.) Role of Camarines Norte as vital link to the Bicol Region and Southern Tagalog provinces

Under each criterion are the descriptors, which were also considered in assigning weights equaled to 100%.

The different alternative development strategies were given appropriate rating according to each ability to respond to the vision element based on the 7 point scale of –1, -2, -3, 0, +1, +2, +3 **(Annex 1)** which means –1, the strategy is slightly ineffective, -2, moderately ineffective and –3, highly ineffective; 0 means the strategy has nothing to do nor effect to the evaluation criteria; +1, slightly effective, +2, moderately effective, +3, highly effective to the attainment of the vision.

These ratings were multiplied to each criterion weights to come up with the sectoral scores **(Annexes 2 to 8)**

The sum of the sectoral scores produced the rating for each alternative and based on these, the alternatives were ranked to determine the preferred strategy.

The summary results of the Goal Achievement Matrix (GAM) revealed that the seven (7) sectors that participated in composed of Business Sectors, Non-Government Organizations/ People's Organization, Farmers/Fisher folks, Academe, Government Agencies, Youth, Municipal Planning and Development Coordinators (MPDCs), the Multiple Centers Development Strategy ranked 1st with 15.45%, followed by Bi-Polar with 10.56%, Core Metro with 9.99% and Do-Nothing at -9.84% **(Annex 9).**

8.0 The Preferred Strategy

8.1 The Multi-Center with Satellites Development Strategy

As the overall spatial development strategy, Camarines Norte shall adopt the Multiple Center Spatial Development Strategy with Agro-Industrialization as it's Development Thrust. This strategy is expected to make the province achieve a faster physical and socio-economic development through the optimum and sustainable utilization of its human and natural resources.

With Multi-Center Development Spatial Strategy, the province is expected to shift from agricultural dependent economy towards agro-industrialization without compromising the protection areas of the province.

The overall strategy involves the creation of a dispersed but closely integrated system of urban centers with four activity centers as focal points of growth in the province. The identified growth areas are:

1. Daet	City and Commercial & Business Centers
2. Labo	City and Institutional & Government Centers and Provincial Industrial Center
3. Jose Panganiban	Special Economic Zone
4. Sta. Elena	Transshipment Point / Agro-Industrial Center

The growth centers are expected to catalyze the socio-economic development of its respective satellite municipalities and shall be supported with varying types and levels of investments, for them to provide distinct roles and functions in the provincial development. As such, development shall be pursued through the following:

1. Additional commerce and trade will be developed to accommodate higher level functions and roles and existing ones will be developed.

2. Implementation of priority support programs and projects that would enhance the capability of the four (4) growth center to fulfill their development roles.

3. Increasing productivity through the provision of effective production infrastructure and support facilities, adoption of modern technologies and maximum and sustainable utilization of development opportunity areas.
4. Provision of access roads to and from each growth centers and their satellite municipalities and other support facilities and services.

5. Protection and conservation of natural resources.

Daet shall continue to function as commercial and business center with more varied services and in particular, the presence of airport and standard first – rate accommodation facilities. This shall further be developed and strengthened as primary growth network linking to Naga City and other parts of the region. With the inclusion of Daet in the Legazpi – Naga – Daet Growth Corridor (LINDGC) area, it is viewed that the province's potentials can be an opportunity for complementation and horizontal linkaging thereby accelerating the development and influencing the growth of other areas in the province thereby serving as catalyst of development in the rural areas.

The province shall also pursue the development of Labo as growth center and this shall generally provide the space requirements for industrial development primarily being Provincial Industrial Center (PIC). The establishment of the PIC shall pave the way of industrialization of the province. Industries to be promoted in the PIC are the priority resource-based industries such as:

1) Agro – based industries
   - coco-based industries (coco-coir, crude-oil)
   - pineapple processing
   - cassava processing
   - essential oils
   - carrageenan processing

2) Gold Refinery
3) Gemstones Cutting
4) Gifts, Toys and Houseware
   - handicrafts
   - novelties
5) Metal craft (farm implements, etc.)

The projected employment for the year 2033 is 474,300 with an increase of 288,300 jobs which is 255% over the 2002 employment level of 186,000 at an annual growth rate of 50%. As the province is expected to shift from agricultural dependent economy towards agro industrialization, the industry sector will have the rate of growth of 8.6% per annum followed by the service sector of 6.1% per annum. Agriculture though expected to continuously increase production and maximize the potentials of the identified development opportunity areas will have the lowest growth rate of 2.2% per annum.

In terms of sectoral distribution, the service sector is expected to have the highest share of 54% or 256,214 employment agriculture would still be a major employer with 115,218 or 24% share, industry through has the highest fastest rate of growth will have a total employment of 102,958 or 22% share.

9.0 Land Use and Physical Resources

9.1 Production Land Use Plan Component

9.1.1 Agriculture

The production land use component refers to the promotion of activities on how the province could achieve food security for its people and to the production of commodities which has actual or comparative advantage that could boost the province's economy. This is aimed at making Camarines Norte self sufficient in food and a net exporting economy and in the process maximize opportunity for employment generation of the population.

9.1.1.1 Situationer:

Table 46 shows that about 154,189.02 has. or 66.42% of the total province's land area are categorized as Network of Protected Agricultural Area System (NPAAS) with highly restricted area of 11,976.26 has. or 5.14 percent. These lands should be protected against any form of irreversible conversion such as urban uses. The main purpose is to preserve the highly suitable agricultural lands for food security. Moderately restricted area is about 103,288.30has. or 44.51% while conditionally restricted area is 38,924.46 has. or 16.77% It could be noted that among the municipalities, Labo has the biggest NPAAS consisting of 49,759.91 has. while Talisay has the least consisting of only 3,023.73 has.

9.1.1.2 Geohazard Impact Areas Affecting Production

Geohazard impact areas are those prone to the effects of natural hazards. These areas pause constraints to production and therefore needs consideration. These are:

9.1.1.2.1 Flooding Areas

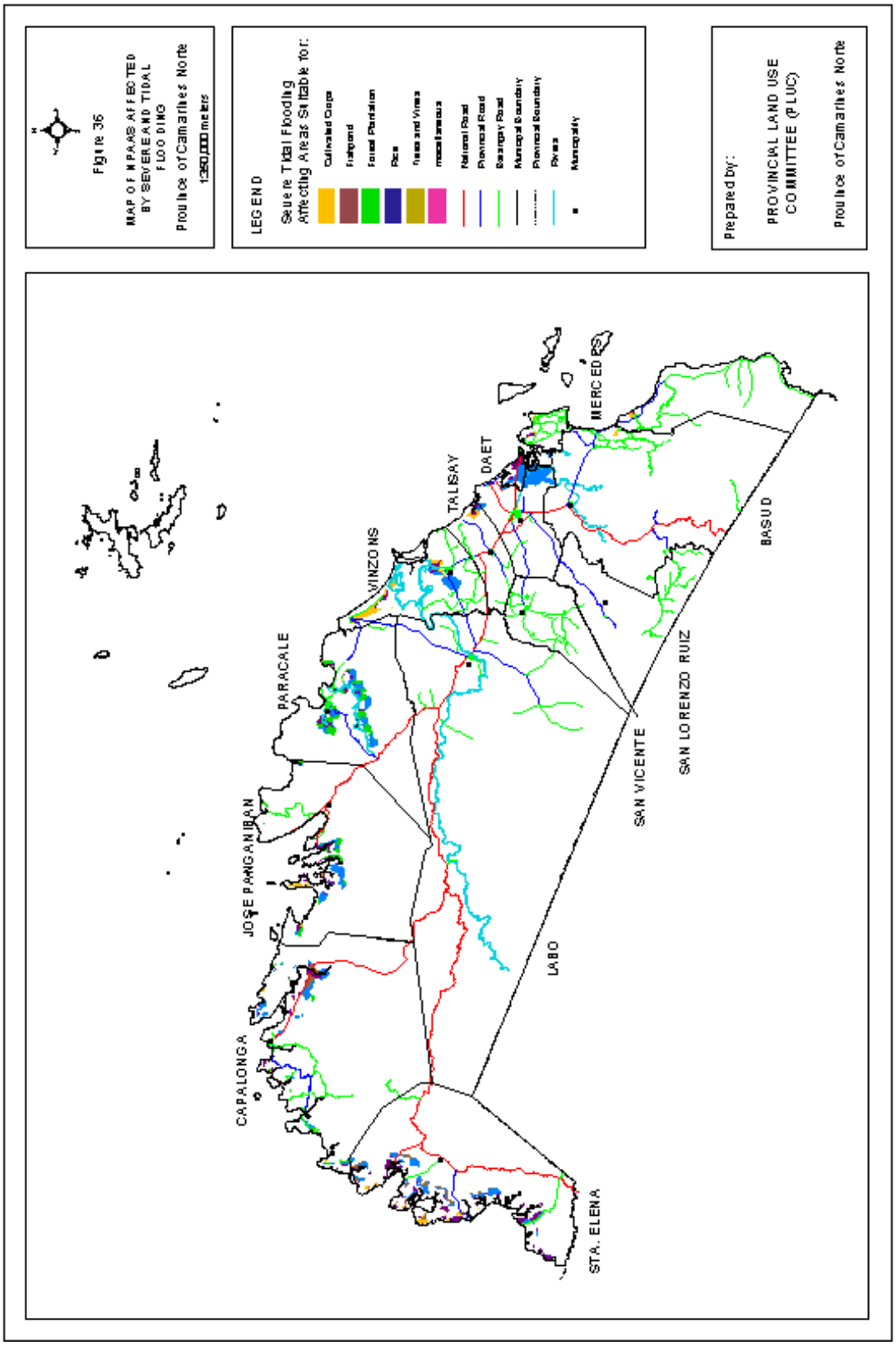
Figure 43 shows the map of NPAAS with flooding areas. It is observed that severe flooding occur in some portion of the highly restricted areas of Vinzons, particularly in Barangay Contod and part of Brgy. Guinacutan, while moderate flooding occur in the development opportunity areas of Sta. Elena, Labo and Vinzons and in Daet and Basud. Almost all of the coastal municipalities of the province experienced tidal flooding mostly in the development opportunity areas. **Table 119** shows the extent of area affected by flooding in the NPAAS of the various municipalities consisting of about 6,052.58 has. Affected area which are suitable for rice consists of 2,667.77 has.; suitable for fishpond is 1,424.83 has., 889.48 has. for cultivated crops, 733.43 has. for forest production and 337.09 has. for trees and vines.

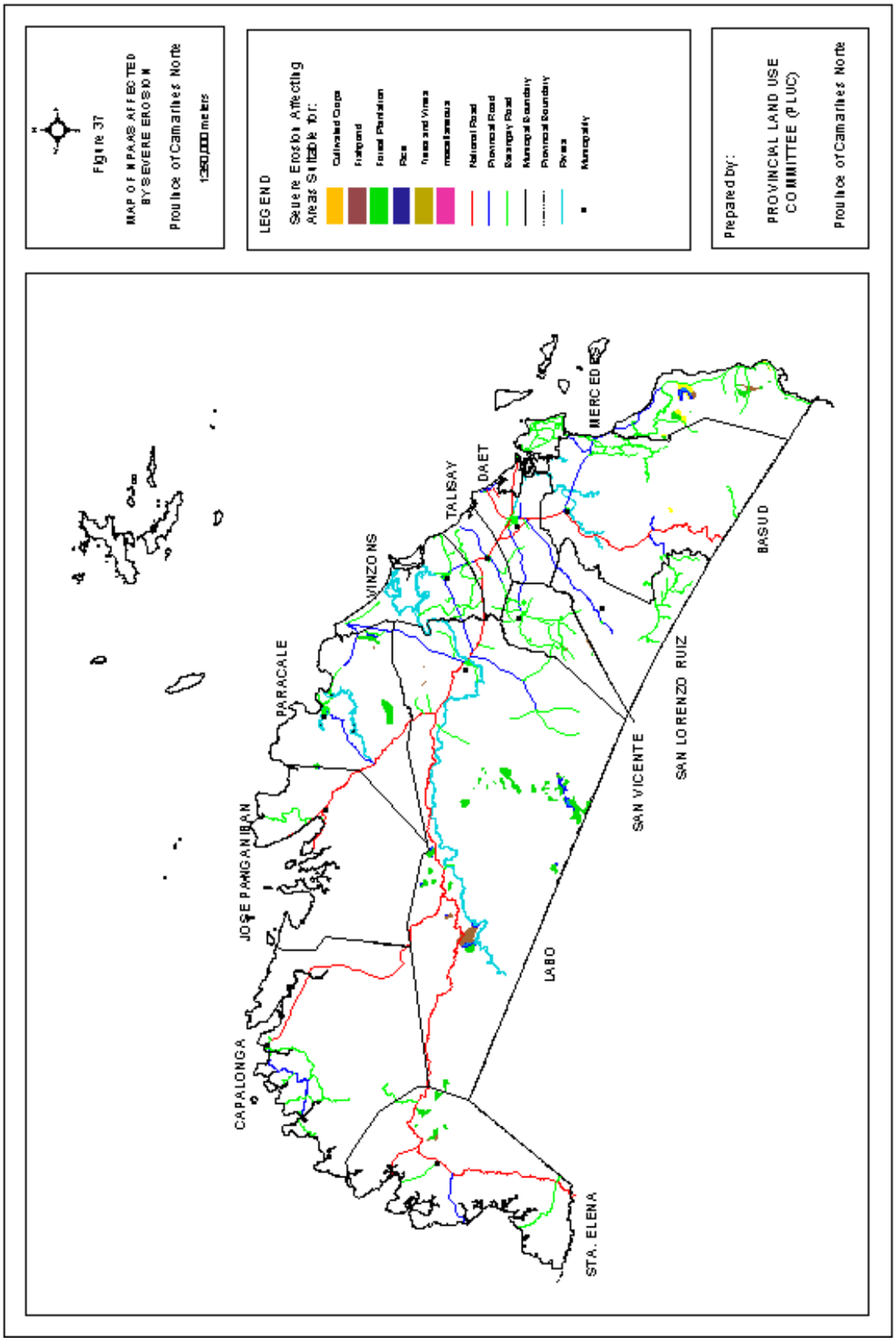
Table 119
Network of Protected Agricultural Area System with Severe and Tidal Flooding BY Municipality
Province of Camarines Norte

MUNICIPALITY	NETWORK OF PROTECTED AGRICULTURAL AREA SYSTEM					Grand Total
	Suitable for Cultivated Cops	Suitable for Fishpond	Suitable for Forest Plantation	Suitable for Rice	Suitable for Trees and Vines	
Basud	27.41			3.98		31.39
Capalonga	51.17	197.88	81.09	392.70	130.96	853.80
Daet		2.80		417.38		420.18
Jose Panganiban	71.21	173.98	205.77	332.58		783.54
Mercedes	158.99	192.25		269.98		621.22
Paracale	33.23	203.13	433.15	464.71		1,134.22
Sta. Elena	140.74	511.23	3.73	524.98	206.13	1,386.81
Talisay	51.81	33.62		19.10		104.53
Vinzons	354.91	109.93	9.69	242.36		716.89
GRAND TOTAL	**889.47**	**1,424.82**	**733.43**	**2,667.77**	**337.09**	**6,052.58**

9.1.1.2.2 Areas Affected with Erosion

Shown in **Figure 20** is the erosion map of the province indicating that severe erosion was found predominantly in hilly and mountainous areas.


Figure 36
MAP OF NPAAS AFFECTED BY SEVERE AND TIDAL FLOODING
Province of Camarines Norte
1:250,000 meters
LEGEND
Severe Tidal Flooding Affecting Areas Suitable for:
Cultivated Crops
Fishpond
Forest Plantation
Rice
Trees and Vines
miscellaneous
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
TALISAY
DAET
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA


Figure 37
MAP OF AREAS AFFECTED BY SEVERE EROSION
Province of Camarines Norte
1:250,000 meters
LEGEND
Severe Erosion Affecting Areas Suitable for:
Cultivated Crops
Fishpond
Forest Plantation
Rice
Trees and Vines
miscellaneous
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
TALISAY
DAET
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

NPAAS areas affected by severe erosion **(Figure 39)** are about 2,536.41 has. NPAAS areas affected by erosion. These are mostly found in Labo, Mercedes, Paracale, Sta. Elena and minimal areas in San Vicente, Basud, San Lorenzo Ruiz and Jose Panganiban. Of these affected areas, 1,696.37 has. are suitable for forest plantation, 375.00 has. are suitable for trees and vines, 254.20 has. are suitable for rice and 210.84 has. are suited for cultivated crops. **(Table 120)**

Table 120
Network of Protected Agricultural Area System with Severe Erosion By Municipality
Province of Camarines Norte

MUNICIPALITY	NETWORK OF PROTECTED AGRICULTURAL AREA SYSTEM				
	Suitable for Cultivated Cops	Suitable for Forest Plantation	Suitable for Rice	Suitable for Trees and Vines	Grand Total
Basud	14.07				14.07
Capalonga		0.85	0.04		0.89
Labo	0.09	1039.70	180.39	250.96	1471.14
Mercedes	194.22	182.60	66.42	65.87	509.11
Paracale	2.46	284.26	7.35	4.96	299.03
San Lorenzo Ruiz				7.07	7.07
San Vicente		4.18		31.48	35.66
Sta. Elena		184.775		14.66	199.44
GRAND TOTAL	210.84	1,696.37	254.20	375.00	2,536.41

9.1.1.3 Modified Land Use

The Land Cover Map of the province had been simplified through combining the categories to come up with the Modified Land Use Map **(Figure 38).**

Majority of province's land area are used for perennial trees and vines which covers 136,868.93 has. or 59% of the total land area followed by plantation forest with 24,726.53 or 10.7%. Only 9,038.71 has. or 3.9% are used for rice; 3,324.11 has. or 1.43% for pasture; and 2,665.26 has. or 1.14% for fishpond. **(Table 121)**

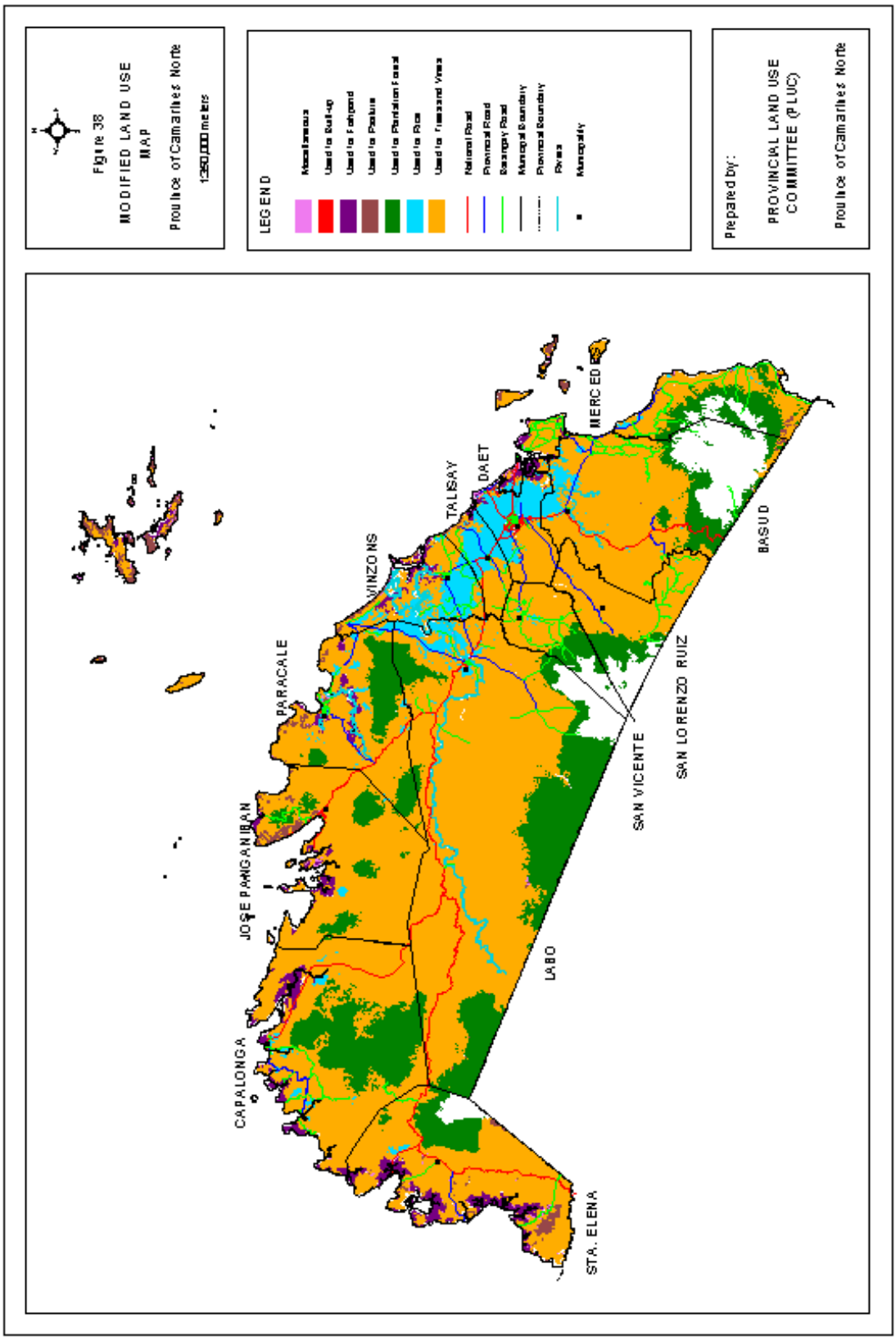

Figure 38
MODIFIED LAND USE MAP
Province of Camarines Norte
1:250,000 meters
LEGEND
Miscellaneous
Used in Built-up
Used in Fishpond
Used in Pasture
Used in Plantation Forest
Used in Rice
Used in Thousand Vines
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
CAPALONGA
JOSE PANGANIBAN
PARACALE
VINZONS
TALISAY
DAET
MERCED
BASUD
SAN LORENZO RUIZ
SAN VICENTE
LABO
STA. ELENA

Table 121
Modified Land Use By Municipality
Province of Camarines Norte

MUNICIPALITY	Built-up	Mangrove/ Fisheries	Used for Rice	Trees and Vines	Plantation Forest	Used for Pasture	Misc.	TOTAL
Basud	5.40	32.30	966.78	15,267.54	1,143.41	133.14	22.26	17,570.83
Capalonga	3.84	448.06	381.52	14,989.69	2,905.20	101.85	42.66	18,872.82
Daet	35.72	149.36	1,846.02	2,066.68	-	110.35	65.64	4,273.77
Jose Panganiban	22.60	152.94	70.61	15,130.84	1,853.31	705.30	79.16	18,014.76
Labo	56.84	0.06	1,280.90	44,844.69	10,498.43	198.37	103.32	56,982.60
Mercedes	28.97	378.21	185.48	5,395.59	2,132.47	308.17	166.04	8,594.93
Paracale	33.27	365.70	471.82	10,273.81	2,756.28	581.98	101.39	14,584.25
San Lorenzo Ruiz	2.96	-	12.08	7,319.97	1,070.22	4.01	2.95	8,412.19
San Vicente	-	1.18	67.15	3,691.91	1,005.08	4.78	5.41	4,775.51
Santa Elena	7.73	848.49	91.13	13,272.71	1,362.12	926.70	187.65	16,696.53
Talisay	-	53.32	1,424.98	1,726.44	-	68.05	21.17	3,293.95
Vinzons	14.12	235.64	2,240.24	2,889.08	-	181.43	72.12	5,632.64
TOTAL	211.45	2,665.26	9,038.71	136,868.93	24,726.53	3,324.11	869.77	177,704.77
%	0.091	1.149	3.896	58.993	10.658	1.433	0.375	76.59

9.1.1.4 Land Suitability

The Land Suitability Map is a result of map overlay in relation to land suitability criteria **(Figure 42)**, the existing land use map was overlaid with the Slope Map, Land Classification Map, and Elevation Map and was related with the land suitability criteria. Each LMU was identified as to its suitability for the most extensive form of land use based on the following intensity ranking where 1=highest intensity and 8= lowest intensity use:

RANK	LAND USE
1	Built-up
2	Fishpond
3	Irrigated Lands
4	Cultivated Crops
5	Trees and Vines
6	Plantation Forest
7	Pasture
8	Miscellaneous

Majority of the province's land area is suitable for forest plantation which is about 64,384.20 has. or 27.75% followed by suitable for rice with 47,831.05 has. or 20.62% and cultivated crops with 42,852.74 or 18.47%. **(Table 122)**

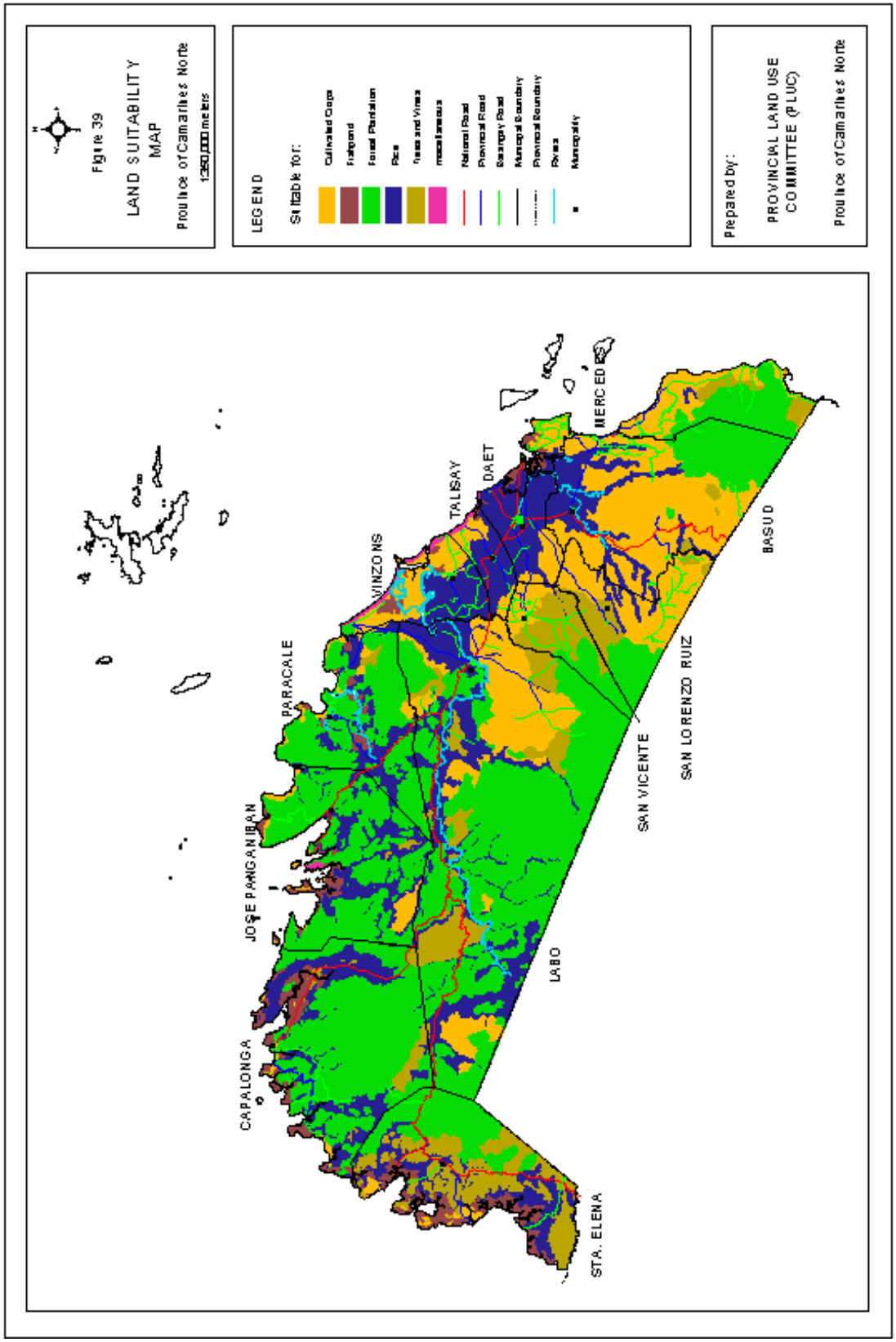

Figure 39
LAND SUITABILITY MAP
Province of Camarines Norte
1:350,000 meters
LEGEND
Suitable for:
Cultivated Crops
Fishpond
Forest Plantation
Rice
Trees and Vines
miscellaneous
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
CAPALONGA
JOSE PANGANIBAN
PARACALE
VINZONS
TALISAY
DAET
MERCEDES
BASUD
SAN LORENZO RUIZ
SAN VICENTE
LABO
STA. ELENA

Table 122
Land Suitability By Municipality
Province of Camarines Norte

MUNICIPALITY	Fishpond	Rice	Cultivated Crops	Trees and Vines	Plantation Forest	Misc.	TOTAL
Basud	17.27	4,237.11	12,879.55	20.66	416.24	-	17,570.83
Capalonga	707.40	6,768.95	281.54	1,193.05	9,921.88	-	18,872.82
Daet	36.99	3,185.02	1,023.73	-	-	28.03	4,273.77
Jose Panganiban	237.92	5,244.26	1,162.41	185.44	11,142.29	42.44	18,014.76
Labo	-	14,243.61	10,814.64	5,308.26	26,616.09	-	56,982.60
Mercedes	471.12	388.62	4,538.00	968.06	2,229.12	-	8,594.93
Paracale	535.79	3,780.75	915.98	236.22	9,115.51	-	14,584.25
San Lorenzo Ruiz	-	505.84	5,927.41	1,565.14	413.80	-	8,412.19
San Vicente	-	189.59	1,285.60	2,806.76	493.56	-	4,775.51
Santa Elena	1,453.00	4,461.60	625.11	6,239.98	3,916.84	-	16,696.53
Talisay	32.94	2,141.78	990.27	-	-	128.96	3,293.95
Vinzons	87.46	2,683.93	2,408.50	-	118.87	333.88	5,632.64
TOTAL	**3,579.89**	**47,831.05**	**42,852.74**	**18,523.58**	**64,384.20**	**533.32**	**177,704.77**
%	1.54	20.62	18.47	7.98	27.75	0.23	76.59

9.1.1.5 Sustainability of Land Use

As applied to land use, sustainability means able to continue into the future at the same level of productivity with no deterioration of the land resources.

Under the land sustainability categories of the province **(Table 123 and Figure 40),** about 43,447.86 has. or 25.16% are being used in accordance with its suitability. About 82,123.58 has. or 25.98% is considered to be over-used or being used at a level of intensity that is in excess of its suitability and about 47,120.92 has. or 48.86% are considered to be development opportunity or being used at a level that is below the intensity of its suitability.

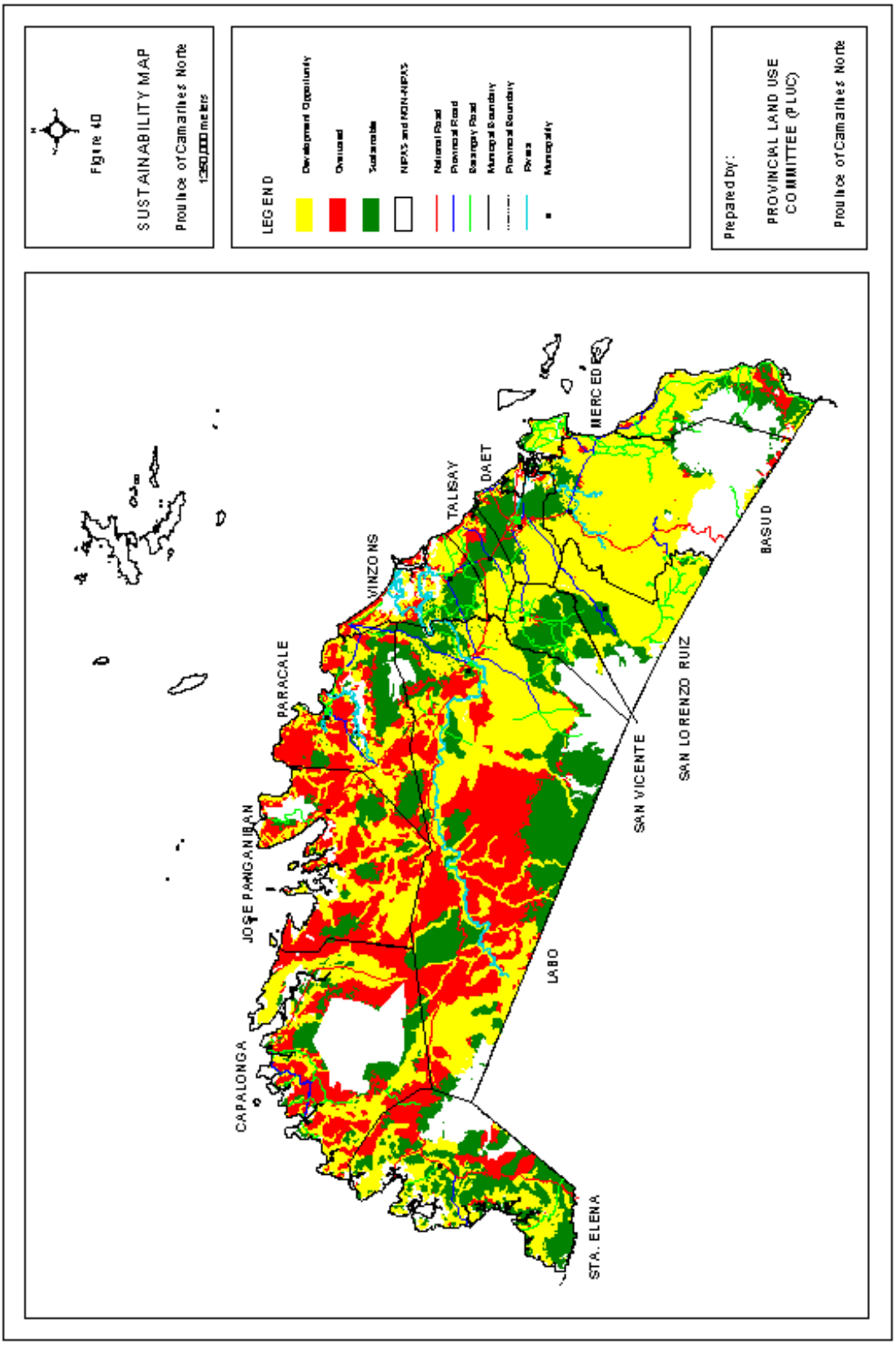

Figure 40
SUSTAINABILITY MAP
Province of Camarines Norte
1:250,000 meters
LEGEND
Development Opportunity
Overused
Sustainable
NIPAS and NON-NIPAS
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE
COMMITTEE (PLUC)
Province of Camarines Norte
MERCED
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

Figure 41 shows the sustainable areas of the NPAAS according to suitability. There are about 43,447.86 has. **(Table 124)** of the NPAAS that are sustainable with Labo having the largest sustainable area of 14,557.72 followed by Sta. Elena with 7,271.75 has. In terms of sustainable areas per suitability, forest plantation consists of 18,551.12 has. or 42.70% of the total NPAAS sustainable areas, for trees and vines 15,550.60 has. or 35.79%, for rice 7,502.62 has. or 17.26% and fishpond 1,735.41 has. or 0.04%

Suitability of identified over-used areas is presented in **Figure 44**. It consists of about 47,120.92 has. Table 78 shows about 44,323.84 has. of overused lands are suitable for forest plantation; 603.73 has. are suitable for rice; 1,613.61 has. are suitable for cultivated crops; 136.27 has. are suitable for trees and vines, and only 17.68 has. are suitable for fishpond. These areas are being used at a level of intensity in excess of its suitability.

Development opportunity areas in the province as shown in Figure 42 is still big consisting of about 82,123.58 has. **(Table 123).** If given the right intervention will boost the province economy.

Table 123
Land Sustainability By Municipality
Province of Camarines Norte

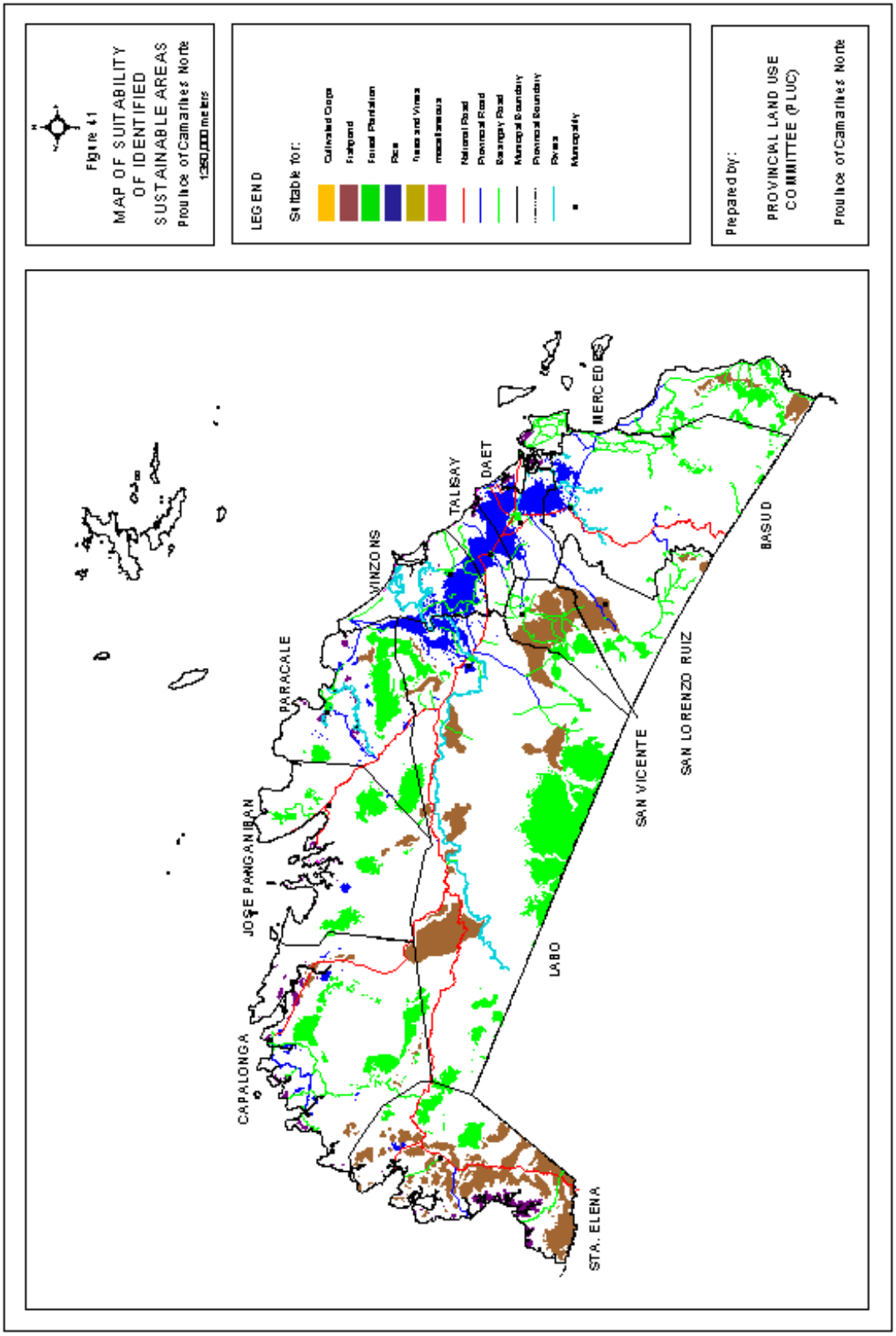
MUNICIPALITY	OVER USED	SUSTAINABLE	DEV'T OPPORTUNITY
Basud	267.93	1,150.05	15,846.84
Capalonga	7,945.89	3,241.49	7,491.68
Daet	159.35	1,887.55	1,506.88
Jose Panganiban	8,892.80	2,062.94	6,471.12
Labo	18,253.35	14,557.72	23,427.55
Mercedes	965.79	2,546.91	4,846.19
Paracale	6,225.70	3,406.33	4,733.24
San Lorenzo Ruiz	15.04	1,611.96	6,645.18
San Vicente	64.70	2,736.22	1,845.8
Santa Elena	2,866.28	7,271.75	5,547.52
Talisay	436.88	1,147.14	1,394.94
Vinzons	1,027.21	1,827.79	2,366.64
TOTAL	**47,120.92**	**43,447.85**	**82,123.58**

Table 124
Suitability of Identified Sustainable Areas by Municipality
Province of Camarines Norte

MUNICIPALITY	SUITABILITY OF IDENTIFIED SUSTAINABLE AREAS					Total
	Suitable for Fishpond	Suitable for Rice	Suitable for Trees and Vines	Suitable for Plantation Forest	Misc.	
Basud		828.85		321.20		1,150.05
Capalonga	366.19	280.67	561.97	2,032.66		3,241.49
Daet	26.06	1,840.43			21.06	1,887.55
Jose Panganiban	96.94	65.67	185.44	1,704.53	10.36	2,062.94
Labo		1,174.13	4,975.67	8,407.92		14,557.72
Mercedes	220.92	68.08	740.62	1,517.29		2,546.91
Paracale	261.98	325.98	183.86	2,634.51		3,406.33
San Lorenzo Ruiz			1,198.16	413.80		1,611.96
San Vicente		6.94	2,238.82	490.46		2,736.22
Sta. Elena	717.36	59.33	5,466.06	1,029.00		7,271.75
Talisay	26.23	1,100.06			20.853	1,147.14
Vinzons	19.73	1,752.79			55.273	1,827.79
TOTAL	1,735.41	7,502.93	15,550.60	18,551.37	107.546	43,447.86
% TO TOTAL SUSTAINABLE AREA	3.99	17.27	35.79	42.70	0.25	100.00

Table 125
Suitability of Identified Over-Used Areas by Municipality
Province of Camarines Norte

MUNICIPALITY	SUITABILITY OF IDENTIFIED OVERUSED AREAS						Total
	Suitable for Fishpond	Suitable for Rice	Suitable for Cultivated Crops	Suitable for Trees and Vines	Suitable for Plantation Forest	SP/Misc.	
Basud		37.38	138.25		92.30		267.93
Capalonga	2.54	42.42	38.50	6.32	7,856.11		7,945.89
Daet		152.28	0.10			6.967	159.35
Jose Panganiban		43.33	15.24		8,802.15	32.08	8,892.80
Labo		37.93	110.10	2.28	18,103.04		18,253.35
Mercedes	14.4	91.23	185.47	1.41	673.28		965.79
Paracale	0.74	67.59	127.09	20.48	6,009.80		6,225.70
San Lorenzo Ruiz			8.67	6.37			15.04
San Vicente		0.46	12.42	48.72	3.10		64.70
Sta. Elena		103.50	16.48	50.69	2,695.61		2,866.28
Talisay		1.23	327.54			108.11	436.88
Vinzons		26.38	633.77		88.45	278.61	1027.21
TOTAL	**17.68**	**603.73**	**1,613.63**	**136.27**	**44,323.84**	**425.767**	**47,120.92**
% TO TOTAL OVERUSED AREA	0.04	1.28	3.42	0.29	94.06	0.90	100.00


Figure 41
MAP OF SUITABILITY
OF IDENTIFIED
SUSTAINABLE AREAS
Province of Camarines Norte
1:250,000 meters
LEGEND
Suitable for:
Cultivated Crops
Fishpond
Forest Plantation
Rice
Grass and Vines
miscellaneous
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE
COMMITTEE (PLUC)
Province of Camarines Norte
MERCED
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

9.1.1.6 Land Suitability of Development Opportunity Areas

The development opportunity area of the Sustainability Map was compared with the Land Suitability Map to determine the suitability of these development opportunity areas. Suitable for cultivated crops areas are mostly found in the municipalities of Basud, San Lorenzo Ruiz, San Vicente, Mercedes, Labo, Vinzons and small patches in Tamisan, Jose Panganiban and along the coast of Vinzons, Paracale, Capalonga and Sta. Elena. Development opportunity area suitable for rice are widely distributed in all the municipalities of the province whereas, Development opportunity areas suitable for trees and vines are found in Capalonga, Labo, Mercedes, San Lorenzo Ruiz, San Vicente, Sta. Elena and minimal area in Paracale. All the coastal municipalities have still development opportunity areas suitable for fisheries but Talisay have the least. **Table 126** shows that Labo has the biggest development opportunity areas of about 23,427.55, followed by Basud with 15,846.84, San Lorenzo Ruiz with 6,645.18 has. and Jose Panganiban with 6,471.12 .

As to suitability of the development opportunity areas, 40,097.14 has. are suitable for cultivated crops, 36,106.46 has. are suitable for rice, 2,583.97 has. are suitable for trees and vines, 1,826.78 has. are suitable for fishponds and 1,509.23 has. are suitable for forest production.

Table 126
Suitability of Identified Development Opportunity Areas
By Municipality
Province of Camarines Norte

MUNICIPALITY	SUITABILITY OF DEVELOPMENT OPPORTUNITY AREAS					TOTAL
	Suitable for Fishpond	Suitable for Rice	Suitable for Cultivated Crops	Suitable for Trees and Vines	Suitable for Plantation Forest	
Basud	17.265	3166.87	12639.30	20.66	2.74	15,846.84
Capalonga	338.66	6251.86	243.05	624.76	33.35	7,491.68
Daet	10.94	472.31	1023.63			1,506.88
Jose Panganiban	140.98	4547.37	1147.17		635.60	6,471.12
Labo		12411.55	10580.55	330.32	105.13	23,427.55
Mercedes	235.8	229.31	4116.53	226.04	38.55	4,846.19
Paracale	273.08	3168.18	788.90	31.88	471.20	4,733.24
San Lorenzo Ruiz		505.84	5778.73	360.61		6,645.18
San Vicente		182.40	1144.18	519.22		1,845.80
Sta. Elena	735.64	3540.52	608.64	470.48	192.24	5,547.52
Talisay	6.72	725.49	662.73			1,394.94
Vinzons	67.73	904.76	1363.73		30.42	2,366.64
TOTAL	**1,826.78**	**36,106.46**	**40,097.14**	**2,583.97**	**1,509.23**	**82,123.58**
% TO TOTAL DEV'T OPPORTUNITY	2.22	43.97	48.83	3.15	1.84	100.00

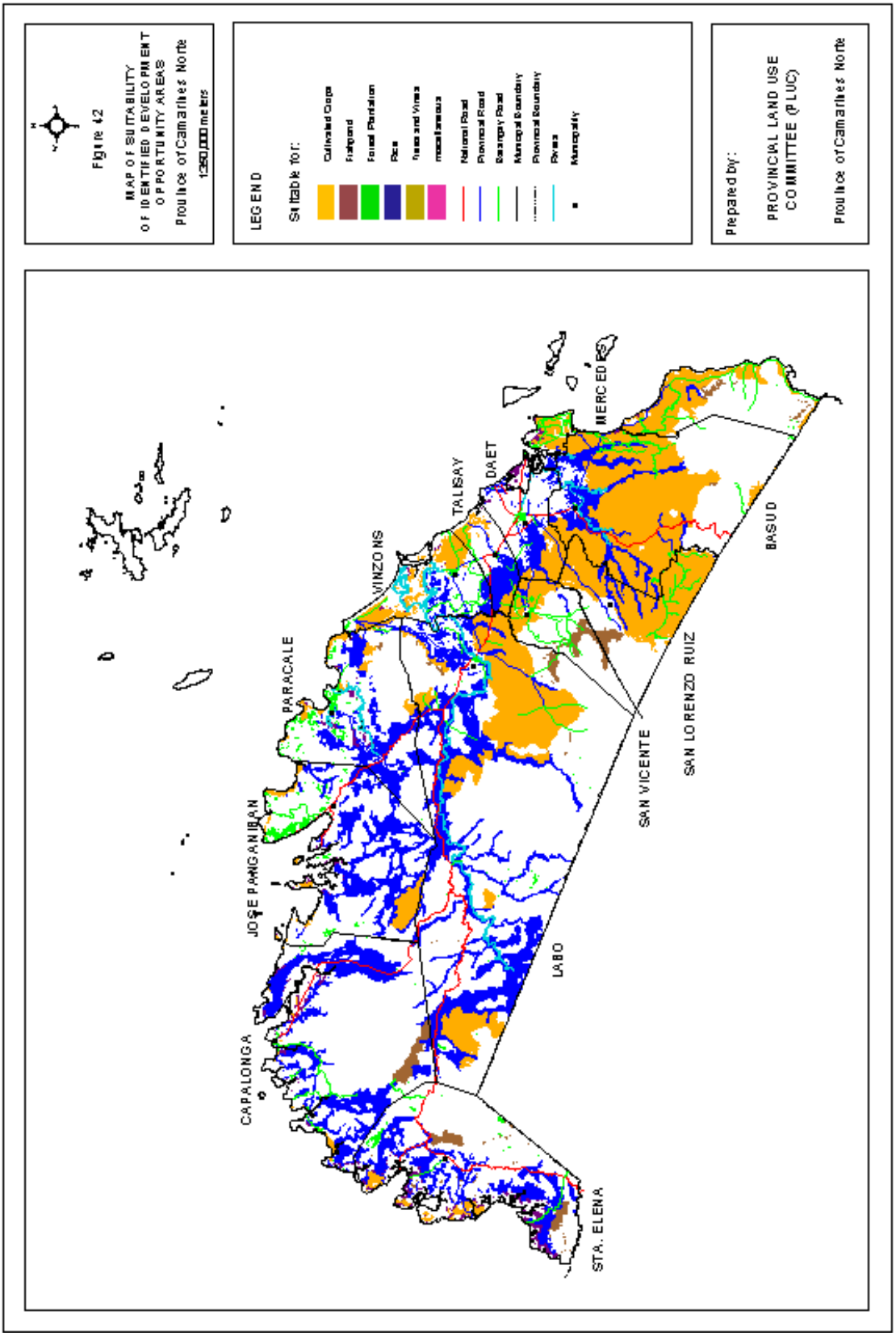
9.1.1.7 Priority Commodities

The primary concern on food security is the production of rice, livestock (meat) and fisheries because of the large proportion of the population that are directly involved in consumption of these commodities.

In terms of priority attention, the commodities that will be supported by the province for the plan period include:

9.1.1.7.1 Rice

Targeted production for rice in year 2013 is 126,247 metric tons.; 196,017 metric tons in year 2023 and 272,021 metric tons in 2033. **(Table 127)** This is expected to be produced in the 7,502.62 has. **(Table 128)** sustainable areas and in the development opportunity areas suitable for rice production consisting of about 36,106.46 has. **(Table 129)** Rice will be extensively grown in all municipalities of the province.


Figure 42
MAP OF SUITABILITY
OF IDENTIFIED DEVELOPMENT
OPPORTUNITY AREAS
Province of Camarines Norte
1:250,000 meters
LEGEND
Suitable for:
Cultivated Crops
Fishpond
Forest Plantation
Rice
Trees and Vines
miscellaneous
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE
COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

To attain the targeted production, necessary interventions are desired in order to increase the cropping intensity and the average yield per hectare. This means constructing more irrigation facilities rehabilitating and/or modernizing existing facilities and converting rainfed area to irrigated areas.

In year 2013 irrigation development is projected to cover at least 58.17 percent; year 2023 –--- 78.08 percent and year 2033, 100 percent of the 16,869 has. potential irrigable area to be able to attain the target.

Cropping intensity is projected to be 2 for irrigated area and 1 for rain fed areas respectively.

Table 127
Palay Production Targets By Municipality: CY 2013, 2023& 2033
Province of Camarines Norte

Municipality	Production Targets (mt.)					
	2013		2023		2033	
	Irrigated	Expansion	Irrigated	Expansion	Irrigated	Expansion
Basud	8,427	3,060	13,817	5,681	18,929	8,155
Capalonga	4,176	4,563	11,109	8,476	16,646	12,474
Daet	12,690	1,149	15,657	2,132	18,180	3,161
Jose Panganiban	3,836	3,213	8,544	3,939	16,808	7,361
Labo	23,088	7,674	36,427	16,273	52,747	19,355
Mercedes	2,853	96	3,280	176	7,151	287
Paracale	4,173	1,392	6,659	2,587	8,251	3,938
San Lorenzo Ruiz	644	498	1,397	926	2,979	1,057
San Vicente	853	183	1,203	338	1,505	497
Sta. Elena	5,830	3,105	10,732	5,759	17,804	7,525
Talisay	12,479	948	15,125	1,765	18,025	2,433
Vinzons	20,951	366	23,332	683	25,811	942
TOTAL	**100,000**	**26,247**	**147,282**	**48,735**	**204,836**	**67,185**

Table 128
Palay Planting Target Areas: CY 2013, 2023 & 2033
Province of Camarines Norte

Municipality	Planting Targets (has.)					
	2013		2023		2033	
	Target Irrig.Area	Expansion Area	Target Irrig.Area	Expansion Area	Target Irrig.Area	Expansion Area
Basud	836	1,020	1,247	1,748	1,567	2,330
Capalonga	435	1,521	1,048	2,608	1,435	3,564
Daet	1,254	383	1,408	656	1,500	903
Jose Panganiban	431	1,071	863	1,212	1,542	2,103
Labo	2,410	2,558	3,443	5,007	4,555	5,530
Mercedes	283	32	296	54	296	82
Paracale	414	464	601	796	683	1,125
San Lorenzo Ruiz	70	166	137	285	266	302
San Vicente	85	61	109	104	125	142
Sta. Elena	631	1,035	1,048	1,772	1,584	2,150
Talisay	1,221	316	1,348	543	1,475	695
Vinzons	1,743	122	1,792	210	1,841	269
TOTAL	**9,813**	**8,749**	**13,340**	**14,995**	**16,869**	**19,195**

9.1.1.7.2 Coconut

Coconut rank 1st in terms of area cultivated and dominantly planted throughout the hilly areas of almost all municipalities of the province. Its population however, is fastly decreasing due to high demand for lumber.

To make the industry boom, there is a need to regulate the cutting of coco trees coupled with the implementation of replanting and fertilization program. The planting of macapuno is also recommended. Crop Diversification will be enhanced since this will not only be a source of alternative livelihood but will likewise improve productivity by providing better aeration and fertility of the soil.

The establishment of coco coir processing is recommended in Labo in support to the Provincial Industrial Center. Since coconut is grown throughout the province, all municipalities shall serve as supplier of raw materials.

9.1.1.7.3 Fisheries and Aquaculture including Seaweeds

The importance of fish in the lives of Filipinos cannot be overstated. It ranks next to rice as an important staple food. It provides livelihood as well as employment.

Target production for fishery is 31,959.813 metric tons in 2013, 48,567.73 metric tons in 2023 and 71,079.03 metric tons in 2033 **(Table 129).** These production targets will be maximally produced in the 1,734.41 has. sustainable fishpond area and 1,875.67 development opportunity area, fresh water areas and in the marine waters of the province comprising of about 199,238 has. **(Table 45)**

Table 129
Fish Production Targets By Municipality: CY 2013, 2023 & 2033
Province of Camarines Norte

MUNICIPALITY	Sustainable Fishpond Area	Dev't Opportunity Area	Production Targets (Metric tons)								
			2013			2023			2033		
	(Ha.)	(Ha.)	Inland	Municipal	Commer-cial	Inland	Municipal	Commer-cial	Inland	Municipal	Commer-cial
Basud		17.27	7.15	298.44		8.94	406.31		10.73	728.61	
Capalonga	366.19	388.06	716.93	1,923.44		896.16	3,005.38		1,075.39	4,695.90	
Daet	26.06	10.94	58.69	760.94		73.36	1,188.98		88.03	1,857.78	
J. Panganiban	95.94	140.48	200.30	2,942.50	1,221.24	250.38	3,816.40	1,908.20	300.46	5,963.12	2,981.56
Labo				40.62			63.98			99.35	
Mercedes	220.92	235.76	459.79	8,903.75	4,051.88	574.74	13,912.11	6,956.04	689.69	21,737.67	10,868.88
Paracale	261.98	273.08	594.75	3,301.56		743.44	5,158.69		892.13	8,060.36	
Sn Lorenzo Ruiz											
San Vicente											
Sta. Elena	717.36	735.64	1,534.45	1,483.25	741.24	1,918.06	2,317.58	1,158.36	2,301.67	5,793.23	1,809.96
Talisay	26.23	6.72	41.97	129.69		52.46	202.64		62.95	316.62	
Vinzons	19.73	67.73	78.48	2,468.75		98.10	3,857.42		117.72	627.22	
TOTAL	**1,734.41**	**1,875.673**	**3,692.51**	**22,252.94**	**6,014.36**	**4,615.64**	**33,929.49**	**10,022.60**	**5,538.77**	**49,879.86**	**15,660.40**

To sustain and increase production, development efforts will be directed toward sustained environmental protection through multi-sectoral approach. Maximum productions in the developed fishpond area and development of the suitable areas for fishpond will be pursued using sustainable development technologies.

Necessary production support facilities shall be provided. In Sta. Elena, in support of its role as transshipment point where a mini Food terminal is perceived to be established, the boom in fish production is of primary concern. The establishment of Fish/Crab Hatchery/Nursery Cum Demo farm will be of primary concern to support the big fishpond area in the municipality. Existing hatchery projects in Mercedes and Basud shall be upgraded to provide readily available quality fry/fingerlings in the nearby municipalities. Other required post harvest facilities like fish processing/canning shall be established in Sta. Elena and Mercedes. Fish/port as well as ice plant and cold storage

shall be established in Sta. Elena. The satellite municipality of Capalonga shall serve as major supplier of fish of Sta. Elena.

Rehabilitation of the coastal environment through establishment of fish sanctuaries & marine reserves shall be established in Sta. Elena, Capalonga, Jose Panganiban. Reforestation of denuded mangrove areas and abandoned fishpond areas will be vigorously undertaken.

Seaweeds

The highly favorable marine waters of about 1,050 has. of the Calaguas group of islands, based on the Focused Group Discussion conducted in the area, and some areas of the coastal waters in Basiad, Sta. Elena, Dahican and Dayhagan of Jose Panganiban, Apuao, Quinapaguian and Cayucyucan in Mercedes and Camagsaan in Capalonga for the cultivation of seaweeds makes the commodity of comparative advantage to the province and help boost our economy.

To make the industry more vibrant continued research, development and extension work must be intensified to prevent and control the Epiphytic Filamentous Algae (EFA) and other diseases that could destroy the industry.

The establishment of seaweeds processing in the Calaguas group of island will provide employment and could lessen the pressure on the sea especially on illegal fishing due to the presence of alternative livelihood.

9.1.1.7.4 Cassava and other Rootcrops

Cassava is considered a substitute for corn as feed ingredients. As such, this crops will be grown continuously in commercial quantities both for food and for animal feeds. Considering its demand both local and abroad, this commodity will generate employment for the people.

Based on land suitability, this crop is recommended to be commercially grown in the eastern portion of Mercedes, northeastern portion of Basud, northern portion of San Vicente, northwestern portion of San Lorenzo Ruiz, southeastern portion of Talisay, eastern portion of Labo, eastern and western portion of Sta. Elena and western portion of Jose Panganiban.

Cassava processing centers in Malasugui, Labo, Sto. Domingo, Vinzons; Laniton, Basud & Basiad, Sta. Elena shall be expanded to support commercial production in areas just mentioned earlier.

These processing centers will be the major supplier of cassava chips in the feed mill that is projected to the established in Labo and Sta. Elena.

9.1.1.7.5 Pineapple

Pineapple is considered as an export potential of the province as evidenced by the initial shipment in Japan, Europe and Korea. Thus, increased volume of quality produce and sustainable production of this commodity is one of the major goals.

For zonification purposes, and for appropriate support facilities could be provided, pineapple are recommended to be concentrated in the northwestern portion of Basud, northeastern and southeastern portion of San Lorenzo Ruiz, Southeast portion of Daet, northern and southern portion of San Vicente and eastern portion of Labo.

Considering the contiguity of the area, Laniton, Basud is the most appropriate site for pineapple dehydration and processing center. Two packing houses are also recommended to be established, one in Laniton, Basud and the other in Mabilo, Labo.

9.1.1.7.6 Livestock and Poultry

Livestock and Poultry production target of the province is projected to be 1,290,947 heads, 2,834,593 heads and 6,275,631 heads for the year 2013, 2023 and 2033 respectively **(Table 130).** Poultry accounts for 84.09 percent, swine 14.78 percent, carabao 0.15 percent cattle 0.31 percent and goat 0.30 percent.

Table 130
Livestock and Poultry Production Target: CY 2013, 2023, 2033
Province of Camarines Norte

Commodity	Production Targets (no. of heads)			Extraction (no. of heads)		
	2013	2023	2033	2013	2023	2033
1. Cattle	27,853	29,830	31,948	3,220	3,449	3,694
2. Carabao	10,930	14,627	19,576	1,939	2,595	3,473
3. Swine	172,013	399,440	927,559	98,047	227,680	528,708
4. Goat/sheep	8,939	12,979	18,846	-	-	-
5. Chicken	1,071,212	2,377,717	5,277,702	535,606	1,188,858	2,638,851
6. Ducks	-	-	-	-	-	-

To attain this target there is a need to expand the production of sources of feeds like cassava and corn. Likewise, existing pasture areas shall be improved and pasture extension shall be introduced in the potential pasture areas by recommending to the farmers to plant nutritious pasture grasses using sustainable practices.

Genetic breed of large cattle will be upgraded by establishing stock farm in Sta. Elena and AI Centers in production areas. To enable the farmers to get fair return, livestock auction market cum slaughterhouse and meat processing shall be established in support to the mini Food Terminal perceived to be established in Sta. Elena.

9.1.1.7.7 Fruits and Vegetables

The commercial production of citrus and mango could be further expanded in the northeastern portion of Sta. Elena and southwestern of Capalonga. The production in these areas will give impact to the development of the mini Food terminal in Sta. Elena and will provide employment to the people.

Production of watermelon in the municipalities of Labo, Talisay, Vinzons and Basud will likewise be intensified.

Production of other fruits such us banana, papaya and other minor fruits shall be encouraged as intercrop in highly suitable areas. Vegetables shall be produced as diversified crops in coco based areas and rain fed areas when production of palay is not feasible.

9.1.1.7.8 Pili

The province supports the development of the Pili Industry, it being one of the regional commodities. The crop is recommended to be inter cropped under widely spaced coco based areas as well as diversified in forest production areas known as agro-forestry. This commodity is recommended to be expanded in southeastern portion of Labo southern portion of San Vicente and western portion of San Lorenzo Ruiz.

9.1.1.7.9 Abaca

Abaca is planted sporadically with coconut in some areas. Because of the demand of abaca, both local and foreign, for handicraft and industrial uses, this crop needs to be intensified preferably in the eastern portion of Mercedes, western portion of San Lorenzo Ruiz, southeastern, northern, western and south eastern portion of Labo, western portion of Jose Panganiban and southeastern, southwestern and northern portion of Capalonga.

9.1.1.7.10 Corn and Soybeans

Corn and Soybeans are vital feed ingredients for livestock and poultry. As such these commodities shall be grown in commercial quantities to support the livestock and poultry industry. These crops are recommended to be grown in rain fed rice areas all over the province when planting of rice is not feasible.

9.2 Production Forest

Camarines Norte is endowed with rich natural resources. Forest resources, considered as one of the life support system, experienced wanton destruction due to man's destructive use of nature such as logging, kaingin-making, upland dwelling, among others. Considering the economic value of forest resources, massive forest production plays a vital role in the upliftment of socio-economic condition of the province on one hand and improving the natural environment on the other hand.

Situationer

9.2.1 A&D Suitable for Forest Plantation

The production forestland was derived from the total land area less the A&D land, the protection forestland and the miscellaneous land. **(Figure 24)** Labo has the biggest production forestland of about 22,084.31 has. or 46% of the total production forestland. While the municipalities of San Lorenzo Ruiz, San Vicente and Vinzons have less than 1,000 has. of 783.47, 127.56 and 104.62 has. respectively **(Table 57)**

A total of 32,580.89 has. of A&D lands are suitable for forest plantation. Most of these areas are found in Labo with 11,007.26 has. followed by Jose Panganiban with 7,739.19 has. On the contrary, the municipality of Vinzons has the smallest of only 22.39 has. while the municipalities of Basud, Daety, and Talisay have no A&D suitable for forest plantation. **(Figure 43 & Table 131)**

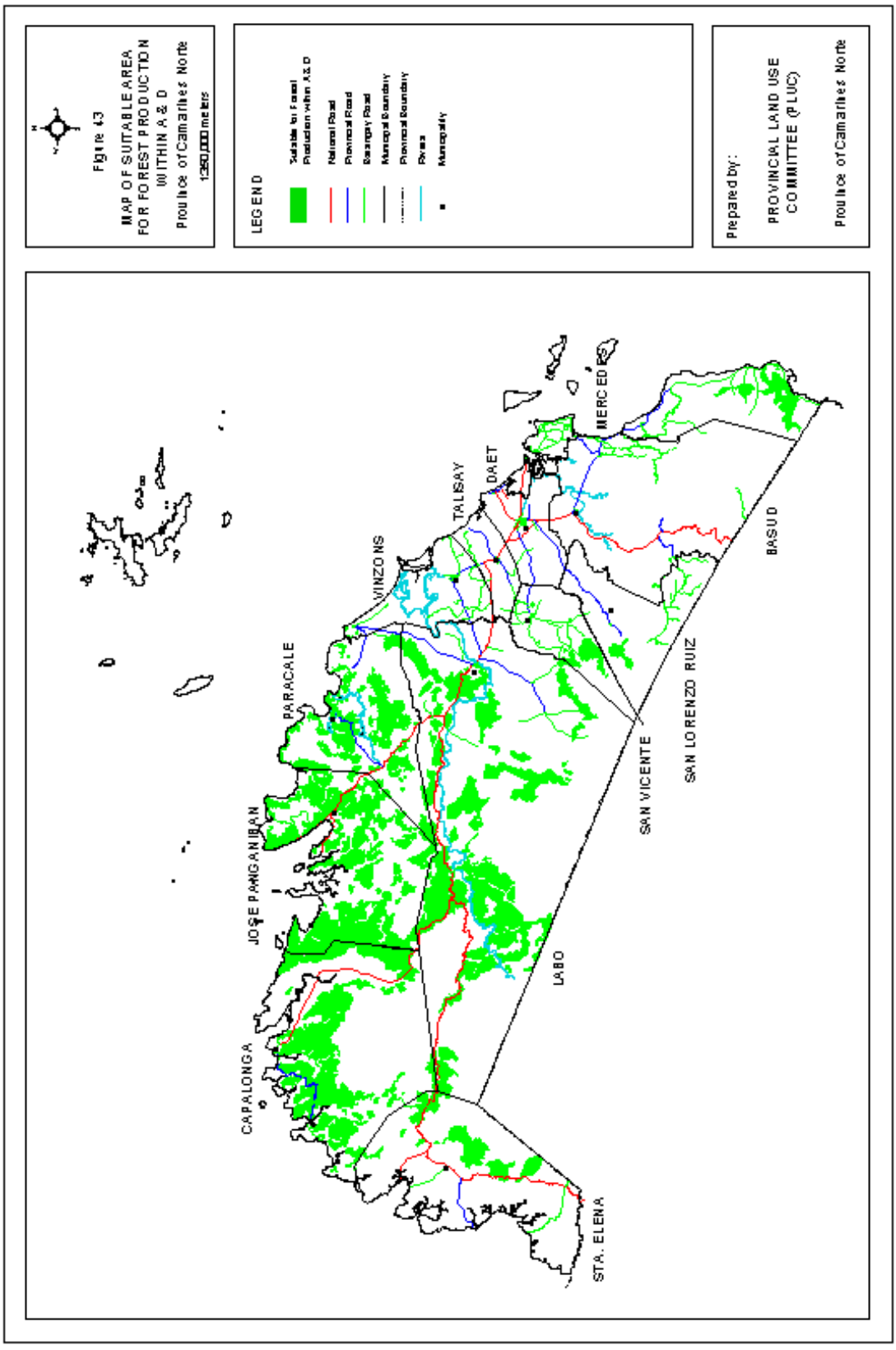

Figure 43
MAP OF SUITABLE AREA FOR FOREST PRODUCTION WITHIN A & D
Province of Camarines Norte
1:250,000 meters
LEGEND
Suitable for Forest Production within A & D
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
CAPALONGA
JOSE PANGANIBAN
PARACALE
VINZONS
TALISAY
DAET
MERCED
BASUD
SAN LORENZO RUIZ
SAN VICENTE
LABO
STA. ELENA

Table 131
A&D Suitable for Forest Plantation
Province of Camarines Norte

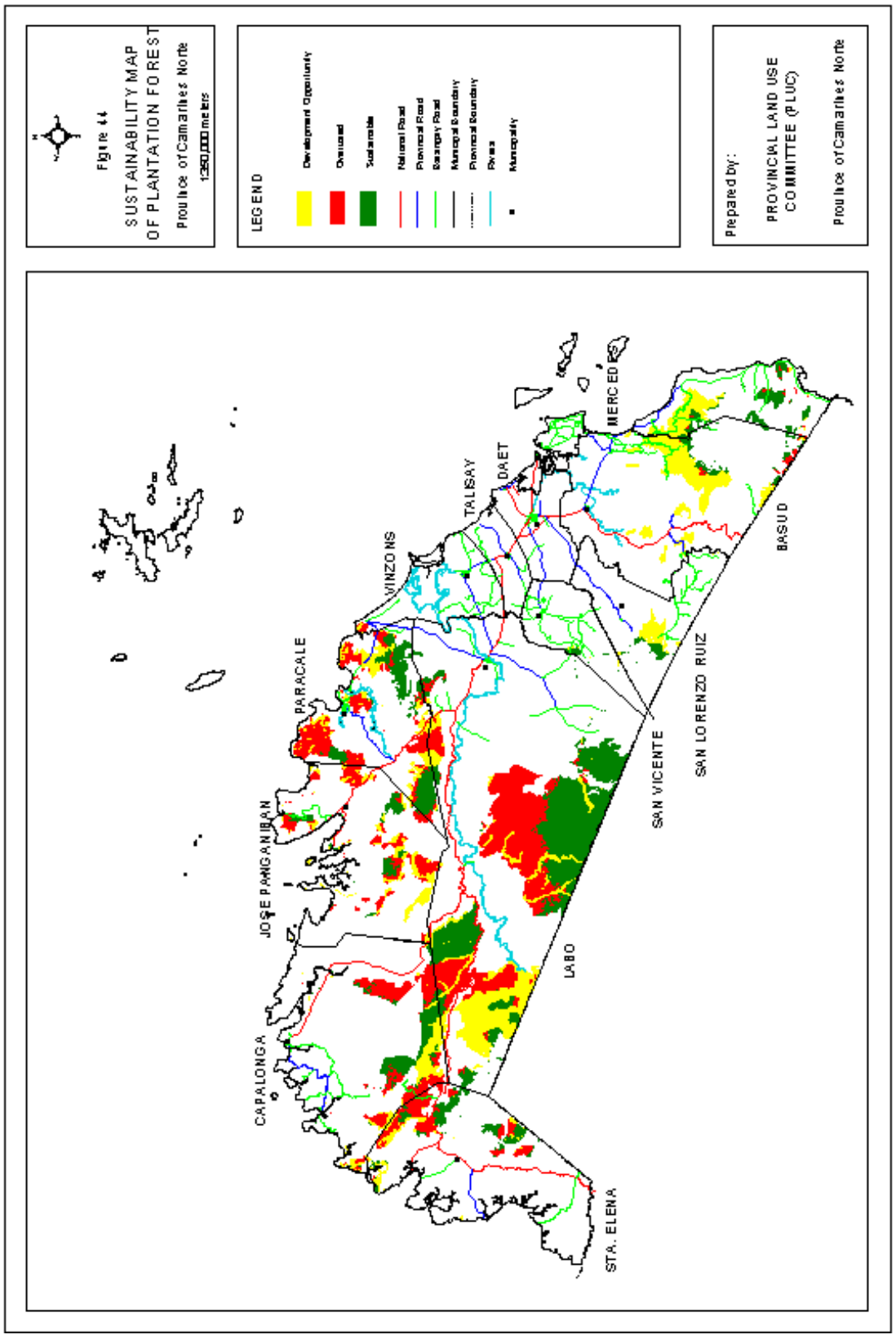
Municipalities	Area (has)
Basud	-
Capalonga	7,013.85
Daet	-
Jose Panganiban	7,739.19
Labo	11,007.26
Mercedes	913.36
Paracale	3,491.61
San Lorenzo Ruiz	193.56
San Vicente	464.21
Sta. Elena	1,735.47
Talisay	-
Vinzons	22.39
TOTAL	32,580.89

9.2.2 Sustainability of Production Forest

Based from the result of map overlays, 33.16% of the total production forestland are sustainable which is equivalent to 15,812.03 has. Largest sustainable production forestland can be found in Labo with 9,019.40 has. The municipalities of Capalonga, Mercedes, Paracale and Sta. Elena have more than 1,000 has. each. San Vicente has the least sustainable production forestland with only 98.01 has. followed by San Lorenzo Ruiz with 239.15 has. (**Figure 44 and Table 132**)

Table 132
Sustainability of Production Forestlands By Municipality
Province of Camarines Norte

MUNICIPALITY	UNDERUSED	OVERUSED	SUSTAINABLE	TOTAL
Basud	2,855.22	92.56	321.20	3,268.98
Capalonga	1,114.91	2,307.52	1,330.74	4,753.17
Daet	-	-	-	-
Jose Panganiban	1,223.71	1,954.84	655.78	3,834.33
Labo	4,924.74	8,140.18	9,019.40	22,084.32
Mercedes	1,301.94	216.85	1,123.22	2,642.01
Paracale	1,442.33	3,458.18	1,986.03	6,886.54
San Lorenzo Ruiz	554.18	0.15	239.15	793.48
San Vicente	28.81	0.74	98.01	127.56
Sta. Elena	560.40	1,584.40	1,038.50	3,183.3
Talisay	-	-	-	-
Vinzons	33.28	71.34	-	104.62
TOTAL	**14,039.52**	**17,826.76**	**15,812.03**	**47,678.31**
% TO TOTAL PROD'N FORESTLANDS	29.45	37.39	33.16	100.00


Figure 44
SUSTAINABILITY MAP
OF PLANTATION FOREST
Province of Camarines Norte
1:250,000 meters
LEGEND
Development Opportunity
Overused
Sustainable
National Road
Provincial Road
Barangay Road
Municipal Boundary
Provincial Boundary
Rivers
Municipality
Prepared by:
PROVINCIAL LAND USE
COMMITTEE (PLUC)
Province of Camarines Norte
CAPALONGA
JOSE PANGANIBAN
PARACALE
VINZONS
TALISAY
DAET
MERCEDES
BASUD
SAN LORENZO RUIZ
SAN VICENTE
LABO
STA. ELENA

Considering the situation of the production forestlands in the province, all development opportunity areas for forest plantation will be developed and the existing brushwood and coconut areas that are located within production forest will be reverted back to plantation forest.

Eroded and degraded areas will likewise be rehabilitated and A&D lands suitable for forest plantation will be established into private forest plantation.

Plantation establishment within the forestland will be a government and private co-management scheme which will be sustained through awarding of harvesting rights and corresponding sharing scheme to the private counterpart.

9.2.3 Priority Interventions

The following will be established in support to the development of the production forestlands.

9.2.3.1 Tree Farms

The purpose of establishing Tree Farms is to cater the increasing needs for wood products as of timber and fuel wood.

9.2.3.7.4 Timber Production

As the mining industry in the province booms there exists a continues much in the cutting of timber being used as pile/posts in the mining pits. Coupled with the needs of lumber for housing and other construction purposes, issue on illegal cutting of trees and other abusive activities on nature results to a continuous vanishing of forest resources including wildlife.

Expected doubling of population in 2032 will contribute also to doubling of environmental damage if no intervention on protection will be done. Projected timber consumption in the year 2013 is about 36,761 cubic meters. **(Table 132)** It is projected that the needs for timber in 2033 will increase to about 114,352 cubic meters. The use of alternative for lumber like concrete, steel and others will also decrease the requirement for timber. The immediate need to address the problem is a sustainable forest production through massive establishment of fast growing tree plantation. This will include government-private co-management forest plantation in declared forest area and private forest plantation on private lands. Likewise, alternative construction materials like bamboo, coconut lumber and anahaw poles should also be developed to lessen over-dependence on timber as construction materials while establishing new forest plantation.

9.2.3.7.5 Fuelwood Farms

The increasing number of bakeries and other fuelwood dependent industries as well as rural households is considered threats in the continuous depletion of forest cover. Approximately, 80% of the population of the province depend on fuelwood but the demand rate will grow slower against the population due to urbanization. In the year 2000, fuelwood consumption in the province is about 240,000 cubic meters and is expected to increase up to 336,871cubic meters in the year 2033. **(Table 133).**

With this scenario, establishment of fuelwood plantation is necessary to meet the needs of growing population and minimize destruction on the existing forest cover. During the establishment of fuelwood plantation, species like ipil-ipil leaves for animal feeds as ipil-ipil leaf meal.

Table 133
Projected Timber Consumption: CY 2013, 2023, 2033
Province of Camarines Norte

YEAR	Population	Consumption (cu.m.)
2003	500,639	28,085
2013	612,698	36,761
2023	750,292	47,944
2033	922,935	114,352

Table 134
Projected Fuel Consumption: CY 2013, 2023, 2033
Province of Camarines Norte

YEAR	Population	Consumption (cu.m.)
2003	500,639	232,79
2013	612,698	257,945
2023	750,292	292,614
2033	922,935	336,871

9.2.3.7.6 Plantation for Extractives and Fruit Production

To address poverty in the province, socio-economic activities should also be enhanced. In the field of forestry, the dual nature of timber such as for protection and for livelihood purposes could be a sustainable practice in forest management.

Agro-forestry will play its role in this purpose. Fruit bearing trees like Pili (*Canarium ovatum*) exudes also an extractive generically called "manila elemi." This extractive can be used an additives to varnish, paints and the likes and could be a promising income generator to community people. On the other hand, pili as a nut is one of the high value products of the region to provide alternative livelihood to bicolanos.

9.2.3.7.7 Minor Forest Products Plantation

Massive production of non-wood forest products is another strategy to minimize gathering/cutting of trees by forest dependent families. In Camarines Norte, nipa shingles rank first in terms of production and demand, but still, there is no record available to determine nipa production and consumption. The demand for nipa remains high as it is primarily used in rural housing and other farm-based construction. It is also processed into nipa wine (barikulkol) and other by products.

Bamboo is also considered as another construction material particularly for residential houses, fishponds, furniture and handicrafts. It is projected that consumption will likewise increase as being influenced by the adjacent provinces wherein the bamboo industries gaining prominence. For the year 2033, projected bamboo consumption will reach to 6,636 lineal meters **(Table 135).** Bamboo, considered as the tallest grass, it is best suited on river levee to prevent erosion & degradation of these areas.

Table 135
Projected Bamboo Consumption: CY 2013, 2023, 2033
Province of Camarines Norte

YEAR	Population	Consumption (cu.m.)
2003	500,639	4,225
2013	612,698	4,929
2023	750,292	5,717
2033	922,935	6,636

Likewise, rattan consumption will also increase from 12,811 linear meters in 2000 to about 17,806 meters in 2013 and about 27,245 in 2033 or 113% increase from year 2000 **(Table 136).** From this, establishment of rattan plantation is necessary to cater for these requirements.

Table 136
Projected Rattan Consumption: CY 2013, 2023, 2033
Province of Camarines Norte

YEAR	Population	Consumption (cu.m.)
2000		12,811
2003	581,639	12,972
2013	612,298	17,806
2023	750,292	21,984
2033	922,935	27,245

9.3 Mining

As one of the components of the production land use, mining is also a potential industry in Camarines Norte. The province is rich in mineral deposits, among them are gold, iron, diatomites and silica.

9.3.1 Situationer

Camarines Norte has a total deposit of 125,276,390 metric tons of metallic mineral resources and 271,627,600 metric tons and 1,375,200 cubic meters of non-metallic mineral reserves **(Table 36)**. The province have the following mineral reserves: diatomite, diatomaceous earth, refractory clay, iron lump, gold, silver, iron, kaolin/white clay, lead, zinc, ball quartz, silica sand, silica clay and marbleized limestone. Existing metallic mineral extraction are concentrated in the municipality of Jose Panganiban and Paracale. This includes large and small-scale mining for gold and iron. While the municipalities of Basud, Jose Panganiban, Labo and Paracale have existing small scale mining operation for non metallic minerals.

The regulation of small-scale mining is necessary in order to generate additional income for the government and to prevent loss to life and property and massive destruction of the environment. This shall start with Information, Education and Communication (IEC) campaigns on laws and guidelines and acquisition of permit. IEC campaign may also incorporate information/techno-demo/training of new technologies on mineral processing.

Research and development will also plays a vital role in the development of new technologies, processes and products that will benefit the whole mining industry. The Provincial Mining Regulatory Board (PMRB) will be strengthened to address different industry's concerns and needs. Multi-sectoral monitoring system will be adopted to conduct the periodic environmental monitoring to see to it that mining operation is strictly adhering to the requirements of the Environment Clearance Certificate (ECC).

New site will be developed for extraction. As one of the policies that extracted shall be processed before going out the province, new processing plants for gold, silica, iron and others shall be established. Abandoned and extracted areas will also be rehabilitated. Likewise processing plants for ceramic (red clay), white rocks and marble shall be established. Improvement of this industry shall create more job opportunities.

9.4 Tourism

Camarines Norte being endowed with rich natural resources, has many beautiful natural spots to visit like forest, rivers, falls, islands, beaches, big waves, and coral reefs. This nature-based attraction shall be enhanced and developed without sacrificing the environment. This shall be enhanced with state of the art facilities. Trails will be established to support eco-tourism activities. Dive sites will also be identified and marked. The province experiencing high wind velocity associated with big waves from November to March and high rainfall from October to March shall be capitalized for surfing, body boarding and other related activities.

The province has also manmade attraction like parks and gardens. Existing parks will be further developed. Establishment of tree parks, botanical garden, mini zoo, ecological garden, wildlife sanctuary and butterfly garden will also be undertaken.

Likewise, the province has ancestral buildings, landmarks, churches, monuments and shrines that shall be preserved to show case the culture and history of the province especially for the young ones.

Other industries that support tourism industry, which includes mining at Paracale and Jose Panganiban, Pineapple Plantation at Basud, Labo, San Lorenzo Ruiz and San Vicente and fishing at Mercedes, shall also be enhanced and developed to serve as added attractions in the province.

The province has lots of festivals and events to be watched, joined and enjoyed. To sustain these festivals and events, revision, enhancement and incorporation of new programs and activities will be undertaken to provide more excitement.

The Private sector shall play vital role in the establishment of resorts, restaurants and accommodation facilities, thus, link between private sector and concerned government agencies shall be established. Establishment of these facilities also includes the training of staffs on new techniques and procedures on safety and services.

To mitigate the impacts of tourism activities and maintains the environment sound and healthy, measures particularly on waste disposals, sanitation and sewerage shall be put in place.

To cater the needs and fully support the tourism industry, a full blown tourism office shall be created. Office staff will also be strengthened through trainings, seminars, and workshops.

With the arrival of tourists, it shall generate employment and additional income through accommodation and other services, income from the purchase of souvenir and gift items, handicraft, delicacies, and others. Purchase of these items also serve as promotional tool aside from the extensive promotional activities that will be implemented. These activities will eventually results to economic growth in the province. The development of tourism as an economic activity, linkages with other diverse sectors like manufacturing environment and agriculture shall be established. This also complements other economic sector by stimulating production, generating employment and encouraging private sector investments.

9.5 Employment

The vision of the province is to have a vibrant economy by the year 2033. This has been perceived in order to address the current state of the province as still largely agricultural-dependent economy and supplier of raw materials. This vision is hoped to be attained by gearing up towards urbanization and creating economic/employment opportunities in the industry and services sector.

9.5.1 Employment and Likely-Direction of Structural Change

The province's estimated employment by 2033 is 474,300 which is 155% increase over 2002 employment of 186,000 as presented in **Table 137**. Employment will grow at an average of 5% per annum.

Table 137
Employment Projections By Sub-Sector
Province of Camarines Norte

SUB-SECTOR	HISTORIC			
	Employment Growth 1990-2002			
	1990	2002*	No.	%
1. Agriculture, Forestry & Fishery	55,092	69,000	13,908	25.25
2. Industry	23,581	28,000	4,419	18.74
3. Services	41,368	89,000	47,632	115.14
CAMARINES NORTE	**120,041**	**186,000**	**65,959**	**54.95**

SUB-SECTOR	PROJECTED				
	Employment Growth 1990-2002				
	2002	2033	No.	%	% PA
1. Agriculture, Forestry & Fishery	69,000	115,128	46,128	66.85	2.16
2. Industry	28,000	102,958	74,958	267.71	8.64
3. Services	89,000	256,214	167,214	187.88	6.06
CAMARINES NORTE	**186,000**	**474,300**	**288,300**	**155.00**	**5.00**

This shows that the province has shifted from agriculture towards the industry and services sectors. The highest growth rate will be on industry at 8.6% annual growth rate as the province is expected to benefit from the investments that will pour in the Special Economic Zone in Jose Panganiban, Provincial Industrial Center in Labo and Agro-Processing Center in Sta. Elena. Likewise, agro-industries are expected to flourish all throughout the province. Consequently, this shall be coupled by a fast rate of growth in the services sector at 6% per annum to complement the industrializing economy. People are expected to engage in non/off-farm activities and entrepreneurial endeavors such as trading, finance, tourism-related activities and other community and private services.

Agriculture, though expected to have the lowest rate of employment growth of 2.15% would still play a vital role in the province's economy – not as a major employer but as a major producer of high-value crops for food and raw materials for agro-processing. However, in terms of employment share, agriculture still ranked second with 115,128 employment by 2033 while services has the highest employment of 256,214.

This could be attributed to the defined goal of the province to advance towards urbanization and provide more economic and employment opportunities especially in the industry and services sector.

In terms of structural change, **Table 138** shows that of the projected employment in 2033, the direction of growth is towards the services and industry sectors having a positive and strong change. The services sector is projected to absorb more than half or 58% of the 288,300 expected growth in employment. The sectors under services which are expected to provide employment opportunities are tourism and tourism-related activities, wholesale and retail trade, transportation, communications and other community and private services. On the other hand, the industry sector is also expected to have a strong positive change with 26% share of growth. Light to heavy manufacturing industries, mining and quarrying and construction are expected to be the sources of employment. Agriculture showed a positive but weak change with only 16% share of growth. This can be attributed to the expected shift from merely agricultural production to agro-processing.

Table 138
Structural Change – Likely Directions By Sector
Province of Camarines Norte

SECTOR	GAINFUL OCCUPATIONS COVERED	2002 Employ-ment	SHARE OF GROWTH		2033 Employment	2033 DIRECTION/ STRENGTH OF CHANGE
			NO.	%		
1. Agriculture, Fishery and Forestry	Agriculture, Fishery and Forestry (purely production)	69,000	46,128	16.00	115,128	+/Weak
2. Industry	Mining and Quarrying Manufacturing (food products, furnitures, gifts, toys & housewares, jewelry, agro-processing, Electricity, gas and water	28,000	74,958	26.00	102,958	+/Strong
3. Services	Finance, wholesale & retail trade, construction & real estate, transportation, communications, tourism and tourism-related activities, community, social and private services	89,000	167,214	58.00	256,214	+/Strong
CAMARINES NORTE		186,000	288,300	100.00	474,300	

9.5.2 New Establishments

Under the preferred spatial strategy of multiple centers, it is perceived that the Provincial Industrial Center (PIC) in Labo, the agro-processing center in Sta. Elena and the Special Economic Zone (SEZ) in Jose Panganiban are fully-developed, operational and teeming with industrial and service establishments by the year 2033. Light to heavy manufacturing industries are expected to be located in these growth centers. Likewise, resource-based industries are expected to boom and thereby provide a huge number of employment opportunities especially in the areas of mining and quarrying, agri/aqua/marine processing, furniture, housewares and jewelry.

On the other hand, the service sector is also expected to provide vast employment opportunities as various service establishments are expected to flourish to complement the growing industries. Daet as the business and service center is expected to have a robust business activities as host to major financial and institutional establishments. Tourism and tourism-related activities, information and communications, wholesale and retail trade, finance, transportation and other community and private services are expected to help boost the province's economy.

As of 2001, the province has a total of 6,769 establishments --- 1,101 in industry and 5,668 services establishments. In order to attain a vibrant economy and provide more economic/job opportunities to the populace by the year 2033, the following major industry and service establishments are expected to be developed.

9.6 Protection Land Use Plan Component

With the Multi Center Spatial Development as the chosen spatial strategy for Camarines Norte, impact on protected areas can be seen in the next thirty years since growth or expansion is expected to boom in the entire province. Given the specific roles of every municipality in this strategy, all development interventions shall adhere with the existing laws and policies governing protected areas. Identification and demarcation of new protected areas is projected to be integral part of this multi-centers spatial strategy to assure sustainability of the life support system in the whole province.

9.6.1 Situationer

9.6.1.7 NIPAS

NIPAS (Figure 19) are those areas covered by Republic Act 7586 or "An Act Providing for the Establishment and Management of National Integrated Protected Area System. Defining its scope, coverage and for Other Purposes". It provides for the establishment and management of a comprehensive system of protected areas which encompasses outstandingly

remarkable areas and biologically important public lands that are habitats of rare and endangered species of plants and animals. In Camarines Norte, there are 12,589 has. of protected areas, categorized as natural parks, natural biotic area, proclaimed watersheds and mangrove swamps. Bicol Natural Park has a total area of 3,217 has. and the Abasig-Matogdon Mananap Natural Biotic Area covers 5,420.12 has.

There are three proclaimed watersheds in Camarines Norte, namely: Dahican Watershed Forest Reserve (43.55 has.) and Jose Panganiban Watershed Forest Reserve (1,160 has.) in Jose Panganiban, and the Capalonga Watershed Forest Reserve (752 has.) in Capalonga.

There are 1,996 has. mangrove swamps in the province. Total NIPAS area in Camarines Norte comprises 5.42% of the province. **(Table 46).**

9.6.1.8 NON-NIPAS

NON-NIPAS areas are those that have outstanding physical and aesthetic features, anthropological significance and biological diversity that have not yet included under the NIPAS. In Camarines Norte, falling under the Non-NIPAS category are mangrove areas, forestland with slope >50% and >1,000 elevation and proposed watershed. Mangrove areas covers 5,376.47 has. located in the coastal municipalities of the province and the Caguit-Santol River Watershed Forest Reserve in Sta. Elena covers 610.91 has. Forestland with slope >50% and >1,000 elevation can be found in Mt. Cadig, Mt. Labo, Mt. Bagacay, Mt. Balagbag and Mt. Cone. Total land area under Non-NIPAS areas are 15,286.38 has. equivalent to 6.58% of the province's total land area **(Table 48).**

9.6.1.9 Certificate of Ancestral Domain Claims

Areas under the Certificate of Ancestral Domain Claims (CADC) is located in the municipality of Capalonga covering an area of 5,663 has. or 2.44% of the total land area.**(Table 46).**

9.6.1.10 Protected Fishery Areas

Fish sanctuaries and marine reserves in all coastal municipalities of the province shall be identified and demarcated to avoid encroachment by illegal fishers. Fish wardens shall be deputized in the municipalities with identified fish sanctuaries and marine reserves. Conservation hotspots shall be established in identified islands of Mercedes and Vinzons.

Mangrove areas and other nipa plantations shall be rehabilitated to expand breeding grounds of fishes and birds. Other possible mangrove areas shall be identified and planted with mangrove species. Forest wardens shall also be deputized to apprehend illegal mangrove cutters.

Regular coral reef assessment shall be done to monitor the health of marine life. Segment maps of rivers and creeks shall be done. .Integrated land and water information system shall be established to facilitate performance monitoring of the river systems.

Regulation of sea-based products such as seaweeds, sea cucumber, fishes and other fish by-products shall be strictly implemented and in adherence with the Fishery Law.

9.6.1.11 Areas Prone to Hazards/Geohazard Impact Areas

All identified growth centers have areas prone to natural hazards and identified as Environmentally Constrained Areas. Sta. Elena, Jose Panganiban and Labo are affected by thrust and cliff faults. Though no previous movements have been recorded, drastic change in the physical environment might result to the occurrence of future destructions. Thus, proper risk information dissemination shall be done for public safety.

Severe erosion is evident in the entire province which will possibly lead to desertification of some areas due to massive soil nutrient loss and non-survival of the earth cover. To combat possible desertification, environmental engineering techniques such as soil retaining works and other bio-engineering works shall be established.

Presence of severe and tidal flooding can also be controlled by engineering structures and activities such as sea walls and selective dredging on silted rivers and lakes. Establishment of beach forests and mangroves shall also be pursued

9.6.1.12 Priority Interventions

9.6.1.6.1 Watershed

Additional protected areas shall be identified and demarcated to expand the breeding grounds for wildlife. Timberland between the Bicol Natural Park in Basud and Mount Balagbag in Mercedes is one of the identified areas to be protected to establish contiguity of the aforementioned protected areas. The said identified site shall be categorized as “Critical Habitat Area” which will ensure high endemism or simply conservation of the indigenous species in the Bicol Natural Park.

The Abasig-Matogdon-Mananap Natural Biotic Area which can be found in the municipalities of Labo, San Vicente and San Lorenzo Ruiz shall still serve as the main source of potable and irrigation water. Thus, strict protection policies shall be enforced in the said watershed to preserve the major source of water in the province. Biodiversity conservation shall be the priority projects in this site. All municipalities shall be encouraged to allocate funds to establish their own reforestation projects within the watershed to cope with the demand of the increasing population and as support to agri-industrialization

The role of Sta. Elena as an agro-industrial zone is expected to create a lesser impact on the NIPAS and Non-NIPAS protected areas. The only threat on the role of this municipality is the expansion of upland agriculture particularly in Mt. Cadig which is one of the identified conservation hotspots in the province. Thus, environmental laws shall be strictly enforced.

The municipality of Jose Panganiban as an eco-zone is foreseen to establish industries and processing plants which can possibly create pollution and toxic wastes which can contaminate bodies of water. The two (2) proclaimed watershed areas, the Dahican and the Jose Panganiban Watersheds shall be guarded to avoid hazardous affects of contamination of chemicals and toxic wastes from industries and processing plants. Environmental Impact Assessment System (EIA) shall be strictly enforced and multi-sectoral environmental performance monitoring team shall be created and mobilized. Small watersheds such as Paltik and Busik shall be demarcated and applied for proclamation. Protected Area Management Board (PAMB) in each protected area shall be formed and activated.

Capalonga Watershed in the municipality of Capalonga which are adjacent to the two growth centers of Sta. Elena and Jose Panganiban shall be the expansion area of the two municipalities. Roads and bridges to be constructed shall be placed far from the protected areas to prevent open access to settlers.

Mt. Cadig, as the watershed of Sta. Elena and some barangays in Labo, can also be considered as conservation hotspots. Its proclamation as watershed and critical habitat area shall also be sought.

9.6.1.6.2 Certificate of Ancestral Domain Claims (CADC)

Tenurial instrument or Certificate of Ancestral Domain Title (CADT) for identified CADC areas will be issued to ensure protection of the area from settlements encroachment. Ancestral domain claims in the municipalities shall be identified, delineated and proclaimed. Issuance of tenurial instruments shall also be pursued.

Land utilization within the CADC area shall be in accordance with all other land use policies and shall adhere to the principles of sustainable development. Consistent with the IPRA Law, members of the Indigenous People (IP) community shall together ensure ecological balance and restore denuded areas within the territory.

Proposed projects for this area are reforestation and agro-forestry.

9.6.1.6.3 Rural Population Impact on Protected Areas

Rural population impact in municipalities with protection lands as shown in **Table 139**. Municipalities with the large percentage increase in rural population adjacent to protection lands are San Vicente with 110.43%. Talisay with 75.77%, Vinzons with 39.37% and Sta. Elena with 31.14%. These areas shall be treated as decision zones having more than 30% increase in the rural population. This increase in rural population from 2003 to 2033 will result to increased pressure on protection lands.

Table 139
Rural Population Impact on Protected Areas By Municipality
Province of Camarines Norte

Affected City/ Municipality	Rural Population		Total Area of City/ Mun (km2)	Area of Protection Land (km2)	Rural Area of Mun. (km2)	Rural Pop. Density		Impact on Protection Land	
	2003	2033				2003 (p.p/km2)	2033 (p.p/km2)	2003-2033 Inc./Dec. in Rural Pop (p.p/km2)	2003-2033 % Inc./Dec.in Rural Pop (%)
Basud	31,029.00	40,083.00	260.28	95.30	27.27	1,137.84	1,469.86	332.01	29.18
Capalonga	21,557.00	25,188.00	290.00	32.96	258.13	83.51	97.58	14.07	16.84
Daet	41,210.00	40,901.00	46.00	1.99	9.58	4,301.67	4,269.42	(32.25)	(0.75)
Jose Panganiban	31,446.00	27,651.00	214.44	20.12	193.77	162.29	142.70	(19.59)	(12.07)
Labo	77,882.00	60,888.00	589.36	15.96	142.50	546.54	427.28	(119.26)	(21.82)
Mercedes	25,132.00	16,767.00	173.69	68.71	85.75	293.08	195.53	(97.55)	(33.28)
Paracale	28,682.00	18,758.00	197.90	18.62	175.67	163.27	106.78	(56.49)	(34.60)
San Lorenzo Ruiz	9,281.00	9,039.00	119.37	30.44	168.66	55.03	53.59	(1.43)	(2.61)
San Vicente	7,640.00	16,077.00	57.49	14.29	46.59	163.98	345.07	181.09	110.43
Sta. Elena	34,578.00	45,345.00	199.35	39.73	174.97	197.62	259.16	61.54	31.14
Talisay	20,438.00	35,924.00	30.76	0.31	45.21	452.07	794.60	342.53	75.77
Vinzons	33,794.00	47,100.00	141.43	10.01	79.18	426.80	594.85	168.05	39.37
Tulay Na Lupa		17,060.00		72.88	61.80			-	
Bagong Silang		16,578.00		10.86	199.52			-	
TOTAL	362,669.00	417,359.00	2,320.07	432.18	1,668.60	156.32	8,756.42	772.71	197.61

10.0 Physical Framework

10.1 Demand (Settlement Plan Component)

Settlements development is concerned with the spatial distribution of the population; identification of the roles and functions of the urban centers in the hierarchy and the determination of the relationships among settlement areas. The settlements plan shall complement the proposed Protection and Production Land Use Plans with primary objective of promoting the orderly and efficient development of human settlement systems.

10.1.1 Hierarchy of Urban Centers

The levels in urban hierarchy of settlements of the province indicate the functional roles of different municipalities based on the services they provide, and facilities or types of establishments present in the area. Higher-level settlements have more functions and larger tributary areas than those in the lower levels.

The hierarchy of settlements comprising the major centers and satellite municipalities was designed with the end view of attaining socio-economic development and functionally integrated settlements system for the province. (**Table 139**)

Table 140
Hierarchy of Centers 2007 and 2033
The Multi-Center Development Strategy
Province of Camarines Norte

LEVELS IN URBAN HIERARCHY	HIERARCHY OF CENTERS IN 2007	PREFERRED STRATEGY IN 2033 MULTI-CENTER
City		Daet Labo
Large Municipality	Daet Labo	Sta. Elena Jose Panganiban Paracale Vinzons Mercedes Basud Capalonga Talisay
Medium Municipality	Jose Panganiban Paracale Mercedes Vinzons Sta. Elena Basud Capalonga	San Lorenzo Ruiz San Vicente
Small/New Municipailty	Talisay San Lorenzo Ruiz San Vicente	Tulay na Lupa Bagong Silang

The guiding principle of settlements plan is dispersed concentration of urban population and economic activities, delineation of four (4) growth centers in the province with each growth center having satellite municipalities.

The city of Daet shall continue to function as commercial and business center and also the center for commerce and trade servicing the large town of Talisay, Mercedes, Vinzons, Basud and medium towns of San Vicente and San Lorenzo Ruiz. As satellites of Daet, Talisay and Vinzons shall serve as rice production areas and center for cultural and religious heritage, Mercedes as tourism hub and center of excellence for fishery products; Basud as production area and extension of bedroom community; and San Vicente & San Lorenzo Ruiz as commodity champion for queen pineapple and food basket zone.

In terms of central place functions, the capital town of Daet which is perceived to be a city may be distinguished from the rest of the municipalities by much larger population, more varied services and in particular the presence of airport and standard first-rate accommodation facilities. It shall further be developed and strengthened to function as primary growth network linking to Naga City and other parts of the region with the inclusion of Daet and Basud in the Legazpi-Iriga-Naga-Daet Growth Corridor (LINDGC) area.

Linking of San Lorenzo Ruiz with the Maharlika Highway thru San Felipe Basud, it is viewed that the province's rich natural resources can be an opportunity for complementation as well as horizontal and vertical linkaging thereby accelerating and influencing the growth of other areas in the province and serving as catalyst of development in the rural areas.

Since Daet-Naga City route will be stretching the Bicol National Park, it being a protection area, settlements within the buffer zones shall be provided with appropriate farming technologies, livelihood activities and environmental projects in coordination with Non-Government Organizations / Peoples Organization (NGOs/POs) and other concerned agencies to mitigate the hazards posed by the presence of these settlements. On the other hand, the settlements located within buffer zone or production lands shall be restrained from further growth. Settlements in protection lands and environmentally constrained areas will be phased out.

Along with the capital town of Daet is Labo, another municipality perceived to be a city servicing the lower level of urban centers composed of the municipalities of Vinzons, new towns of Bagong Silang and Tulay na Lupa with interconnection to Jose Panganiban Economic Zone. The identification of the city of Labo as growth center will effectively spread development towards the rural areas and its large area will generally provide the space requirements for industrial development primarily being the Provincial Industrial Center and Institutional Center for Research and Development.

Identified conduit of development will be the Municipality of Jose Panganiban being proclaimed as Special Economic Zone under Presidential Proclamation No. 508 dated December 2, 2003. Because of its strategic location to Hongkong, Japan, Taiwan, Korea and the East Coast, increased investments is expected which will pave way for the industrialization of the province.

Paracale, which is also a mineral production and processing area, is expected to provide the necessary support to the Special Economic Zone in Jose Panganiban. It has been known as a mining town even before it was founded in 1581 and the gold mining and gold jewelry industries is expected to contribute to the development of investments and settlements growth of the province.

Other municipalities which showed potential for urban growth are the municipalities of Talisay and Vinzons because of their proximity to the growth centers of Daet and Labo. Both are considered as the major rice producing areas of the province with potentials for tourism development because of its natural attractions and cultural and religious heritage.

The municipality of Sta. Elena serving as the growth node and the direct link of the province to the Bicol and Southern Tagalog areas with the opening of Quirino Highway shall serve as the transshipment point of the province for all commodities, and agri-industrial center for municipalities of Capalonga and Bagong Silang. Similar to Mercedes, the regional center of excellence for fishery products, Capalonga and Sta. Elena can also be suppliers of fish, fish products and aqua resources. The influx of visitor arrival during feast day will also make Capalonga as a center for cultural and religious heritage.

The municipalities of San Lorenzo Ruiz and San Vicente shall be the province's food basket zone specifically in the production of the famous queen pineapple. The opening of a highway which will link San Lorenzo Ruiz to the Maharlika Highway passing through San Felipe Basud is a major development seen to contribute to the growth of investment consequently increasing employment opportunities and spill-over effects of socio-economic development to the province as a whole along side with other major developments in the different growth centers.

The lowest level in the hierarchy of centers are the small towns of Tulay na Lupa, will be the province's center for forestry research and development and Bagong Silang, as the junction from the Economic Zone to the Maharlika Highway both formerly barangays of Labo.

The development of the four identified growth centers namely: Daet, Labo, Sta. Elena and Jose Panganiban shall be encouraged and the satellite municipalities will be increasing their productivity through the provision of efficient and effective productive infrastructure and necessary support facilities.

10.1.2 Redirection of Population Growth

Major movements in the growth centers are expected given the socio-economic potentials and strategic location of the area that can contribute greatly to the development of the surrounding areas.

The development of Basud would be greatly enhanced because of its proximity to Daet aside from being located along the Maharlika Highway and the Legaspi-Iriga-Naga-Daet growth corridor area. San Lorenzo Ruiz on the other hand will be developed with the opening of a route connecting to the Maharlika Highway.

The municipality of Daet will have the largest population of one hundred fifty four thousand (168,725) or 16.72% of the total population followed by Labo, Sta. Elena, and Jose Panganiban with a share of growth of 15.26%, 13.30% and 10.12% respectively **(Table 141)**. This is in consideration of being identified growth centers and the respective role each municipality play in the development of the province. The major role of Sta. Elena as the direct of the province to the link of Southern Tagalog and Bicol Regions and the proclamation of Jose Panganiban as Special Economic Zone plus the proposed cityhood of Labo and Daet is expected to attract migrants or in-migration from other provinces and regions. The overall projected increase in population from CY 2000 to 2033 totaled to 495,576 or 96% increase for 26 years period.

Table 141
Total Population Estimates By Municipality
Multi-Center Development Strategy
Province of Camarines Norte

MUNICIPALITY	TOTAL POPULATION		Preferred Strategy	
	2000	2007	% SHARE OF GROWTH	2033 POP
1. Basud	33,885	36,763	6.31	63,681
2. Capalonga	26,577	29,683	4.49	45,318
3. Daet	80,632	94,184	16.72	168,725
4. Jose Panganiban	46,064	49,028	10.12	102,115
5. Labo	81,388	88,087	15.26	154,067
6. Mercedes	41,713	44,375	6.61	66,748
7. Paracale	42,453	46,856	6.39	64,513
8. San Lorenzo Ruiz	11,678	12,299	2.48	25,012
9. San Vicente	8,984	9,615	2.10	21,232
10. Sta. Elena	37,878	40,300	13.30	134,219
11. Talisay	21,509	22,942	5.12	51,639
12. Vinzons	37,893	39,653	6.98	70,417
13. Tulay na Lupa			2.06	20,815
14. Bagong Silang			2.06	20,760
CAMARINES NORTE	**470,654**	**513,785**	**100.00**	**1,009,261**

Note: The varying increases of population estimates per alternative include the possible in-migration from adjoining provinces.

In terms of urban population, the capital town of Daet shall have the highest percentage of urban share of about 26.46 or 109,723 persons followed by Labo with 14.89%, Sta. Elena with 88,874 or 14.20% and Jose Panganiban with 74,464 or 13.14%. The municipalities with the least urban share are the new emerging towns of Tulay na Lupa and Bagong Silang at 0.60% and 0.67% respectively **(Table 142).**

As a whole, the urban and rural population for 2033 constitute of about 62% and 38% respectively, 27% higher from 2007 urban population and 22% lower from 60% rural population.

Table 142a
Urban Population Estimates By Municipality
Multi-Center Development Strategy
Province of Camarines Norte

MUNICIPALITY	2007 URBAN POPULATION	PREFERRED STRATEGY	
		% SHARE OF URBAN GROWTH	2033 URBAN POPULATION
1. Basud	5,547	3.77	23,598
2. Capalonga	6,481	3.22	20,130
3. Daet	94,184	26.96	165,725
4. Jose Panganiban	16,299	11.90	74,464
5. Labo	15,673	14.89	93,179
6. Mercedes	19,570	7.99	49,981
7. Paracale	17,565	7.31	45,755
8. San Lorenzo Ruiz	6,898	1.44	9,039
9. San Vicente	4,108	0.82	5,155
10. Sta. Elena	8,549	14.20	88,874
11. Talisay	2,521	2.51	15,715
12. Vinzons	6,297	3.72	23,317
13. Tulay na Lupa		0.60	3,755
14. Bagong Silang		0.67	4,182
CAMARINES NORTE	203,692	100.00	625,869

Table 142b
Rural Population Estimates By Municipality
Multi-Center Development Strategy
Province of Camarines Norte

MUNICIPALITY	2007 RURAL POPULATION	Preferred Strategy	
		% SHARE OF RURAL GROWTH	2033RURAL POPULATION
1. Basud	31,216	10.45	40,083
2. Capalonga	23,202	6.57	25,188
3. Daet	-	-	40,901
4. Jose Panganiban	32,729	7.21	27,651
5. Labo	72,414	15.88	60,888
6. Mercedes	24,805	4.37	16,767
7. Paracale	29,291	4.89	18,758
8. San Lorenzo Ruiz	5,401	4.17	15,973
9. San Vicente	5,507	4.20	16,077
10. Sta. Elena	31,751	11.83	45,345
11. Talisay	20,421	9.37	35,924
12. Vinzons	33,356	12.29	47,100
13. Tulay na Lupa		4.45	17,060
14. Bagong Silang		4.32	16,578
CAMARINES NORTE	310,093	100.00	424,293

Strict implementation of laws and ordinances shall be the priority concern of the plan. Intrusion of settlements within the protected areas and environmentally constrained areas shall be discouraged. Citizen's participation in governance shall be strongly encouraged to contribute in the development processes. The rights of the indigenous people shall be safeguarded and shall be given the right to develop, control and use their ancestral domains and similarly, the vulnerable groups shall be given the chance to enjoy the right and privileges due to them. Gender concerns will likewise be given similar importance in cognizance to the role of women in the overall development process of the province.

10.1.3 Land Requirement for Future Development

In terms of the needed land requirement vis-à-vis the increase in population, the municipality of Sta. Elena has the highest land requirement of as low as 809 has. to 1,011 has.. All municipalities is expected to expand with San Vicente estimated to have the lowest land requirement for future development of a range from 103 has. to 129 has.

Provincewide, the total land requirement is accounted to 4,317 has. to 5,396 has., 2,158.32 or 40% of which are for residential purposes. For other land uses, commercial areas was accounted to 431.7 has. to 539.6 has., industrial areas from 215.85 has. to 269.8 has., institutional areas to about 215.85 has. to 269.8 has. and 30% of the total land requirement is allotted for open spaces. (**Table 143**).

Table 143
Land Requirement for Future Development
Multi-Center Development Strategy
Province of Camarines Norte

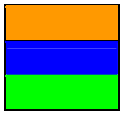
Municipality	Addt'l Pop'n 2003-2033	Density Mix	No. of HH per Density Mix	Res'l Land Reqt (has.)	Total Land Require-ment	Share of Other Land Uses	
Basud	12,474	6,237	1,247	12.47	109 ha. - 137 ha.	Commercial	10.9 ha. – 13.7 ha.
		4,366	893	17.46		Industrial	5.45 ha. – 6.85 ha.
		1,871	374	24.93		Institutional	5.45 ha. – 6.85 ha.
				54.86		Open Space	32.70 ha. – 41.10 ha.
Capalonga	14,482	7,241	1,448	14.48	127 ha. - 159 ha.	Commercial	12.70 ha. – 15.40 ha.
		5,069	1,014	20.28		Industrial	6.35 ha. – 7.95 ha.
		2,172	434	28.93		Institutional	6.35 ha. – 7.95 ha.
				63.69		Open Space	38.00 ha. – 47.70 ha.
Daet	69,981	34,991	6,998	69.98	614 ha. - 769 ha.	Commercial	61.4 ha. – 76.9 ha.
		24,493	4,899	97.98		Industrial	30.7 ha. – 38.45 ha.
		10,497	2,099	139.93		Institutional	30.7 ha. – 38.45 ha.
				307.89		Open Space	184.20 ha. – 230.70 ha.
Jose Panganiban	12,228	6,114	1,223	12.23	107 ha. - 134 ha.	Commercial	10.7 ha. – 13.4 ha.
		4,280	856	17.12		Industrial	5.35 ha. – 6.70 ha.
		1,834	367	24.47		Institutional	5.35 ha. – 6.70 ha.
				53.82		Open Space	32.10 ha. – 40.20 ha.
Labo	28,982	14,491	2,898	67.60	255 ha. - 319 ha.	Commercial	25.5 ha. – 31.9 ha.
		10,144	2,029	94.64		Industrial	12.75 ha. – 15.95 ha.
		4,347	869	135.20		Institutional	12.75 ha. – 15.95 ha.
				297.44		Open Space	76.5 ha. – 95.7 ha.
Mercedes	11,086	5,533	1,107	11.07	97 ha. - 122 ha.	Commercial	9.7 ha. – 12.2 ha.
		3,873	735	15.50		Industrial	4.85 ha. – 6.10 ha.
		1,660	332	22.13		Institutional	4.85 ha. – 6.10 ha.
				48.70		Open Space	2.91 ha. – 36.60 ha.
Paracale	19,888	4,944	1,989	19.89	174 ha. - 219 ha.	Commercial	17.4 ha. - 21.90 ha.
		6,961	1,392	27.84		Industrial	8.75 ha. - 10.95 ha.
		2,983	597	39.80		Institutional	8.75 ha. - 10.95 ha.
				87.53		Open Space	52.5 ha. - 65.7 ha.
San Lorenzo Ruiz	2,522	1,261	252	2.52	22 ha. - 28 ha.	Commercial	2.20 ha. – 2.80 ha.
		883	177	3.54		Industrial	1.10 ha. – 1.40 ha.
		378	76	5.07		Institutional	1.10 ha. – 1.40 ha.
				11.13		Open Space	6.60 ha. – 8.40 ha.
San Vicente	2,648	1,324	265	2.65	23 ha. - 29 ha.	Commercial	2.30 ha. – 2.90 ha.
		927	185	3.70		Industrial	1.15 ha. – 1.45 ha.
		397	79	5.27		Institutional	1.15 ha. – 1.45 ha.
				11.62		Open Space	6.90 ha. – 8.70 ha.

Table 143 cont.
Land Requirement for Future Development
Multi-Center Development Strategy
Province of Camarines Norte

Municipality	Addt'l Pop'n 2003-2033	Density Mix	No. of HH per Density Mix	Res'l Land Reqt (has.)	Total Land Require-ment	Share of Other Land Uses	
Sta. Elena	10,050	5,025	1,005	10.05	88 ha. - 110 ha.	Commercial	8.80 ha. – 11.10 ha.
		3,518	704	14.08		Industrial	4.40 ha. – 5.50 ha.
		1,507	301	20.06		Institutional	4.40 ha. – 5.50 ha.
				44.19		Open Space	26.40 ha. – 33.0 ha.
Talisay	5,944	2,972	594	5.94	252 ha. - 315 ha.	Commercial	5.20 ha. – 6.50 ha.
		2,080	416	8.32		Industrial	2.60 ha. – 3.25 ha.
		892	178	11.87		Institutional	2.60 ha. – 3.25 ha.
				26.13		Open Space	15.6 ha. – 19.50 ha.
Vinzons	7,033	3,517	703	7.03	62 ha. - 77 ha.	Commercial	6.20 ha. – 7.70 ha.
		2,461	492	9.84		Industrial	3.10 ha. – 3.85 ha.
		1,055	211	14.07		Institutional	3.10 ha. – 3.85 ha.
				30.94		Open Space	18.60 ha. – 23.10 ha.
Tulay na Lupa	20,815	10,408	2,082	20.82	183 ha. - 229 ha.	Commercial	18.3 ha. - 22.9 ha.
		7,285	1,457	29.14		Industrial	9.15 ha. - 11.45 ha.
		3,122	624	41.60		Institutional	9.15 ha. - 11.45 ha.
				91.56		Open Space	54.9 ha. - 68.7 ha.
Bagong Silang	20,760	10,380	2,076	20.76	183 ha. - 228 ha.	Commercial	18.3 ha. - 22.9 ha.
		7,266	1,453	29.06		Industrial	9.15 ha. - 11.45 ha.
		3,114	623	41.53		Institutional	9.15 ha. - 11.45 ha.
				91.35		Open Space	54.9 ha. - 68.7 ha.
TOTAL	238,873	119,437	23,888	238.88	2,096ha. - 2,625 ha.	Commercial	209.60 ha. – 262.5 ha.
		83,605	16,721	334.42		Industrial	104.80 ha. – 131.30 ha.
		35,831	12,155	477.73		Institutional	104.80 ha. – 131.30 ha.
				1,051.03		Open Space	628.80 ha. – 787.80 ha.

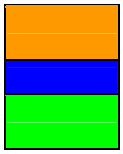
Assumptions:

Density Mix



50% - High Density
35% - Medium Density
15% - Low Density

Residential Land Requirement



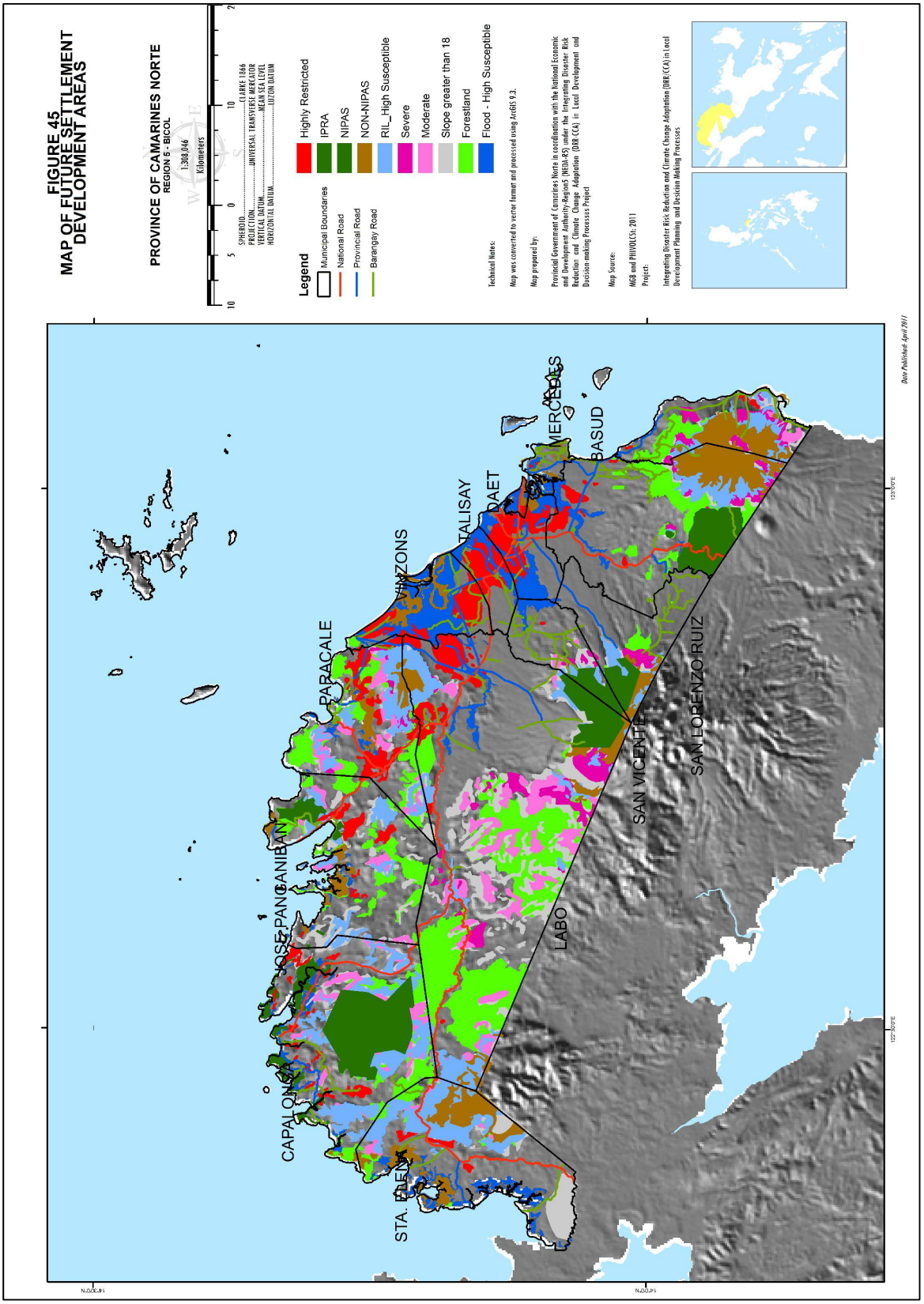
100 units/ha.
50 units/ha.
15 units/ha.

Total Land Requirement

Residential	40-50%
Commercial	10%
Industrial	5%
Institutional	5%
Open Space	30%

Household size - 5

Population Density = 114 persons/ha. (higher limit)
= 91 persons/ha. (lower limit)


FIGURE 45
MAP OF FUTURE SETTLEMENT DEVELOPMENT AREAS
PROVINCE OF CAMARINES NORTE
REGION 5 - BICOL
1:308,946
Kilometers
SPHEROID CLARKE 1866
PROJECTION UNIVERSAL TRANSVERSE MERCATOR
VERTICAL DATUM MEAN SEA LEVEL
HORIZONTAL DATUM LUZON DATUM
Legend
Municipal Boundaries
National Road
Provincial Road
Barangay Road
Highly Restricted
IPRA
NIPAS
NON-NIPAS
RIL_High Susceptible
Severe
Moderate
Slope greater than 18
Forestland
Flood - High Susceptible
Technical Notes:
Map was converted to vector format and processed using ArcGIS 9.3.
Map prepared by:
Provincial Government of Camarines Norte in coordination with the National Economic and Development Authority-Region5 (NEDA-R5) under the Integrating Disaster Risk Reduction and Climate Change Adaptation (DRR-CCA) in Local Development and Decision-making Processes Project
Map Source:
NGB and PHIVOLCS: 2011
Project:
Integrating Disaster Risk Reduction and Climate Change Adaptation (DRR/CCA) in Local Development Planning and Decision Making Processes
Date Published: April 2011
CAPALONGA
JOSE PANGANIBAN
PARACALE
VINZONS
TALISAY
DAET
SAN LORENZO RUIZ
SAN VICENTE
LABO
BASUD
STA. ELENA
122°30'0"E
14°0'0"N

Based on sieve mapping analysis (map overlay of NIPAS, Non-NIPAS, NPAAS, ECAs, Forest Lands Per Land Classification, Slope > 18%) urban expansion areas for settlement development were identified. These are shown in Figure 56 and enumerated as follows:

MUNICIPALITY	**EXPANSION AREAS**
Basud	Brgys. Matnog, San Felipe, Mocong, Laniton and Bactas
Capalonga	Brgy. Catioan
Daet	Brgys. Camambugan and Calasgasan
Jose Panganiban	Brgys. Sta. Rosa Norte, Sta. Rosa Sur and Larap
Labo	Brgys. Bulhao, Bautista, Mabilo and Talobatib
Mercedes	Brgy. Manguisoc and Gaboc
Paracale	Brgy. Batobalani
San Lorenzo Ruiz	Brgy. Daculang Bolo
San Vicente	Brgy. Man-Ogob and Cabanbanan
Sta. Elena	Brgys. Bulala, San Isidro, Pulong-guit-guit and Tabugon
Talisay	Brgy. Sta. Cruz and Caawigan
Vinzons	Brgys. Calangcanwan Sur, Calangcawan.Norte and Sto. Domingo
Tulay na Lupa	Brgy. Lugui
Bagong Silang	Brgys. Malatap, Bagong Silang II and Exciban

10.2 Infrastructure Framework

In any physical planning activity, infrastructure development provides the basic and essential framework to guide economic growth and development. The Infrastructure Framework is primarily directed in supporting the attainment of the proposed production and protection land uses and settlements plan components of the Provincial Physical and Development Framework Plan (PDPFP). The implementation of identified infrastructure and other infrastructure utilities shall be in accordance with the identified spatial development strategy which is the Multiple Center Spatial Development.

10.2.1 Transportation, Access and Circulation

10.2.1.1 External Linkages

In support to the overall strategy which involves the creation of a dispersed but closely integrated system of urban centers with four (4) activity centers as focal points of growth, the Infrastructure Plan shall highlight the construction of new roads to connect the four (4) growth centers to the different satellite municipalities.

A road connecting the satellite municipalities of Capalonga to Sta. Elena one of the growth centers and the transshipment point of the province, shall be opened for easy access and transport of people and products between the two towns. This is part of the Bicol Circumferential Highway which connects the Pan Philippine Highway to Sta. Elena. This road shall pass through San Lorenzo in Sta. Elena going to Brgys. Villa Belen, San Antonio, Mabini, Calabaca and Itok in Capalonga.

The satellite town of Bagong Silang which is a new municipality shall be connected to the Special Economic Zone in Jose Panganiban to Barangays Larap passing through Barangays San Isidro and San Pedro in Jose Panganiban. This road shall provide easy transport between the growth centers of Jose Panganiban, the Special Economic Zone, and Sta. Elena, the transshipment point for all commodities and agri-industrial products.

A new road to connect the new municipality of Tulay na Lupa and Bagong Silang shall be constructed for easy and fast access to Labo and satellite municipalities. This shall pass through Bagong Silang to Barangays Exciban, Dumagmang, Pag-asa and Baay, toing to Tulay na Lupa.

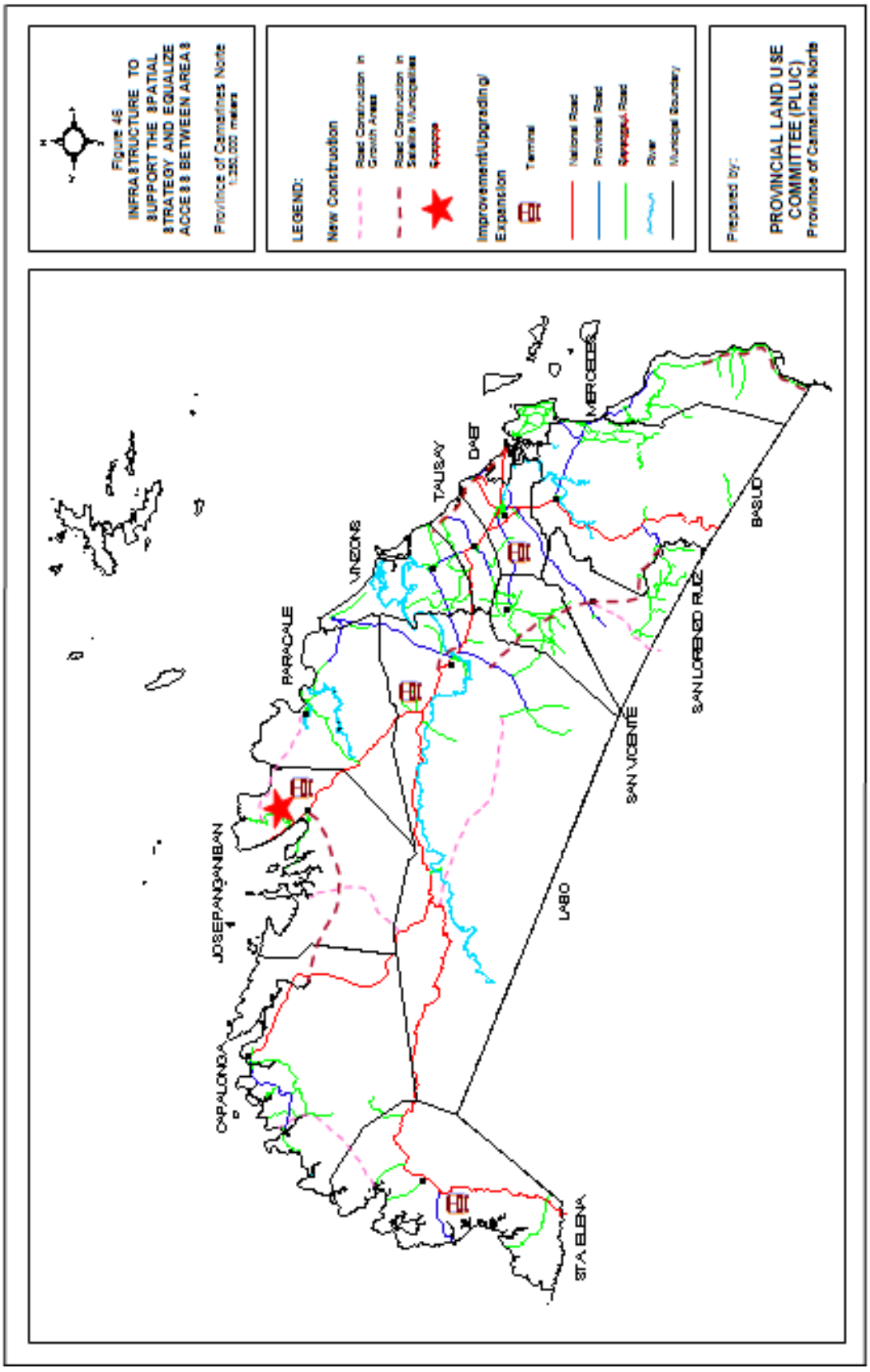
Roads connecting the mining areas of Paracale and Jose Panganiban shall also be constructed which shall pass through its coastal barangays of Pulangdaga, Gumaus, Luklukan Sur and Osmeña.

In support also of the spatial strategy, the Plan shall focus on the upgrading, expansion and improvement of airports, ports and terminal facilities. The upgrading and improvement of Bagasbas Airport in Daet and Larap Airport in Jose Panganiban shall be a priority to boost business, commerce, industry and tourism of the province and specifically to the opening of the Special Economic Zone. In relation to this, the national port in Jose Panganiban shall be modernized and the municipal fish ports and seaports and its facilities, shall be upgraded and improved. The expansion and upgrading of terminals and parking facilities in the growth centers of Daet, Labo, Jose Panganiban and Sta. Elena shall be another priority concern.

All these, are expected to catalyze the socio-economic development of the province wherein the development areas of each growth center are mutually supported by its respective satellite municipalities and further strengthen the urban-rural linkages within the province.

10.2.1.2 Internal Circulation

To guarantee the access of the residents of the province to a wide variety of goods and services, they shall be afforded a choice of service centers to patronize. Production areas must also be accessible and necessary facilities should be available. This can be achieved by laying out and/or improving the internal circulation networks in such a way that the four (4) activity centers are accessible to the satellite municipalities and its total population. To the end, all centers are accessible to their respective satellite municipalities and as much as possible, all barangays are linked not only to their growth centers but also with one another (Figure 46). The physical integration of the municipalities from other municipalities and into the province and nearby provinces shall therefore be given priority.


Figure 46
INFRASTRUCTURE TO SUPPORT THE SPATIAL STRATEGY AND EQUALIZE ACCESS BETWEEN AREAS
Province of Camarines Norte
1:250,000 meters
LEGEND:
New Construction
Road Construction in Growth Areas
Road Construction in Satellite Municipalities
Airport
Improvement/Upgrading/ Expansion
Terminal
National Road
Provincial Road
Municipal Road
River
Municipal Boundary
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA ELENA

The above concerns can be achieved through:

1. Construction of roads that This will connect the towns of San Vicente and San Lorenzo Ruiz and another road network to link San Lorenzo Ruiz and Basud to shorten travel time between these satellite municipalities.

2. Construction of roads network to link San Lorenzo Ruiz and Basud passing through barangays Matacong and San Felipe to Maharlika Highway, to shorten travel time between these satellite municipalities.

3. Construction of roads that will facilitate transport and accelerate development in the satellite municipalities of Tulay na Lupa and San Vicente connecting through Barangays Mabilo, San Antonio, Calabagas and Cabanbanan.

4. As part of the proposed Bicol Circumferencial Highway.

    i. Construction of coastal road which shall link the fishery center of the municipality of Mercedes through Barangay Contod, Napilihan and Calangcawan Norte in Vinzons passing through Barangays Del Carmen and San Jose in Talisay and Bagasbas in Daet to Mercedes coastal areas.

    ii. Construction of coastal road interconnecting Mercedes to the adjacent coastal municipalities of Camarines Sur which will facilitate transports of fishery products of these municipalities and nearby province and shall serve as alternative access to the Province of Camarines Sur.

    iii. Improvement and upgrading of existing roads connecting growth centers and satellite municipalities such as:

        - Labo – Tulay na Lupa Road
        - Talisay – San Jose Road
        - Labo – Vinzons – Talisay (Daang Maharlika Section)
        - Bagong Silang – Capalonga Road

5. Improvement/Upgrading of existing roads connecting growth centers and satellite municipalities.

10.2.2 Social Infrastructure and Utility/Infrastructure Services

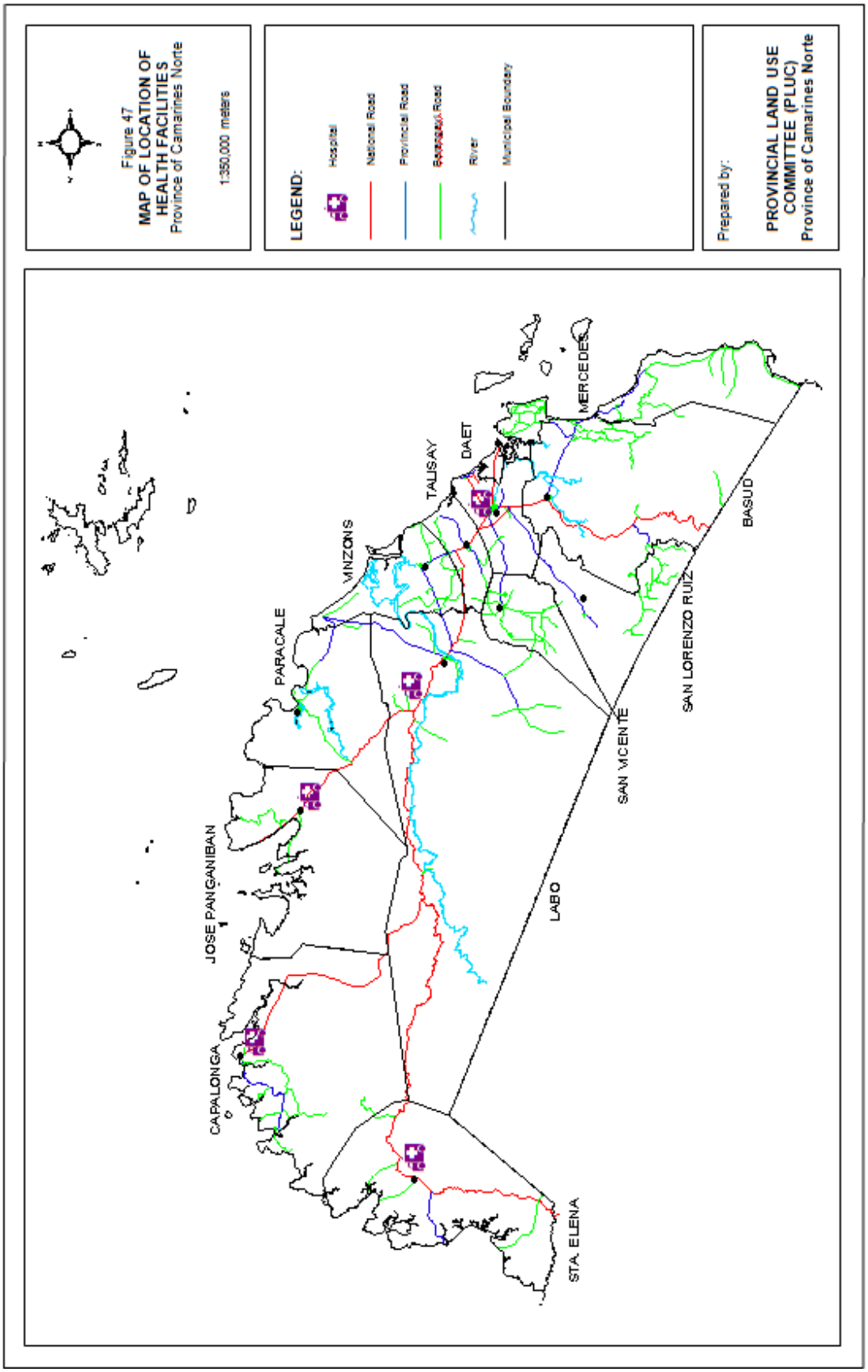
The spatial inequality in the different parts of the province is observed in the aspect of accessibility and quality of social services and basic infrastructures such as telecommunication, power, waterworks and sewerage, education, health and housing. In view of this and to increase the accessibility of all areas to various levels and aspects of infrastructure services and facilities including other basic social services, the following concerns shall be addressed by the Plan, to wit:

10.2.2.1 Social Infrastructure

10.2.2.1.1 Health Facilities

Concern for this sector is the health and hospital infrastructure and facilities **(Figure 47)** which will require the construction / upgrading / modernization / improvement and rehabilitation of existing health and hospital facilities in the following:

- Upgrading & modernization of the Camarines Norte Provincial Hospital
- Improvement of CNPH Labo District Hospital
- Improvement of Capalonga Medicare & Community Hospital
- Extension of Sta. Elena Municipal Hospital
- Upgrading and expansion of Jose Panganiban Primary Cooperative Hospital
- Improvement and Upgrading of all Rural Health Units


Figure 47
MAP OF LOCATION OF HEALTH FACILITIES
Province of Camarines Norte
1:350,000 meters
LEGEND:
Hospital
National Road
Provincial Road
Barangay Road
River
Municipal Boundary
Prepared by:
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Province of Camarines Norte
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DAET
TALISAY
MINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

10.2.2.1.2 Education Facilities

The Camarines Norte State College has the biggest land area and has the largest school population in the province considering that its campuses are located in several municipalities of the province and offers a variety of courses and/or fields of study. The construction, modernization, expansion and improvement of its school buildings and facilities in the 4 campuses (Daet, Mercedes, Labo and Jose Panganiban) will be undertaken to include the academic and administration buildings, school buildings, library, sports facilities, drainage system, campus roads and pathways, and student multi-purpose building.

The existing tertiary schools in Sta. Elena and Capalonga shall require improvement and expansion to cater to the graving needs for tertiary education in the province. (Figure 48)

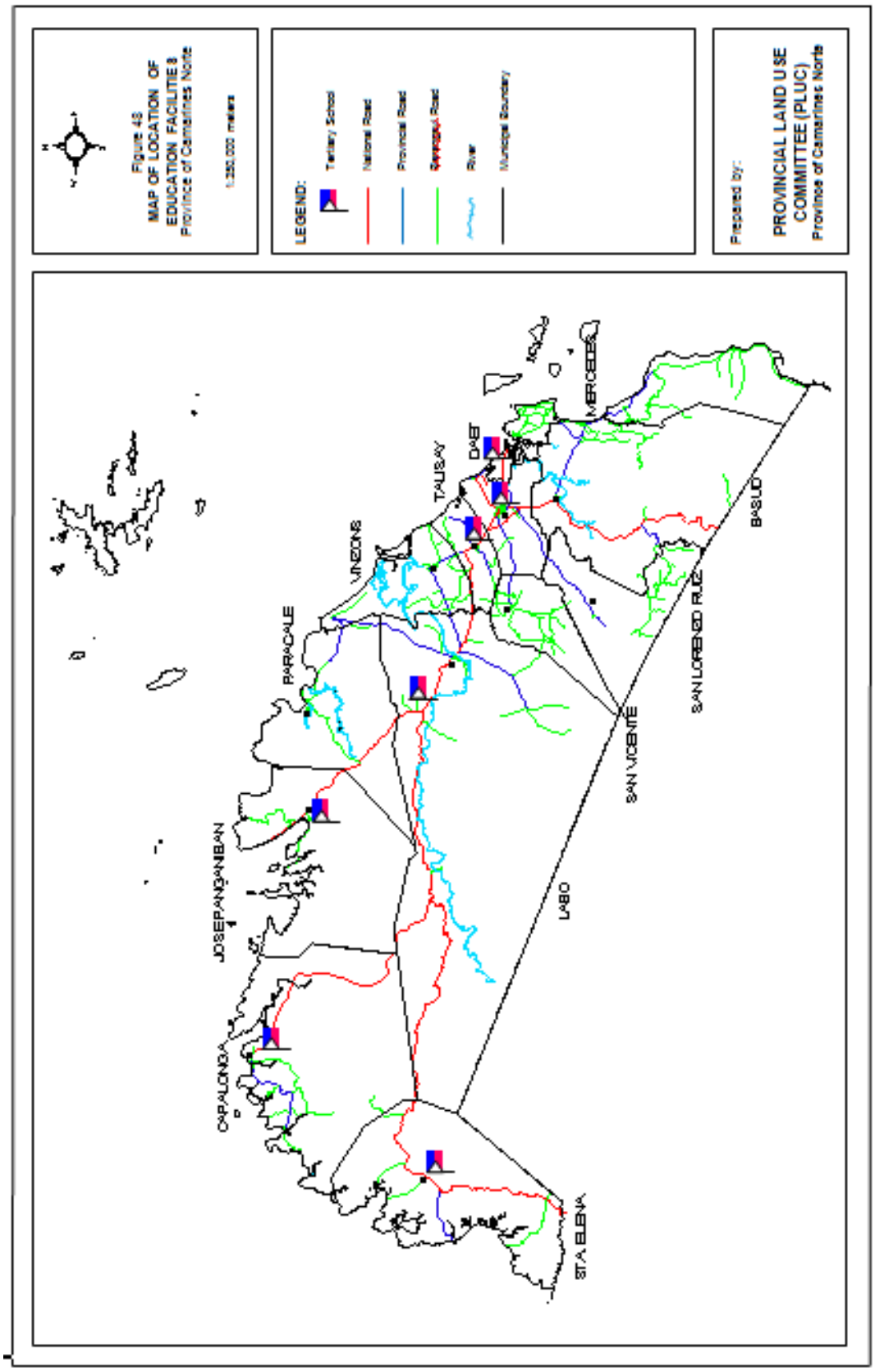
The construction of additional classrooms and improvement and rehabilitation of existing classrooms and school buildings in all public elementary and secondary schools shall also be required.

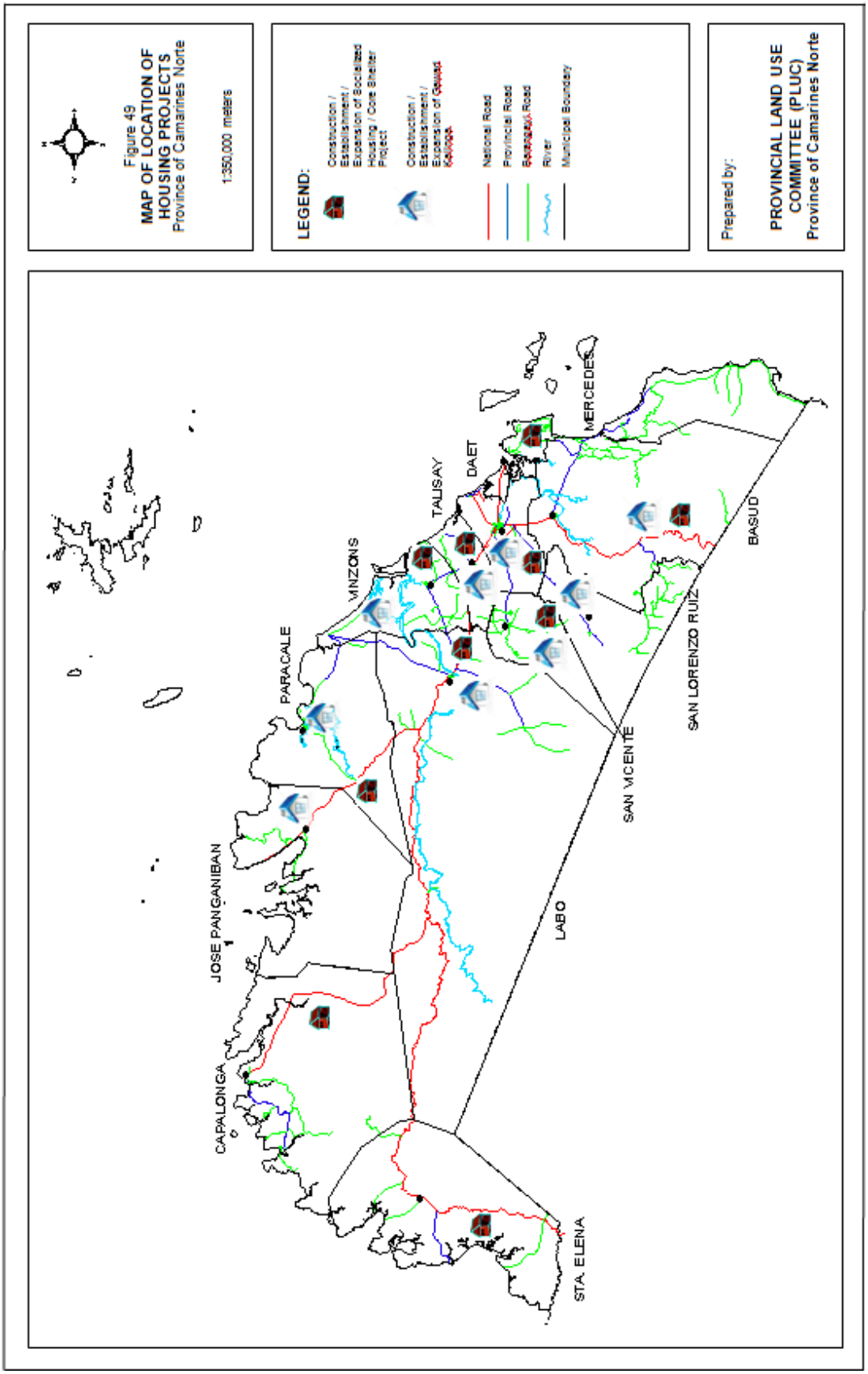
10.2.2.1.3 Public Socialized Housing

The demand for public socialized housing projects is high specifically that the population is projected to double at the end of the planning period. There is a great need to construct / establish / expand socialized housing units and core shelter projects in all municipalities. These shall be located in identified settlement areas and appropriate programming shall be undertaken. (Figure 49)

10.2.2.1.4 Facilities for Social Welfare Services

Facilities for vulnerable groups shall also be established/ constructed such as a Drop-In Center for Street Children and a Crisis Intervention Center in Daet, Crisis Center for Women and Children in Labo and Paracale and a Center for Cultural Based Experience for Indigenous People (IPs). Meanwhile, the existing Halfway Home for Children and Women in Bagasbas, Daet shall be improved and expanded.


Figure 48
MAP OF LOCATION OF EDUCATION FACILITIES
Province of Camarines Norte
1:350,000 meters
LEGEND:
Tertiary School
National Road
Provincial Road
Barangay Road
River
Municipal Boundary
Prepared by:
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Province of Camarines Norte
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TALISAY
VINZONS
PARACALE
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CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA ELENA


Figure 49
MAP OF LOCATION OF HOUSING PROJECTS
Province of Camarines Norte
1:350,000 meters
LEGEND:
Construction / Establishment / Expansion of Socialized Housing / Core Shelter Project
Construction / Establishment / Expansion of Gawad Kalinga
National Road
Provincial Road
Barangay Road
River
Municipal Boundary
Prepared by:
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TALISAY
VINZONS
PARACALE
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CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

10.2.2.2 Utility Infrastructure Services

10.2.2.2.1 Water Supply and Sanitation Facilities

a. Water Supply

The existing Level III water systems in the province shall be expanded / extended to respond to the problem of low percentage coverage of Level III water supply. This shall include the following.

- Camarines Norte Water District
- Jose Panganiban Water District
- Paracale Water District
- Sta. Elena Municipal Water System
- San Lorenzo Ruiz Municipal Water System
- Talobatib Rural Water System

In view of the non-existence of Level III water system in the municipality of Capalonga, a feasible water source for the construction of the Municipal Water System must be identified and established.

Aside from these, the construction and improvement / rehabilitation of Level I & II Water Supply facilities in the different municipalities shall be undertaken in view of the large number of existing facilities which need repair and rehabilitation.

b. Sanitation Facilities

With the target of increasing 91% of households with sanitary toilets, massive advocacy and information dissemination will be conducted to be complemented with the provision and construction of sanitary toilet facilities.

c. Power Supply Facilities

In view of the establishment of the Special Economic Zone in Jose Panganiban, a 5 MVA substation and a 69 KV transmission lines in Barangay Larap, shall be constructed. This shall be complemented by the construction of another 5 MVA substation and 69 KV transmission lines in Bagong Silang to support the activity center of Sta. Elena.

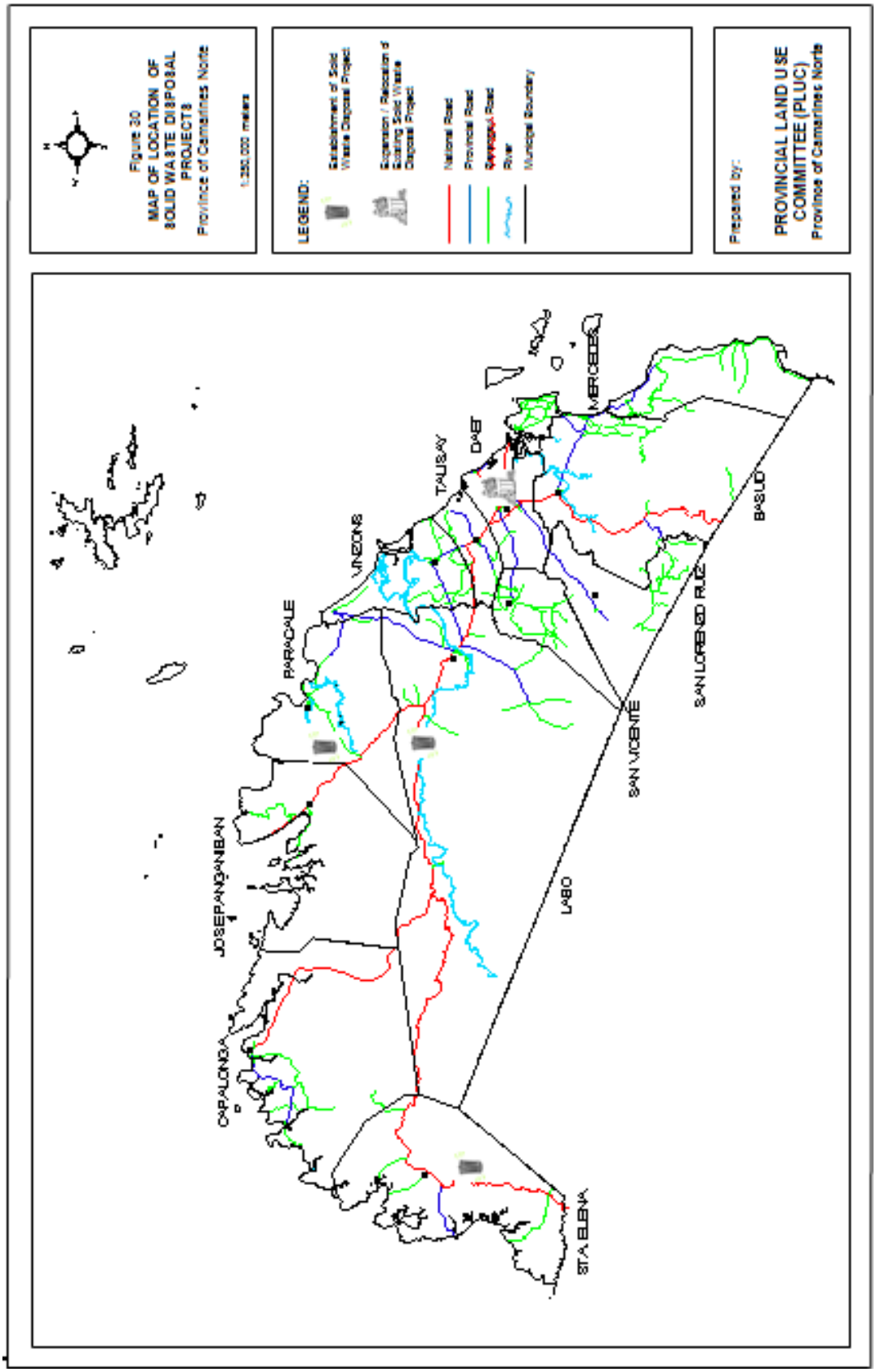
Potential alternative sources of energy shall be developed to cater to unenergized barangays/ areas such as the hydro power generation from the Colasi Falls in Mercedes and Busigon River in Labo, solar and wave energy coastal areas, island barangays and other feasible areas in the province. A wind turbine power shall also be developed in the coastal municipalities.

d. Liquid and Solid Waste Disposal System

The major concern for this sector is the acquisition of sites and establishments of appropriate / standard liquid and solid waste disposal systems in the municipality of Labo, Sta. Elena and Jose Panganiban. Other satellite municipalities which have no existing liquid and solid waste disposal system must also identify and establish appropriate sites / areas in support to the growth and development of settlements and industries in their respective areas. A solid waste management plan must be prepared by each LGU.

The Labo Waste Disposal System shall be developed to cater to other municipalities like Daet, Mercedes, Basud, Vinzons and Talisay.

The city of Daet will need to relocate their existing waste disposal system in other municipalities/ area within the medium term in view of its role as the center of business and commerce in the province. (Figure 50)


Figure 30
MAP OF LOCATION OF SOLID WASTE DISPOSAL PROJECTS
Province of Camarines Norte
LEGEND:
Establishment of Solid Waste Disposal Project
Expansion / Relocation of Existing Solid Waste Disposal Project
National Road
Provincial Road
River
Municipal Boundary
Prepared by:
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Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA. ELENA

e. Drainage and Flood Control

Improvement and rehabilitation of existing flood control, seawall and drainage system projects in the different municipalities.

The synonymousity of development to environmental degradation can also be the foreseen scenario of the province in the next 30 years. Considering the areas with severe and tidal flooding, absence of interventions might result to greater damage to properties and life in the future. Thus, improvement of existing flood control and drainage system shall be done in the entire province. Other hazard induced areas shall also be identified and projects shall be established to avoid environmental damage for particular, and risk to Camarines Norte populace in general.

f. Irrigation

The infrastructure proposals which have been mentioned in this Plan directly and / or indirectly contribute to production especially in the tertiary and secondary sectors. For the agriculture sector, the vital infrastructure support facilities include irrigation and production support facilities. The expansion of irrigated areas in the province has a great potential and therefore shall be given primary attention. The focus of irrigation shall be on the rehabilitation and maintenance of existing systems and construction of new communal irrigation system and small water impounding projects.

g. Telecommunication

As activity centers of the province, there is a need to construct telephone exchange in Daet, Jose Panganiban, Labo and Sta. Elena. The new municipalities of Tulay na Lupa and Bagong Silang will also require this facility. The satellite municipality of Paracale shall need the construction of a cell site including the new towns of Tulay na Lupa and Bagong Silang so that all areas in the province will have available signals for mobile phones. The growth centers of Labo, Jose Panganiban and Sta. Elena and other municipalities shall also require the construction of Information Technology (IT) facilities such as telephone lines (Digitel, Bayantel and PLDT and satellite or cable for internet use and other IT functions of all existing public calling offices and post offices / postal stations in the different municipalities shall also be undertaken. **(Figure 51)**

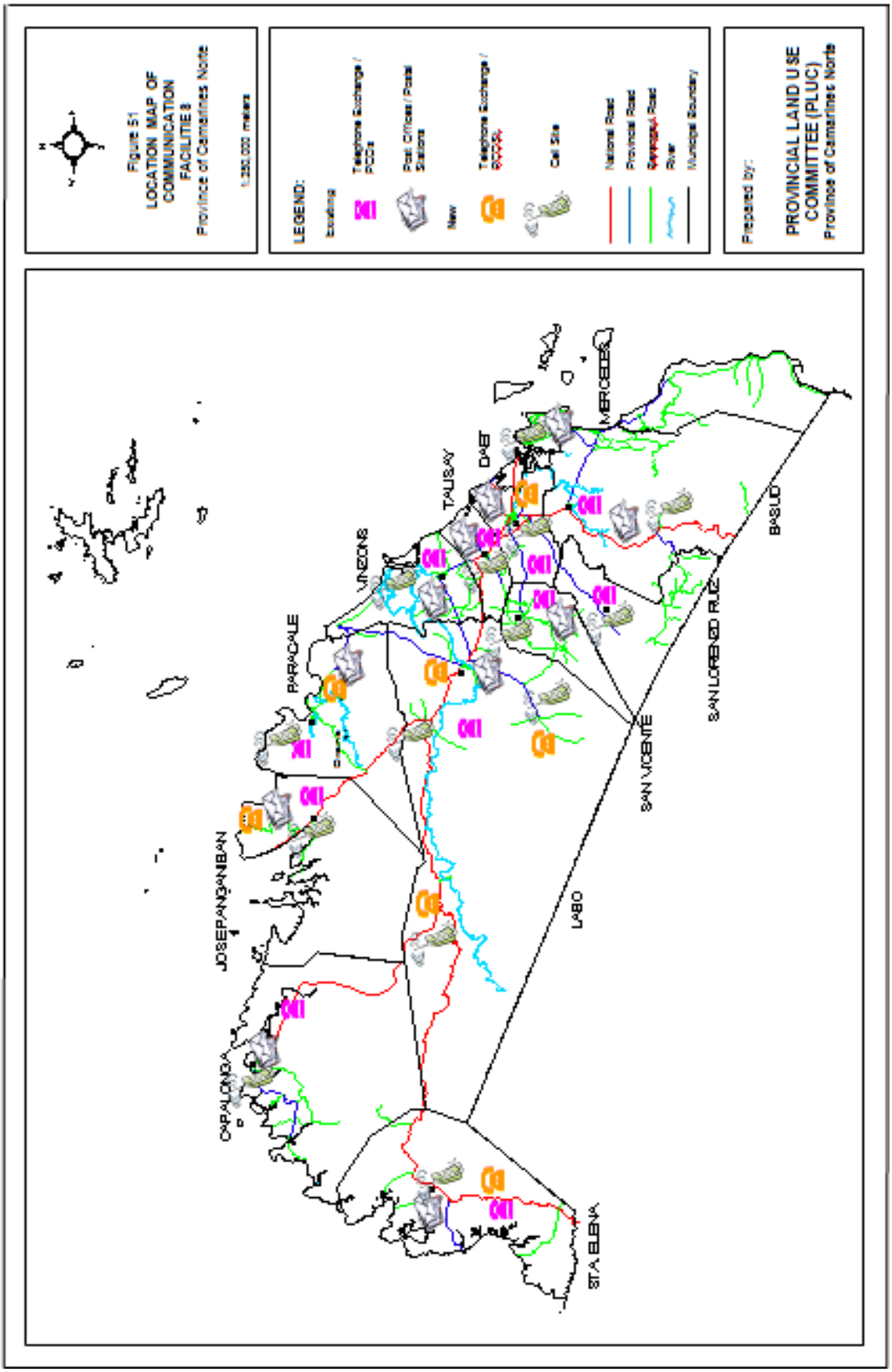
10.2.3 Other Infrastructures and Facilities

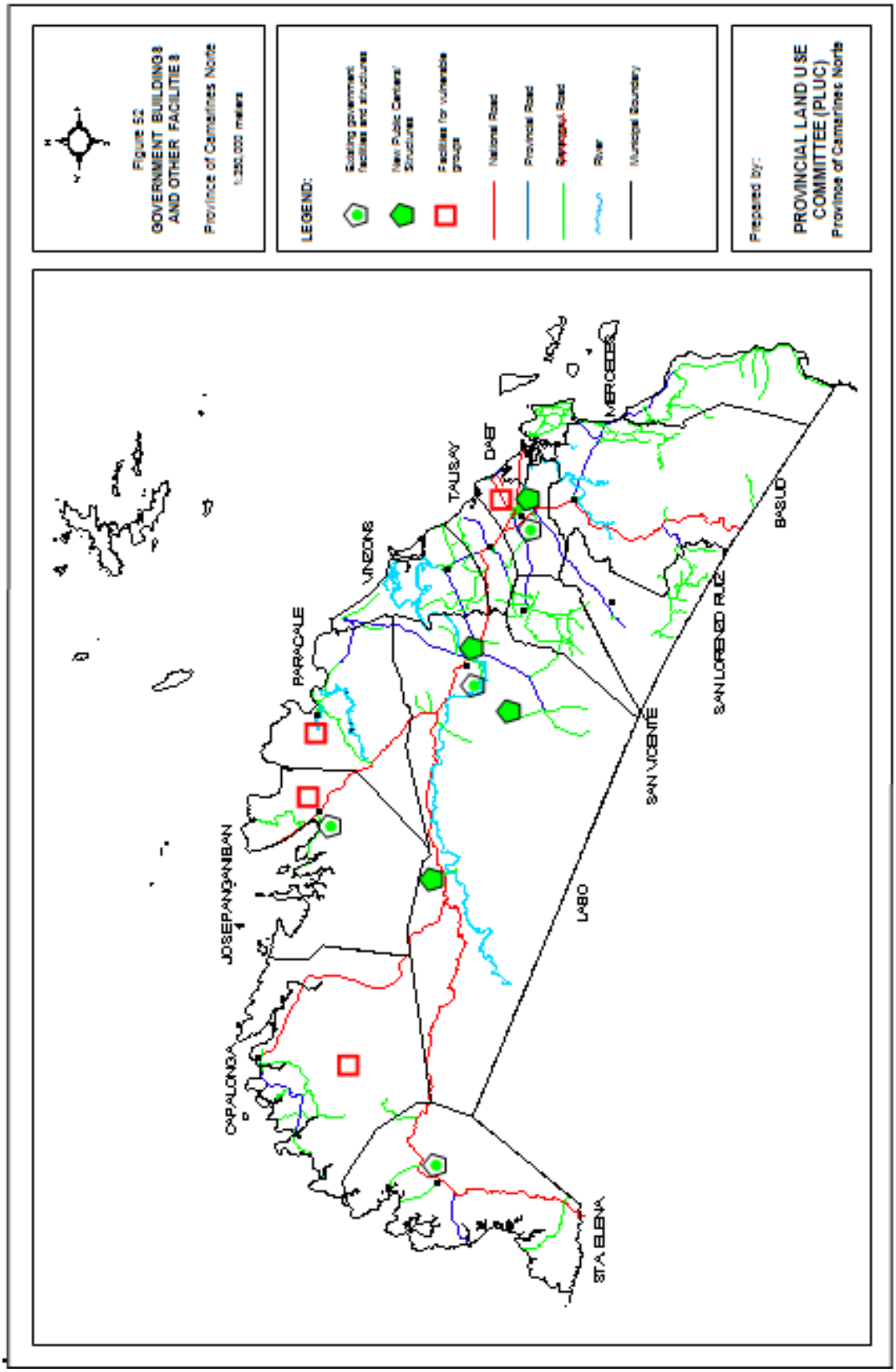
10.2.3.1 Government Buildings and Structure/Facilities

In support to public administrative and other government services, among the proposals to be considered are the construction of new public centers and structures shall include Camarines Norte Sports Complex which shall have modern facilities and equipment and to accommodate larger number of audience. A Provincial Disaster Coordinating Council (PDCC) Center which is also proposed shall serve as the provincial center in responding to disasters and emergencies and other preventive measures.

The establishment of a Provincial Government Center in Labo shall provide a central location for all government offices and agencies especially those which have no permanent office in Daet. The new towns of Tulay na Lupa and Bagong Silang shall also require construction of Municipal Government Centers.

Existing major government facilities and structures shall also be improved, upgraded and expanded which include the Provincial Capitol, Provincial Library, Camarines Norte Eco Athletic Field, the Hall of Justice and the existing Municipal Government Centers of the different municipalities. **(Figure 52)**


Figure 51
LOCATION MAP OF COMMUNICATION FACILITIES
Province of Camarines Norte
LEGEND:
Existing
Telephone Exchange / PCO
Post Offices / Pass Stations
New
Telephone Exchange / PCO
Cell Site
National Road
Provincial Road
Barangay Road
River
Municipal Boundary
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
BASUD
SAN LORENZO RUIZ
PARACALE
SAN VICENTE
JOSE PANGANIBAN
LABO
CAPALONGA
STA ELENA


Figure 52
GOVERNMENT BUILDINGS AND OTHER FACILITIES
Province of Camarines Norte
1:350,000 meters
LEGEND:
Existing government facilities and structures
New Public Centers/ Structures
Facilities for vulnerable groups
National Road
Provincial Road
Barangay Road
River
Municipal Boundary
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA ELENA

10.2.3.2 Other Infrastructure Support Facilities

10.2.3.2.1 Tourism Support Infrastructure

The province of Camarines Norte has great potentials to develop its tourism industry with the presence of various sites and areas in the different municipalities. Major concerns to provide infrastructure support include the improvement / enhancement of existing sites / tourism areas and to establish and develop the potential tourism areas / sites. **(Figure 53)**

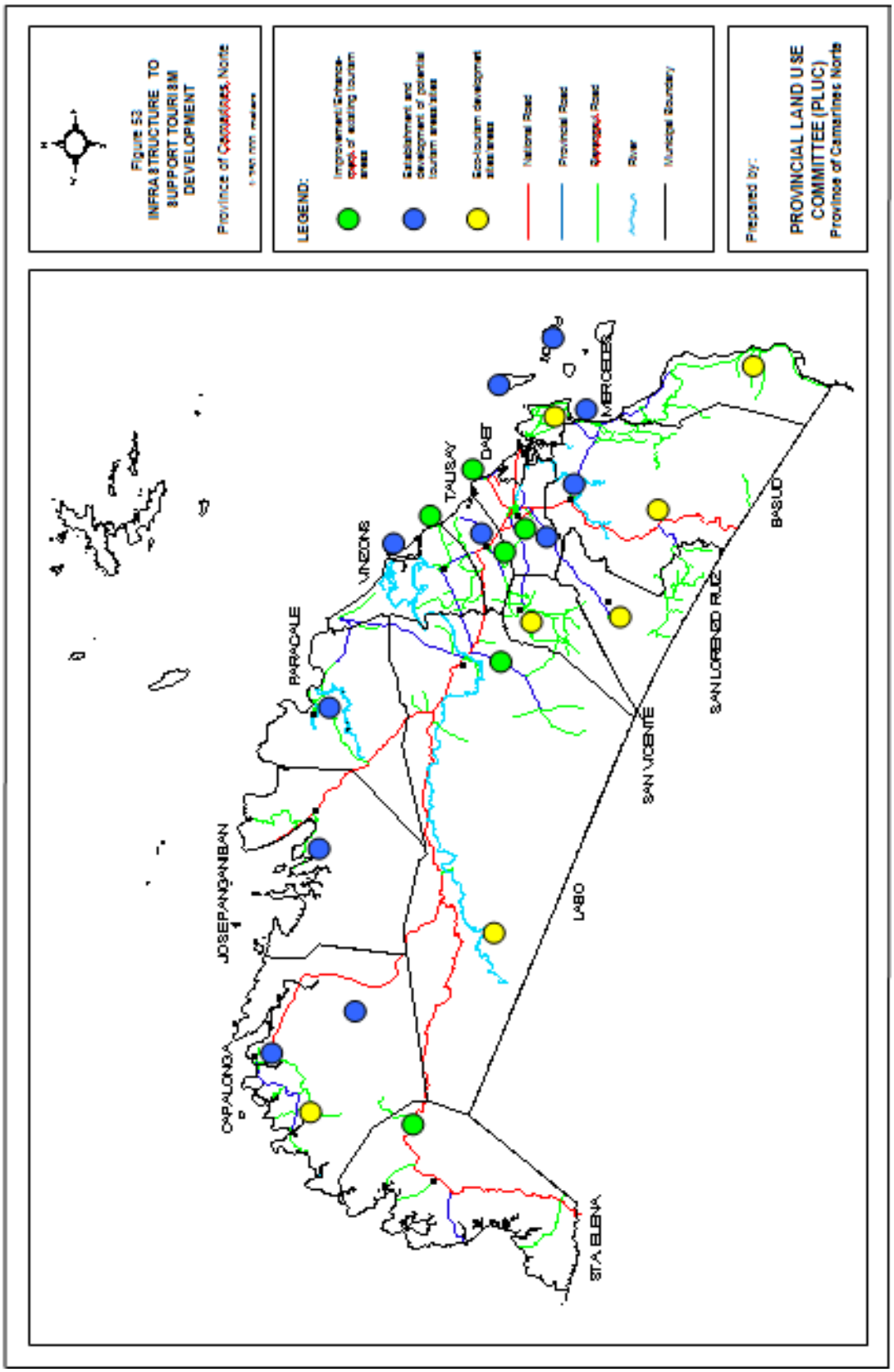
Various eco-tourism sites / areas are also proposed to be developed and among them are the Mananap Falls in San Vicente, Bicol National Park in Basud, Mt. Labo. Diit Falls in San Lorenzo Ruiz, Colasi Falls in Mercedes, Binatagan Falls in Basud, and IP-Based Cultural Experience.

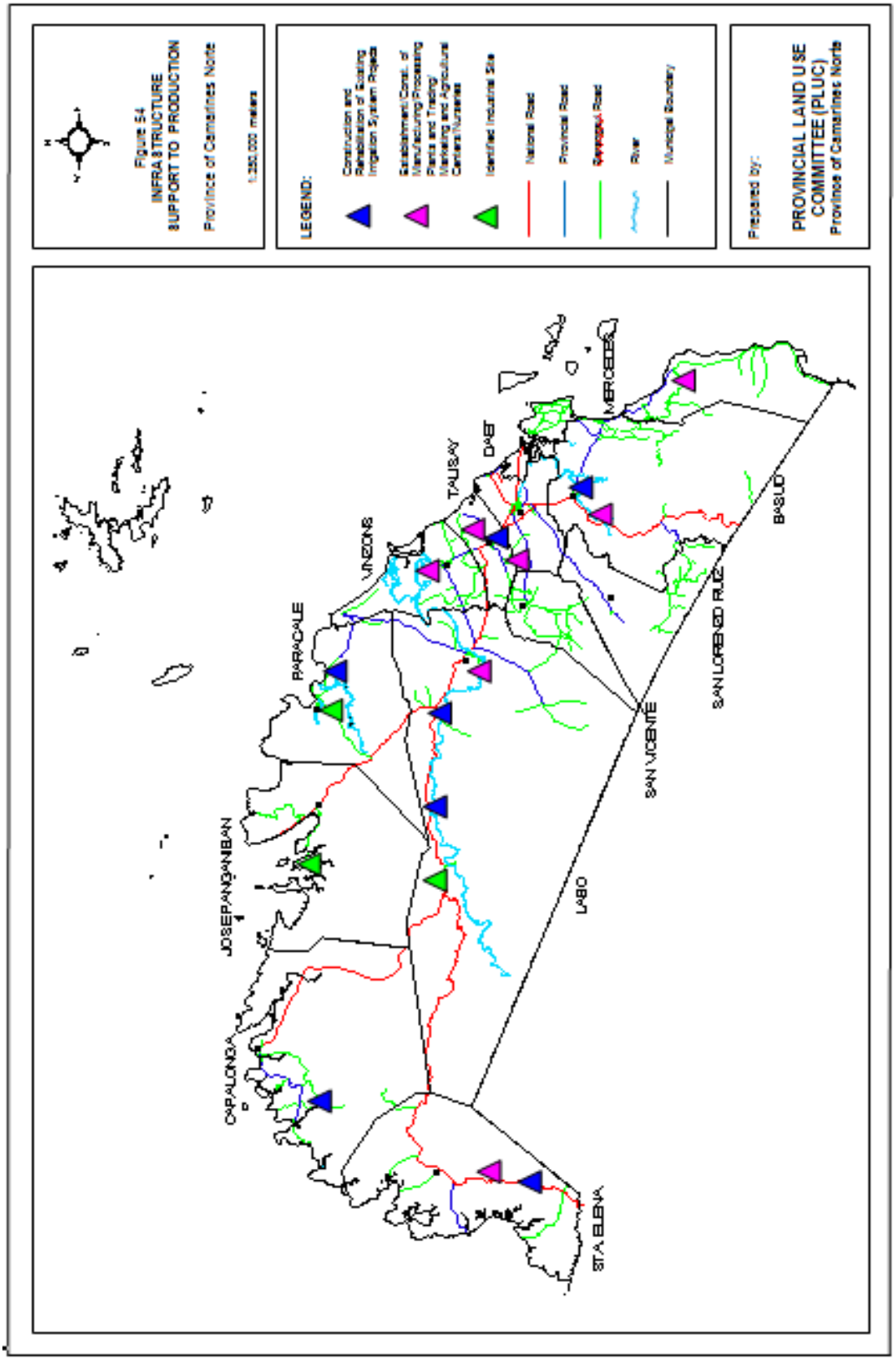
10.2.3.2.2 Other Infrastructure Support to Production

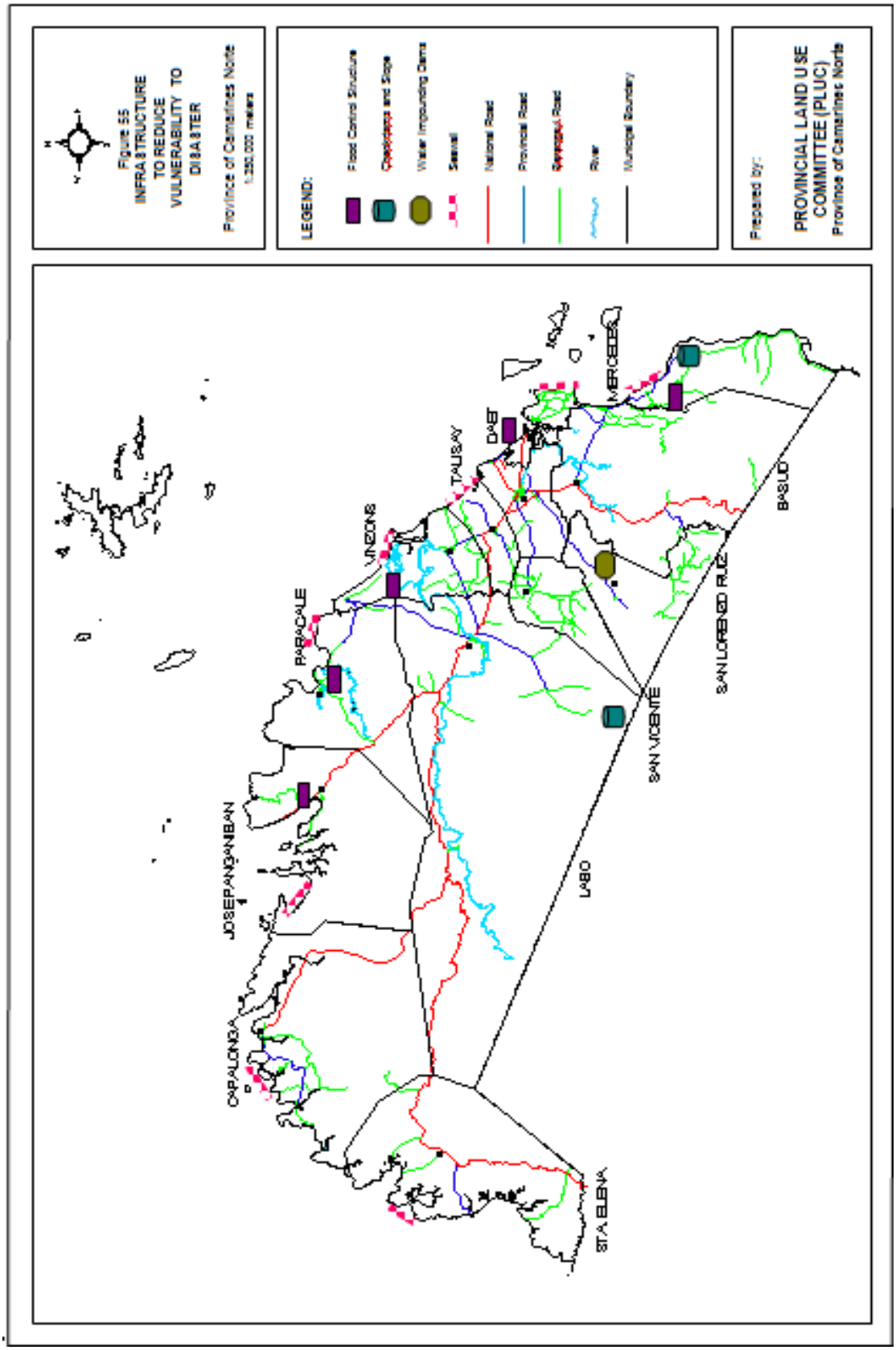
Post harvest support facilities for fruits, vegetables, fishery and livestock products will be established in the different municipalities. This is expected to increase the volume of agricultural product for trading and processing / manufacturing which accordingly will boost the local economy. Infrastructures support facilities shall be constructed/ established, to include are packing house, dehydration and processing centers, cassava processing center, etc. **(Figure 54)**

10.2.3.2.3 Infrastructure Support for Protection from Natural Hazards

To combat desertification at early stage is the introduction of environmental engineering technique in programs / projects to be implemented. To consider are check dams and slope grading works in Mercedes, Basud, Mt. Labo and Mt. Cadig Water Impounding Dams in San Lorenzo Ruiz, seawall in Basud, soil arresting structures in Labo, soil retaining works in Paracale, among others. The said engineering structures shall be supplemented by sustainable agriculture as well as forestry techniques to totally avoid/mitigate desertification in the province. **(Figure 55)**


Figure 53
INFRASTRUCTURE TO SUPPORT TOURISM DEVELOPMENT
Province of Camarines Norte
LEGEND:
Improvement/Enhancement of existing tourism areas
Establishment and development of potential tourism areas/sites
Eco-tourism development sites/areas
National Road
Provincial Road
Barangay Road
River
Municipal Boundary
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA ELENA


Figure 54
INFRASTRUCTURE
SUPPORT TO PRODUCTION
Province of Camarines Norte
1:250,000 meters
LEGEND:
Construction and Rehabilitation of Existing Irrigation System Projects
Establishment/Const. of Manufacturing Processing Plants and Trading
Marketing and Agricultural Centers/Nurseries
Identified Industrial Site
National Road
Provincial Road
Municipal Road
River
Municipal Boundary
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
JOSE PANGANIBAN
CAPALONGA
PARACALE
VINZONS
TALISAY
DAET
MERCEDES
BASUD
SAN LORENZO RUIZ
SAN VICENTE
LABO
STA ELENA


Figure 55
INFRASTRUCTURE TO REDUCE VULNERABILITY TO DISASTER
Province of Camarines Norte
LEGEND:
Flood Control Structure
Dike/Dyke and Slope
Water Impounding Dams
Seawall
National Road
Provincial Road
Barangay Road
River
Municipal Boundary
Prepared by:
PROVINCIAL LAND USE COMMITTEE (PLUC)
Province of Camarines Norte
MERCEDES
DAET
TALISAY
VINZONS
PARACALE
JOSE PANGANIBAN
CAPALONGA
LABO
SAN VICENTE
SAN LORENZO RUIZ
BASUD
STA ELENA

PROVINCIAL COMPREHENSIVE DEVELOPMENT PLAN

D. PROVINCIAL COMPREHENSIVE DEVELOPMENT PLAN

The following sectoral goals and objectives have been identified which have been supported by sub-sector goals and objectives to wit:

Population and Settlement

Rational distribution of population and utilization of land and physical resources through guided development and management.

Physical Resources

Conservation, protection and management of natural resources for sustained economic growth and development.

Economy

Increased productivity and income through environment-friendly technologies and climate proofing.

Infrastructure

Appropriate and disaster-resilient infrastructure facilities for effective and efficient quality of services.

Social Services

Sustained high level of access to basic social services for socio-economic development.

d.1 Social Development Sector

The analysis of the planning environment lead to the identification of development issues and problems of the social development sector such as non-availability of services, lack of income and employment, lack of employment, limited resources, lack of facilities among others. The risk evaluation result of the different areas of the province including its exposure and vulnerability condition was also discussed.

As identified, some issues are specific to each sub-sector health and nutrition, protective services, housing, sports, population and settlement, education and social welfare.

Goals, objectives and targets were likewise identified as responses to identified development issues and problems and guided by the vision, these served as the basis for formulating strategies, programs, projects and activities.

d.1.1 Health and Nutrition

This concerns with the prevention and control of communicable and non-communicable disease in the province, health promotion programs, health governance, population management other concerns which will eliminate health problems in the province.

The implications on health of the risk of flooding and rainfall induced landslide such as the prevalence of mosquito and water borne diseases including climate change related diseases will require provision of mitigating measures, advocacy on environmental awareness and putting in place of health emergency management system/plan.

Significance of health and nutrition concern is aimed at reducing water borne diseases and under nutrition problems in the province through health and nutrition promotion and communication, food and micro-nutrient supplementation and strengthening the overall health and nutrition program of the provincial government.

d.1.2 Protection Services

This covers the jail management and concerns of the peace and order keeping bodies as well other public safety and security services by other operating units. This sub-sector is aimed at maintaining the peace and order provincewide.

d.1.3 Housing

The provision of affordable housing is the main concern of this sub-sector. Strategies to combat the identified issues were identified and corresponding programs and projects to attain the desired goal.

In view of the identified risk to settlements of flooding and rainfall induced landslide establishment of housing and resettlement projects must be based on approved comprehensive development plans.

d.1.4 Sports

Sports development concerns include inactive sports development council and sports associations, lack of sports facilities, sports competition, trainings and seminars for sports enthusiasts and grassroots development programs. These were addressed through identified strategies and proposed programs and projects for this sub-sector.

d.1.5 Population and Settlement

This is aimed at rational use and allocation of land and physical resources for overall provincial settlement's development.

Based on the risk evaluation, population and settlements in flooding and rainfall induced landslide areas will be greatly affected.

Because of this, the following policies/threats are necessary such as: rational distribution of population, effective urban planning and management system, and guided development and management of administrative jurisdiction through land use planning. There should also be program/project prioritization, advocacy on environmental awareness and infilling/densification of urban centers not prone to hazards.

d.1.6 Education

For overall improvement of the quality of education in the province, issues at all levels were identified and corresponding strategies were laid down to address each concern. Similarly, programs / projects / activities were recommended to attain the desired objectives.

To address the risk to the education sector, there is a need for program / project prioritization and implementation and establishment of evacuation centers in identified risk areas.

d.1.7 Social Welfare

Improved social welfare services throughout the province is the main goal of this sub-sector which will be attained through formulation of Provincewide Investment Plan for Social Welfare Services and proper allocation of funds for these services. Identified programs / projects / activities need to be implemented and proper coordination and linkaging will be vital importance for transparency and convergence.

d.1.1 Health and Nutrition

I S S U E S	G O A L	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
A. Service Delivery				
➢ Lack of information on the importance of the mass drug administration and fear of drug reaction ➢ On health care providers: • Overlapping of work schedules and other LGU activities, lack of orientation in the activity and inadequate internalization of the national policy. ➢ The provincial LGU has no system for evaluating the impact of the activity	Filariasis eliminated as public health problem	Increase Mass Drug Administration (MDA) coverage from 75% to 85%	Establishment of Filariasis free zone Conduct of training program Conduct of survey	➢ Procurement of drugs and biologics ➢ Training / Orientation of health personnel, providers, partners and volunteers ➢ Information Education Campaign ➢ Conduct of Lot Quality Assurance Survey ➢ Monitoring and Evaluation
➢ Lack of information on the part of the consumer regarding malaria prevention and control ➢ Health providers are not trained on malaria; no advocacy activities were undertaken on the past several years; there is no system for coordination with the private sectors and no system for community surveillance. ➢ Malaria program was not considered in the respective municipal health plans hence no budget was allocated.	Malaria eliminated as public health problem	Maintain the API of less than 1/1,000 population	Establishment of malaria free zone Conduct of training program Physical improvement	➢ Capability building on malaria prevention and control ➢ Community organizing activities ➢ Procurement of drugs and medicines, laboratory supplies and reagents ➢ Construction of laboratory facilities
➢ Lack of information on the prevention and squeals of rabies and lack of access of some patient to the Animal Bite and Treatment Center. ➢ Inadequate supply of anti-rabies vaccines, syringes and needles ➢ Poor enforcement of RA 9842 on part of municipal and provincial LGUs	Human rabies eliminated as public health problem	Increase coverage of post exposure vaccination to 100%.	➢ Establishment of rabies free zone ➢ Provision of facilities ➢ Provision of Trainings ➢ Information Education Campaign ➢ Institutionalization	➢ Establishment of Animal Bite and Treatment Center ➢ Training on Rabies Control and Prevention ➢ Reproduction of IEC materials ➢ Reorganization / Reactivation of Municipal and Provincial Rabies Control Committee
➢ Some consumers tend to avoid consultation due to the stigma attached to the disease and others have delayed consultation due to lack of information about the disease ➢ The health providers have no system of follow-up of defaulters	Leprosy eliminated as public health problem	To reduce leprosy incidence from 2 to 0 by 2013.	➢ Establishment of leprosy free zone • Provision of trainings • Procurement of drugs and medicines	➢ Capability building programs ➢ Procurement of drugs and medicines, laboratory supplies and reagents ➢ Information Education Campaign

I S S U E S	G O A L	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
Intensified Disease Prevention and Control ➢ Some health providers are not trained on TB-DOTS ➢ Inadequate supply of drugs, supplies and equipment ➢ Lack of medical technologist in some LGUs and lack of laboratory facilities ➢ Inadequate budget for TB program ➢ Weak collaboration between and among LGUs, private and government hospital physicians ➢ No written policy to regulate medical missions from dispensing anti-TB drugs	Reduced morbidity and mortality due to TB	Improve TB case to 85%	Intensify TB prevention and control activities	➢ Capability building programs ➢ Procurement of medicines, laboratory supplies and reagents ➢ Construction / Improvement of health centers ➢ Creation of plantilla positions ➢ Information Education Campaign ➢ Conduct of regular meetings ➢ Surgical, medical and dental mission
➢ Entertainment workers lack information on the importance of the medical examination and the prevention and control of STI ➢ High percentage of health workers not trained on STI ➢ Absence of regular social hygiene classes ➢ Weak health promotion ➢ Absence of organized local AIDS Council and unregulated entertainment establishments	Sustained less than 1% HIV / AIDS / STI Cases	To decrease incidence of STI from 39.6 to 20%	Intensify HIV / AIDS / STI Prevention and Control	➢ Procurement of drugs and medicines for STI, supplies for medical examination and screening, reagents, test kits, staining ➢ Capability building ➢ IEC ➢ Establishment of RHT clinic
Child Health ➢ Lack of knowledge on child survival programs of some mothers / caregivers ➢ High cost of immunization ➢ Poor coordination with private sector and community for organization of support groups ➢ Malnutrition ➢ Lack of regular monitoring and evaluation of child program	Reduced child mortality	To increase FIC coverage from 73% to 95% in 5 years To increase % of newborn initiated to breastfeeding within 1 hour after birth from 62% to 89% within 5 years To reduce PEM among 0-5 years old from 11% to 6% within 5 years To reduce pneumonia deaths among 0-11 months from 22 to 100/1,000 live births	➢ Intensify prevention and control of vaccine preventable diseases ➢ Capability Building Activities ➢ Strict implementation of laws	➢ Conduct of Training Programs ➢ Reproduction of IEC materials ➢ Outreach immunization in areas with high drop-out ➢ Supplemental immunization for IPs ➢ Tetanus toxoid elimination campaign ➢ Procurement of drugs and medicines ➢ Implementation of breastfeeding program ➢ Child Nutrition Programs ➢ Integrated Management of Childhood Illness Strategy ➢ Provision /construction / upgrading and maintenance of health & infrastructure support facilities

I S S U E S	G O A L	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
				➢ Micronutrients supplementation ➢ Nutrition Program ➢ Environmental sanitation ➢ Sex Education ➢ Feminine Hygiene Program ➢ Dental Program
Maternal Health ➢ Lack of women's information on the importance of maternal health, early care seeking pregnancy and facility delivery ➢ High cost of facility based delivery and consumer preference for traditional birth attendants ➢ Unequipped health facilities and poor referral system	Reduced maternal and neonatal deaths	Increased facility-based deliveries from 37% to 85%	Contraceptive Self-Reliance Strategy	➢ Capability building / Training Programs ➢ Information Education Campaign ➢ Procurement of BEMONC / CEMONC equipment ➢ Construction / Renovation of RHUs, BHs and hospital for EMONCs ➢ Procurement of medical, laboratory supplies and reagents ➢ Cervical Cancer screening (Pap-smear) ➢ Provision of contraceptive and medical supplies ➢ Provision of medical assistance to clients with complications ➢ Implementation of reproductive health programs ➢ Provision of Provincial Teen Center for Adolescent ➢ Implementation of maternal nutrition program ➢ Health promotion program
Health Lifestyle and Management of Health Risks ➢ Lack of information on healthy lifestyle ➢ High cost of medicines ➢ Untrained health providers ➢ No policy on health lifestyle ➢ Insufficient funds for the program	Reduced mortality and morbidity of lifestyle diseases	To reduce lifestyle diseases by 20% by end of 2013	Intensify healthy lifestyle promotion and management of risk behavior	➢ Training on healthy lifestyle ➢ Organization and training of HL Team ➢ Advocacy ➢ IEC ➢ Procurement of drugs and medicine for life style related diseases ➢ Risk factor screening
➢ Lack of information on sources of safe water ➢ Limited LGU budget	Reduced water and foot borne diseases	To increase number of household with access to safe drinking water from 78% in 2007 to 94% in 2013	Intensify management strategies that will cause for greater access to safe drinking water	➢ Construction of Level II water sources ➢ Rehabilitation of Level 1 facilities ➢ Provision of disinfecting agents for water sources and households ➢ Conduct of trainings ➢ Upgrading of Prov'l Water Analysis Laboratory ➢ IEC

I S S U E S	G O A L	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
➢ Low percentage of access to sanitary toilet	Reduced prevalence of diseases	To increase household with access to sanitary toilets from 67% to 91%	Intensify management for access to sanitary toilet facility	➢ Construction of household toilet facility Communal Septic Tank ➢ Construction of individual household toilet ➢ Conduct of training ➢ Monitoring and evaluation ➢ IEC
Surveillance and Epidemic Management System ➢ No functional Provincial Epidemiology Surveillance Unit (PESU) and MESU ➢ Lack of I.T. equipment	Functional disease surveillance and epidemic management system	To establish functional provincial and municipal Epidemiology and Surveillance Units	Strengthening of Epidemic and Surveillance Units	➢ Provision of training/capability building ➢ Purchase of IT equipment ➢ Provision of medicine on Epidemic Response ➢ Monitoring and Evaluation
Disaster Preparedness and Response ➢ No health emergency plan ➢ Absence of Functional response Team ➢ Lack of I.T. equipment	Functional health emergency and management system	To establish a functional provincial and municipal health emergency management system	Development of functional health emergency management program	➢ Formulation of Health Emergency Plan ➢ Organization of Provincial and Municipal Disaster Response Team ➢ Provision of Trainings / Capability Building
Health Promotion ➢ Lack of provincial strategic plan ➢ Lack of resources	Intensified health promotion initiatives at all levels	To formulate and implement a comprehensive and strategic communication plan at all levels	Localization and reproduction of health promotion and advocacy materials	➢ IEC ➢ Provision of IT equipment ➢ Conduct of Trainings ➢ Advocacy
Health Facilities Development ➢ The need to upgrade and repair hospital structures ➢ Unavailable health equipment	An efficient, effective and integrated health delivery system for better and equitable health outcomes	To formulate a comprehensive rationalization plan of health facilities and equipment	Rationalization of local health facilities based on needs	➢ Upgrading of hospital buildings & facilities ➢ Provision of communication facilities ➢ Re-organize and strengthen local blood councils ➢ Health promotion and advocacy
B. Health Regulation				
Enforcement of and compliance to National Health Legislations and Standards ➢ Poor/Lax implementation of national laws on milk code, anti-rabies, generics law, sanitation code, etc. ➢ Lack of ordinance for local refilling station - Poor monitoring system - Poor access to low cost / quality of drugs	Adopted and complied national laws / issuances on health Increased access to low cost and quality drugs	To intensify health promotion and increase health facilities compliance To increase the number of licensed Botika sa Barangays from 1:5 to 1:2 ratio	Implementation of national laws and compliance with national standards Establishment of Botika sa Barangays	➢ Implementation Milk Code, RA 9842 Sanitation Code, Generic Acts / etc. ➢ Advocacy ➢ Trainings/Orientation ➢ Provision of Seed Capital for Operation of BnBs

I S S U E S	G O A L	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
C. Health Financing				
Expansion of the National Health Insurance Program ➢ Inadequate awareness on the benefits of enrolment to PHIC ➢ Lack of policy on mandatory enrolment ➢ Insufficient funds for Phil Health Enrollees	Financially secured PHIC enrollees	Increase PHIC enrolment to 85% Increase PHIC accredited facilities from 70% to 100%	Enrolment of the poor ➢ PHIC accreditation of health facilities ➢ Compliance to national standards ➢ Client segmentation	➢ Lobbying ➢ Advocacy ➢ Identification of beneficiaries ➢ PHIC enrolment program
Local System Development ➢ The need to strengthen public and private partnership thru inter-local health zone	Improved health services delivery	To develop appropriate management system	➢ Strengthening public and private partnership ➢ Utilization of local health information system	➢ Advocacy campaign ➢ Regular meeting of ILHZ ➢ Annual Health Planning Workshop and Program Implementation Review ➢ Orientation of elected officials on health programs ➢ Provision of IT equipment ➢ Health Management Information System Development ➢ Training Needs Assessment ➢ Monitoring and conduct of field visits

d.1.2 Protective Services

I S S U E S	G O A L S	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Below standard police-population ratio *(1 policeman:1,000 population (1:1,000)* *108 PNP personnel is needed to fill-up the ratio, PNP personnel-418 over CN Pop.-526,476)*	Well-maintained peace and order	To meet the standard police-population ratio in the province	Provision of funds for personnel recruitment	➢ Organization and Management Program
2. Needs to upgrade the PNP Human Resource Development in the province		Professionalization of Police Public Safety and Security Services	➢ Yearly recruitment of police personnel ➢ Capability building of personnel in all aspects of law enforcement and public safety and security services ➢ Enhancement training, refresher courses and seminars ➢ Sourcing of funds	➢ Selection and recruitment programs ➢ Capability Building Programs ➢ Salary standardization
3. Inadequate / out modeled equipment, mobility, communication and other law enforcement materials		To equip PNP personnel with equipment and materials that can cope with the current needs in law enforcement	Acquisition of modern equipment, mobility, communication and other law enforcement materials. ➢ Coordination and liaisoning with PLGU / MLGUs ➢ Representation with national leadership	➢ Seminars / Training Programs ➢ Procurement of modern equipment
4. Outmodelled / old municipal police stations and uncompleted Administration Building of the Provincial Police Office		➢ Completion of the projects by 2020.	➢ Representation with civil societies ➢ Provision of local counterpart funds ➢ Capability build-up	➢ Construction of New Municipal Police Stations of: - San Lorenzo Ruiz - San Vicente - Sta. Elena - Paracale - Vinzons
5. Lack of Personnel (Social Worker, Medical Officers, Psychologist, Para-legal personnel) 6. Improper staffing pattern that give rise to undefined level of authority and responsibility		➢ To follow the procedural guide based on the principle of PREDICT (through intelligence and investigation), PRE-EMPT (strict custody, control and security), PREPARE strategy for the active implementation and actual employment of personnel and equipment)		a. Personnel development ✓ Conduct of retraining on custody, control of inmates and implementation of proper security procedures. ✓ Review personnel skills, qualification and Job description ✓ Re-alignment / Reassignment of personnel (right man to the right job)

I S S U E S	G O A L S	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
		➢ To enhance the management and operations of the penal institution and detention cells in the province		✓ Review staffing pattern and manning level ✓ Request for additional skilled personnel ✓ Redefine level of authority and responsibility through rank allocation b. In-service Training
7. Absence or lack of funds for livelihood projects, medical /dental expenses and recreational facilities, recovery/search operations, burials of deceased inmates & religious activities	Improved jail management	To provide welfare for inmates	➢ Provision of funds for livelihood projects and other activities ➢ Coordination and linkaging	c. Provision of funds for Medical and Dental Expense ✓ Medicine for personnel and inmates ✓ Fare for inmates and guards during court hearings ✓ Maximize the utilization of food allowance/preparation ✓ Special funds for jail celebration ✓ Provision of at least two (2) uniform per inmate
8. Inadequate firepower capability, CDM equipment, Communication, back-up power Mobility and Detention Center (for Minors)			➢ Use of Materials and Equipment ➢ Lobbying ➢ Allocation of funds	- Provision of Electronic Equipment ✓ Surveillance camera and Internet access ✓ Procurement of long and short firearms, CDM equipment, radio communication, metal detector and prison vehicle - Establishment of Detention Cells ✓ Construction of additional Detention Cells for Minors

I S S U E S	G O A L S	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
9. Fragmented rules and regulations (so many Manuals- BJMP, BuCor, DILG) 10. Jail congestion and tedious court processes 11. Absence or lack of "Correctional Policy"			➢ Inmates congregation or segregation	- Reclassification of inmates ✓ **Case** committed ✓ Gang affiliation or non-affiliation ✓ Religious affiliation ✓ Physical & Mental Health condition ✓ Degree of risk assessment ✓ Influence over other inmates ✓ Profession and academic background ➢ Care and Treatment Program - Analysis of triggering condition that can serve as catalyst of activism ✓ Social (Alienation and discrimination) real or imaginary ✓ Personal (death of close family members and loss of loved ones) ✓ Suicidal tendencies and sense of general anger ✓ Indulgence in writing (poems, letters etc) ✓ Dramatic change of life style and isolation

d.1.3 Housing

I S S U E S	G O A L S	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Poor land conversion policies due to absence of Comprehensive Land Use Plans. Application for land conversion intended for housing projects create bottlenecks in the approval process 2. Tedious procedures involved in availing of different housing programs 3. Unprepared LGUs in relation to the devolved responsibility for shelter delivery and urban development and capital investment programming 4. Continued absence of a viable housing finance system and long-term mortgage finance for the informal sector and non-members of pension funds 5. Urban squatting 6. Housing back log of 5,306 and makeshift houses of about 2,285 7. Sites identified not including in zoning ordinance 8. Lack of potable water, electricity, drainage 9. Waste Management Disposal 10. Absence of potable water for core shelter 11. Skilled workers for construction of CSAP (Core Shelter Assistance Project) units	Provision of affordable housing	Completion of Comprehensive Land Use Plans of 12 municipalities by CY 2010. Reduction of red tape Provide affordable housing units for 4,041 families in the province	➢ Access to housing facilities and reduction of red tape in the processing of housing permits and housing loan applications. ➢ Encourage private sector participation in housing finance ➢ Requires developers of proposed subdivision projects to set aside at least 20% of the total subdivision area or total project cost for socialized housing ➢ Provision of security of land tenure for low income population by expediting the regularization of informal settler families occupying public lands ➢ Completion of the beneficiary listing of all housing programs and projects to improve the targeting of beneficiaries ➢ Completion and approval of Comprehensive Land Use Plans of LGUs to facilitate easier determination / classification of lands for residential use ➢ Creation of Local Housing Boards and formulation of shelter plans by LGUs to address urban and rural development and housing concerns ➢ Implementation of sectoral, LGU and cooperative housing programs for low-salaried employees	1. PAG-IBIG and GSIS Housing Loan Program 2. Development Planning Program a. Land Use Planning Project a.1 Formulation / Completion of CLUPs of municipalities ➢ Provision of Technical Assistance ➢ Review of MCLUP for SP approval a.2 Completion of Provincial Development and Physical Framework Plan b. Formulation of Shelter Plan ➢ Creation of Local Housing Board 3. Socialized Housing Project 4. Core Shelter Project 5. Housing materials assistance 6. Establishment of Gawad Kalinga sites and maintenance of existing areas 7. Housing Project for Provincial Gov't Employees 8. Capability Building Programs 9. Community Development Programs ➢ Bayanihan ➢ Microfinance ➢ Capability building activities ➢ Empowerment of GK Kapitbahayan

d. 1.4 Sports

I S S U E S	G O A L S	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Inactive physical fitness and sports development council in the province, municipalities and barangays 2. Inactive local/ national sports associations in the province that will implement their respective sports program 3. Lack of sports facilities and sports equipment 4. Lack of sports competitions 5. Lack of sports trainings and seminars for coaching and officiating officials 6. Lack of grassroots development programs	Sound and unified fitness and sports program	To have developed sports and fitness program	➢ Coordination and linkaging ➢ Provision of appropriate budget for sports development ➢ Fund sourcing	➢ Conduct of Trainings /Capability Buildings ➢ Provision of incentives / awards ➢ Upgrading / modernization of sports facilities ➢ Establishment of oval and grandstand ➢ Reorganization / strengthening of sports association ➢ Sports development programs ➢ IEC ➢ Advocacy campaign

d.1.5 Population and Settlement

I S S U E S	G O A L S	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS/PROJECTS/ACTIVITIES
1. Slow-paced development in rural areas or development bias in favor of urban areas	Rational use and allocation of land and physical resources	To disperse concentration of population and infrastructure development	Integrated and Development approach or designation of growth centers with each center having satellite municipalities	➢ Livelihood development programs ➢ Environmental development projects ➢ Provincial Development Programs - Jose Panganiban Economic Zone - Provincial Industrial Center - Agricultural Development Project - Mining Development - Agri-industrial Development - Fishery Development ➢ Population Program
2. Unplanned expansion of settlement areas due to absence of approved CLUPs and zoning ordinances		To ensure food security	Completion and approval of Municipal Comprehensive Land Use Plans and Zoning Ordinances	Land Use and urban Planning
3. Encroachment to ECAs and other protected areas		To minimize risks caused by man-made and natural disasters	Strict implementation of zoning ordinance and law enforcement Relocation of settlements from high risk areas to safe areas	➢ Hazards and Risk Assessment ➢ Environmental Development Projects ➢ Formulation of Comprehensive Disaster Management Plan ➢ Provision of livelihood ➢ Rental housing for the poor and homeless
4. Inefficient delivery of services within the settlement center due to poor / slow implementation of infrastructure facilities		To provide an equitable access and delivery of services	➢ Proper resource allocation ➢ Fund sourcing	Infrastructure Development Programs
5. Illegal land conversion for settlement areas		To protect prime agricultural land for food security purposes	Completion of Municipal Comprehensive land Use Plan and strict implementation of approved zoning ordinance.	Low Cost Housing Programs

d.1.6 Education

I S S U E S	G O A L S	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS/PROJECTS/ACTIVITIES
1. Net enrolment ratio of 87.35% for primary education and secondary education of 50.36%	Improved quality of education in the province	Increase enrolment ratio from 87.35% to 100% in 2015 in primary education and 50.26% to 100% in secondary education	➢ Provision of additional income for parents ➢ Inclusion of Non-Formal Education	Advocacy and Capability Building Program ➢ In-service training for teachers ➢ Re-orientation of teachers in professional ethics ➢ Establishment of strong partnership with LGUs and DepEd ➢ Strengthening and monitoring the operation of the Local School Board ➢ Faculty Development ➢ Project Youth Entrepreneurship Cooperative in School
2. Low Percentage of Grade 1 pupils with ECCD at 62% 3. 8 barangays do not have day care center		Increase percentage of students with ECCD from 62% in 2007-2008 to 100% in 2015 Full coverage of ECCD programs in Capalonga, Jose Panganiban, Labo, Paracale and Sta. Elena	➢ Full coverage of ECCD programs to all barangays	Early Childhood Care and Development Program ➢ Establishment of Day Care Centers ➢ Strengthening home-school partnership in pupils reading competence ➢ Formal Training for pre-school teachers
4. Low achievement level of elementary and secondary schools at 58.48% and 39.43%, respectively		Increase level of achievement to at least 80% by 2015 for both levels	➢ Appropriation of substantial amount for education services	➢ Safe school building programs ➢ Training competency/Capability Building Programs ➢ Provision of alternative livelihood programs ➢ Distance Learning Program ➢ School-Home Involvement Program ➢ Kapit-Bisig Project ➢ Curriculum and Instructional Materials and Development Program
5. Functional literary rate of 69.50%		Increase literary rate from 69.50% to at least 90% by 2015	➢ Coordination and linkaging	➢ Provision of text books and upgrading of facilities and teaching materials ➢ Advocacy campaign ➢ Capability building programs

I S S U E S	G O A L S	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS/PROJECTS/ACTIVITIES
6. High drop-out rate of .25% for public elementary		Decrease drop-out rate	➢ Advocacy Campaign	➢ Balik-aral and balik-paaralan program ➢ Provision of school-learning kits
7. Lack of school buildings and inadequate facilities and equipment consistent with national standards			➢ Lobbying / Linkaging for establishment of classrooms and provision of facilities	School Building Programs ➢ Establishment of school buildings ➢ Provision of standard facilities and equipment
8. Need to upgrade facilities for technical vocational high school (Froilan Lopez)		To improve quality of graduates	➢ Lobbying / linkaging / coordination activities	➢ School Upgrading Program ➢ Procurement of facilities ➢ Job Placement Program and on-the-job trainings
9. Need to create Science High School in the province		To accommodate poor but deserving students	➢ Lobbying	
10. Need to strengthen the ALS				
11. Basic education for inmates (PCSSD)				
12. Need to include inmates skills training and literacy program				
13. Inadequate financial assistance to academic and skills competition				
14. Insufficient funds for scholarship program			➢ Increase allocation of funds for scholarship program	➢ Scholarship programs ➢ Out-of-School Youth Development Program
15. Absence of facilities for special children	All special children have developed their potentials, given equal opportunities and protected by laws	To empower special children	➢ Strict implementation of legislations ➢ Provision of child friendly facilities for special children	➢ Establishment of friendly schools for special children ➢ Training of teachers for special children
16. Low access to education of tribal communities	All tribal communities should be educated, protected by laws, well served and developed their potentials	To empower the IPs	➢ Coordination and linkaging	➢ Capability building activities ➢ Establishment of Day Care Centers for IPs ➢ Establishment of water and sanitation facilities for IPs ➢ Construction / Establishment of Learning Centers for Indigenous Children

d.1.7 Social Welfare

I S S U E S	G O A L S	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Poor after care and welfare services at the MLGU levels 2. Inefficient delivery of welfare services 3. Absence of comprehensive development programs for OSYs 4. Very low reporting of victims from B/MLGUs 5. Low municipal allocation for social services by MLGUs 6. Referral system of PSWDO for individuals in crisis situation are not honored by politicians and requirements are not completed with by B/MLGUs and clients 7. Need to strengthen the implementation of Personal Safety Lesson (PSL) 8. Absence of investment plan for social welfare 9. Absence of database for social welfare	Improved social welfare services	To have an effective and efficient delivery of basic welfare services at all levels	➢ Coordination and linkaging ➢ Strengthening Human Resource Development Plan for Social Welfare ➢ Establishment of welfare facilities ➢ Plan formulation ➢ Evaluation and monitoring ➢ Proper allocation of funds for social services	➢ Organization and Management Programs - Employment of registered social welfare to focus on case management - Provision of support to volunteers and disadvantaged groups - Employment of medico legal ➢ Trainings/Seminars and Capability Building Programs ➢ Establishment of Child Minding Centers ➢ Establishment of rehabilitation center, crisis center or detention home for children in conflict with the Law/Pre-delinquents ➢ Establishment of stockroom for stockpiles / pre-positioned goods and supplies ➢ Establishment of evacuation centers ➢ Formulation of monitoring and evaluation tool for proper and timely reporting system ➢ Formulation of Comprehensive Dev't Programs for out-of-school youths ➢ Formulation of Provincial Investment Plan for Social Welfare ➢ Establishment of data bank for social welfare and updating of information restored in the data bank ➢ Establishment of one stop shop for women and children and specialized center for the disabled, elderly and abused women and children ➢ Maintenance and expansion of Halfway Home ➢ Special Program for the Employment of Women

I S S U E S	G O A L S	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
Presence of child labor	Children are protected from exploitation and violence	To eliminate child labor	➢ Education and training programs ➢ Coordination and linkaging	➢ Scholarship Programs ➢ Educational Assistance Program ➢ Vocational Training ➢ IEC and Advocacy

d.2 Economic Development Sector

The economic development sector integrates economic activities and promotes and developed other livelihood opportunities mainly to increase income.

d.2.1 Agriculture

The agriculture sub-sector concerned on how to increase agricultural productivity in the province although some agricultural projects were being implemented, the province has no approved Comprehensive Agricultural Development Plan that will served as a guide in project prioritization and implementation. The province has inadequate agricultural infrastructure support facilities like irrigation and drainage system, postharvest and processing facilities and farm to market roads. Highly restricted prime agricultural land was converted to other uses and the indiscriminate cutting of coconut trees resulted to presence of erosion and flooding within production areas. Soil fertility is declining due to mismanagement as a result of slow adoption of new technologies and inadequate research development and extension services. The farmers has insufficient capital to finance high cost of inputs specially during the occurrence of pest and diseases. Also, the province has low sufficiency level of agricultural products which also affects market linkaging for buyers with bulk requirements. The province as a whole has insufficient local funds to implement agri-fishery infrastructure projects.

In terms of disaster risk, based on the evaluation, agricultural areas are in flood prone areas which will result to low production output, thus, there is a need for balanced fertilization, soil conservation, slope protection and riverbank stabilization measures. The utilization of development opportunity areas for sustainable production and environmental assessment in hazard prone areas coupled with land use management through implementation of zoning ordinance and strong environmental advocacy and awareness.

d.2.2 Industry and Services

This area deals with investment to industry and services. Industry includes production, manufacturing and processing while services include all works extended. Both industry and services generates employments and income for the province. Private and government sector shall support programs to address the limited number of establishment in the industry and services sector. In support to this sub-sector, production under economic sector must be increase.

d.2.3 Tourism

The province has beautiful natural tourist spot, historical site, religious events and other activities as tourist attraction. Despite of these attraction, the province has minimal tourist arrival. Programs and projects were identified to address said concern with the arrival of tourists, other subsector like industry and services, agriculture will also be benefitted.

d.2.4 Livestock and Poultry

Under the livestock and poultry, there is a need to increase production mostly for food consumption. As support to production, superior breeds must be maintain, reduce prevalence of pests and diseases and improve livestock and poultry regulatory services. Likewise, marketing system of these products must be improved.

Along with these concerns, strategies with corresponding programs and projects were identified.

d.2.1 Agriculture

ISSUES	GOAL	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITES
Absence of Comprehensive Agricultural Development Plan of the Province	Institutionalize comprehensive agricultural development plan for the province	Formulate a six-year comprehensive agricultural development plan	Creation of a technical working group Integration of local agricultural development plans	Formulation of Comprehensive Agricultural Development Plan of the Province • Consultation dialogues • Inclusion to the ELA • IEC/advocacy
Low efficiency of irrigation system	Improve efficiency of irrigation system	To increase irrigation efficiency by 30% for 6,761.391 hectares system target area	Rehabilitation of existing irrigation facilities	Irrigation Development Program • Rehabilitation and upgrading of irrigation system
Low percentage of irrigated areas	Increase percentage of irrigated areas	Provide new irrigation system for 10,143 hectares irrigable areas	Construction of new irrigation systems	• Construction of new irrigation system ➢ Busigon river, Labo ➢ Potential areas
Inadequate agricultural infrastructure support facilities • Post harvest and processing facilities • Farm to market roads • Irrigation facilities • Drainage facilities	Provide adequate infra support facilities	Provide adequate agricultural infra support facilities in agricultural areas by year 2016	Provision and improvement of agricultural infrastructure	Agricultural Infrastructure Support Program • Construction/repair and improvement of farm to market roads and bridges • Construction/repair and improvement of irrigation facilities • Establishment of trading center / buying station especially for pineapple, vegetables and other agricultural commodities • Construction, repair, improvement of post harvest facilities
Insufficient local funds for agricultural and fishery infrastructure projects		Increase fund allocation	Improve collection efficiency of LGUs Networking for fund sourcing	Strict enforcement of Local tax ordinance Preparation of priority Agri-Business Investment plan Agri-business investment promotion
Inadequate research development and extension	Effective research, development and extension linkages	Develop and adopt location specific technologies by year 2016	Strengthen linkages with research institutions	Research Development and Extension Services Program • Technology verification dissemination and adoption • Farm youth exchange program • Scholarship program • Techno-demo/pilot projects

ISSUES	GOAL	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITES
Conversion of highly restricted prime agricultural lands to other land use resulting to low farm productivity for crops, fishery, livestock and poultry	Minimize conversion of prime agricultural lands to other land uses	Adherence to the provision of RA 7160 and RA 8435 or Agricultural and Fishery Modernization Act (AFMA)	• intensify regulation of land conversion • enforcement of CARPs law • enforcement of environmental code • imposition of idle land tax	Enactment of zoning ordinance by the LGUs • preparation and/or updating of CLUPs
Indiscriminate cutting of coconut trees resulting to: • Declining population of coconut trees • Flooding • erosion	Regulate cutting of coconut trees and full implementation of RA 8048 "An act regulating the cutting of coconut trees"	80% compliance to RA 8048 by year 2016	• Systematize cutting of senile trees • planting and replanting of coconut trees to suitable areas • strengthening of Small Coconut Farmers Organization (SCFOs)	Coconut planting and replanting program • Establishment of provincial and municipal coco nurseries • Distribution of seedlings • Training/capability building programs
Slow adoption of new technologies by farmers	Massive adoption of new technologies	Increase adoption of new technologies	• intensify IEC • encourage/motivate adoption of new technologies	Technology and Information Extension, Education Services Program • Trainings • Technology demonstration • School on the air • IEC • Farmers forum / convention / congress / summit / FFS / field day • Home and farm visits
limited marketing assistance	effective marketing support	develop effective marketing channels	• Market matching • Encourage farmers to sell their produce directly to NFA and other government buying stations, coops • Strengthen farmers cooperatives / organizations • Calendar planting (pineapple and vegetable)	Agricultural Marketing Support Program • Establishment of agricultural marketing/livestock center • Farmers bagsakan center • Accredit traders
Low sufficiency level of agricultural products	Adequate supply of agricultural products	Increase production of agri products • Palay • Corn • High value commercial crops (pineapple, vegetable, rootcrops, etc.)	• Development and improvement of irrigation facilities • Provision of quality seeds and planting materials • Provision of upgraded breeds of livestock and poultry • Capability building	Rice Production Enhancement Program Corn Production Program High value commercial crops program Organization of cooperatives / farmers organization / cluster • Irrigation Development Program • Seed Production and Certification • Trainings / FFS / techno demo field day

ISSUES	GOAL	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITES
		• Meat • Poultry products		Livestock and Poultry Dispersal Program Agricultural capability building program
Declining soil fertility	Improve and sustain soil fertility	Increase agricultural production by 10% in year 2016	Promote organic farming system	Production of Organic Fertilizer thru Vermi Composting Project Modified Rapid Composting Soil Testing Analysis
Insufficient farmers' capital	Provision of additional capital	Provide access to credit	• Identify conduit financial institutions • Strengthen farmers cooperative / farmers organizations • Institutionalized agricultural credit support facilities	Cooperative Development Program Institutionalization of Farmers Association Agricultural Production Loan Program Provision of access to credit Intensification of livelihood programs
High cost of farm production	lower the cost of production	Reduce the cost of production	• Promote available and effective technology • Provide available organic fertilizer • Provide subsidy to farmers • Cost reducing technologies	Organic fertilizer processing development program • Establishment and operationalization of organic fertilizer plant Input subsidy • Subsidized rice seed for inbred and hybrid • Subsidized fertilizers
Occurrence of pest and diseases	Reduce pest and diseases incidence	Reduced damage by 50% due to pest and diseases	• Encourage use of appropriate technology • Surveillance and early warning system • Integrated pest management	IPM – Kasakalikasan Program • Farmers field school and techno demos
		To be able to contain / eradicate Brontispa longgisima (Gestro) coconut leaf beetle infested coconut trees	• Awareness of the adverse effect of this invasive coconut pest • Intensify regulatory function on quarantine laws	Brontispa Eradication and Control Program • Treatment of Infested coconut trees thru: ➢ Bio control ▪ Parasitoid ▪ Earwig ▪ Fungus ➢ Mechanical ▪ Pruning ▪ Cut & burn ➢ Chemical ▪ Spraying ▪ Trunk injection ▪ Root absorption
Presence of erosion and flooding areas	Decrease erosion and flooding areas	Decrease flooding area by 30% in 5 years	• Improve forest cover • Improve drainage and waterways	Natural Resource Management Program • Forest plantation development project

d.2.2 Industry and Services

ISSUES	GOAL	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITES
Limited number of establishments in the industry and services sector Lack of private investments / investors. Inadequate economic infrastructure support facilities	To create an environment conducive for business. Improve business climate	• Increase investment • Increase number of establishment	Provide business-friendly laws and regulations. Provide adequate economic infrastructure support facilities Aggressive marketing and promotions of investment areas and tourist attractions Study of investment opportunities Help municipalities to develop and promote their investment and tourism potentials	Enforcement/implementation of the Local Investment Incentives Code in all LGUs. • Establish a One-Stop Business Documentation Center to facilitate business licensing. • Enforcement of fiscal and non-fiscal incentives. Construction and upgrading of existing infrastructure support facilities. • Establish/operate the Provincial Industrial Center and Jose Panganiban Economic Zone Establishment of Provincial Investment and Tourism Promotions and Information Center • Investment promo collaterals such as CDs, brochures, website development, etc. • Conduct Investment Missions and Fora • Participate in national and international level tourism and investment fairs and exhibitions.
Low Productivity Lack of entrepreneurial spirit of the populace	Provide economic and employment opportunities to increase productivity of the populace in order to combat poverty	Reduce unemployment by 15% in 2016	Develop rural-based and resource-based livelihood projects/enterprises.	One Town – One Product (OTOP) • Skills Development Trainings • Enterprise Development Trainings • Product Development • Technology Transfer/Upgrading • Provision of Tools/ Equipment Human Resource Development • Skills Development Trainings • Enterprise Dev't Trainings Provision of Common Service Facilities (CSFs) • Provision of Tools/ Equipment • Technology Transfer and Upgrading

ISSUES	GOAL	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITES
Limited access of small-scale entrepreneurs to financing	Provide access of MSMES to financing	provide financing to MSMES	linkages/referrals to financing institutions	Micro-Finance Program for MSMES • financing forum • technical support program
Weak LGU, NGAs and business sector linkages	Institutionalize government – private sector linkages	Sustain one sectoral organization	Strengthen SMED council	Capability Building / Advocacies
High incidence of poverty as evidenced by low family income Low employment Limited employment opportunities	Reduce the incidence of poverty and increase family income level	Reduce the incidence of poverty by at least 10% Provide employment to at least 10% of the labor force	Development of small-micro-and medium enterprises Skills development and enhancement	Enterprise Development Program / Livelihood Support Program • Training on entrepreneurial and micro-enterprise development • Training for productivity project

d.2.3 Tourism

ISSUES	GOAL	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITES
Low level of private investment leading to inadequacy of standard tourism attractions and facilities Insufficient knowledge of some private owners on how to improve tourism facilities and services	Increase the level of private investment for the development of tourism areas / destinations	Increase the level of private investment for the development of tourism areas / destinations by 25%	Promotion for private investment Access to low interest credit Training programs	Tourism Support Program for Private Investors • Update Tourism Master Plan • Formulation and/or amendments of LGU's investment code / tourism code • Tourism development financing project • Training for private owners and tourism frontliners on tourism standards
Poor marketing of the province as a wholesome tourist destination Negative image of the province as typhoon frequented area Perceived image of the province of having far distance from Manila which is the source of major domestic market	Improve the marketing of the province as a tourist destination	Increase tourist arrivals by 25% by CY 2012	Tourism promotion and marketing tie-ups Information Education Campaign Advocacy	Tourism Promotion Program • Participation to various tourism events and exhibits and tourism mission. • Tri-media promotion / website development • Production and distribution of promotional collaterals • Networking with domestic and international TV programs as well as with Manila based tour operators • Development of support programs such as handicraft development, fine jewelry making and others • Conduct of festivals and provincial tourism events • Review and amendments of existing laws and policies embodied in the Provincial Tourism Code • Bagasbas beach development and promotion of activities like surfing, kite boarding, wake boarding, skim boarding, beach volleyball, etc. • Islands and resorts development
Inadequate tourism infrastructure support facilities	Provide adequate tourism infra-support facilities	Provide appropriate tourism support facilities in the priority tourism areas of the province	Development and construction of infrastructure support in the major tourist destinations of the province	Tourism Infrastructure Development Program • Construction / repair and maintenance of access roads leading to tourism areas • Electrification projects in tourism devt areas • Water supply system project

ISSUES	GOAL	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITES
Absence of full blown Tourism Office	Establish a Provincial Tourism Development Office Coordinate all tourism efforts of the LGUs	Provide / extend tourism services to tourist and visitors of the province	Creation of Provincial Tourism Office	Establishment of Provincial Tourism Office with appropriate staff complements and funding support • Organization / re-organization of the Provincial Municipal Tourism Council

d.2.4 Livestock and Poultry

ISSUES	GOAL	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITES
High prices of inputs (feeds, drugs and biologics) which contributed to high production cost Increase prevalence of pests and diseases	Reduce the cost of production Reduce prevalence of pests and diseases	Reduce the cost of production of livestock and poultry by at least 15% Lessen the prevalence of pests and diseases	Coops and NGOs, POs and LGU partnership Proper health management	Livestock and Poultry Production Support Program • Institutional Development / Cooperative Development • Feeds and Biologics Quality Control Services • Animal Health Services (vaccination, deworming, laboratory services, treatment)
Unstable price of livestock commodities because of excessive middlemen Low bargaining power of the livestock producers Inadequate marketing facilities brought about by low government and private sector's investment Inefficient marketing system coupled with weak market promotions and low access to market information	Improve the marketing system of poultry and livestock	Increase farmers income from livestock and poultry raising by 15% in year 2012	Market linkages and market promotion	Poultry and Livestock Marketing Support Program • Upgrading and establishment of support facilities such as slaughterhouse, auction market, cold storage and processing plants, breeding centers, etc. • Establishment of accurate data banking for effective planning and monitoring of livestock industry
	Improved dairy development	• To support nutrition program • To promote milk production and milk consumption • To upgrade native stock of cattle and carabao through artificial insemination utilizing murrah buffalo and dairy breed of cattle to produce superior stock for draft, meat and milk production • Maintain ▪ 7 dairy cow ▪ 5 Phil Murrah • Produce ▪ 5 calves dairy breed ▪ 3 Phil murrah calves ▪ 2186 liter raw milk ▪ 1424 liter pasteurized milk ▪ 762 liter choco milk ▪ P116,920 sale of milk	• Carabao upgrading through artificial insemination using Phil Murrah frozen semen from Phil Carabao Center and NDA • Pasture development / improvement and maintenance at Basud Provincial Nursery and Livestock Breeding Station at Calasgasan Daet • Practice concentrate feeding, vitamin, mineral supplements for lactating animals • Hire job workers to augment manpower requirement of the program	Dairy Development • Herd management on: ➢ Animal nutrition ➢ Animal health ➢ Breeding practices • Dairy production ➢ Milk collection ➢ Processing, packaging and marketing • Pasture maintenance ➢ Cultivation and development ➢ Fertilization using vermicast ➢ Fencing • Repair and maintenance of facilities (barn, milk parlor, processing plant and others) • Monitoring of project

ISSUES	GOAL	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITES
	Improved sow weaner production	• To produce superior breeds of swine • To promote livestock production • To provide livelihood opportunities for livestock beneficiaries under swine dispersal and swine ruminant fattening breeding loan program • Maintain 5 productive sows • Produce 80 piglets • Dispose / dispensed / SRFBLP – 70 weaners and 10 replacement stock on the project	• Enforce regular culling and selection • Proper swine management on: ➢ Health care ➢ Breeding ➢ Feeding	Sow Weaner Production • Feeding management with balance rations • Strict health management ➢ Vaccination ➢ Deworming • Culling • Selection • Castration • Disposal of weaners through SRFBLP on dispersal program • Sell culls through Provincial Government Employees Multi-Purpose Cooperative and remit proceeds to PTO and/or loan to government employees payable through salary deduction • Regular monitoring of project
	Improved livestock and poultry regulatory services	• To provide veterinary health care and extension services • To eradicate rabies enforcing Provincial Ordinance No. 26-03 and vaccinate 80% dog population mandatory immunization at age 3 months and above • To vaccinate no less than 44,700 heads of farm animals • To deworm no less than 17,500 heads farm animals • To provide technical assistance to 52,000 clients	• To provide veterinary and para-veterinary regulatory services • To provide updated staff development • To maintain animal quarantine at provincial boundaries	Livestock and Poultry Regulatory Services • Veterinary and para-veterinary services • Inspection of outgoing and incoming shipment of livestock in the province • Issuance of veterinary health certificate of animals for shipment • Inspection / accreditation / registration / licensing of: ➢ Feeds establishment / store, veterinary drug store / commercial and semi-commercial farms ➢ Butchers / livestock dealer / handlers / livestock and poultry products processors • Conducts forum, seminars on animal health

ISSUES	GOAL	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITES
	Improved ruminant production and operation and maintenance of livestock breeding station	✓ To maintain ruminant stocks and produce offspring for animal dispersal program, swine ruminant fattening breeding loan program • To maintain stocks of 5 species pasture grasses and produce quality soilage for the farm animals at the station and for dispersal to clients as starter for their pasture development • Livestock production *Sheep* ➢ maintain 4 ewe and 1 ram ➢ produce 2 lambs *Goat* ➢ maintain 2 doe and 1 buck ➢ produce 2 kids *Philippine Murrah Buffalo* ➢ maintain 5 carabao and 1 carabull ➢ produce 5 calves *Beef Cattle* ➢ maintain 13 cows and 1 bull ➢ produce 11 calves *Pasture Dev't* ➢ maintain 5 hectares and 5 species grasses	• provision of improved pasture • practice of supplemental feeding using concentrate feeds • regular health check-up and vaccination, deworming	Ruminant Production and Operation and Maintenance of Livestock Breeding Station at Calagcasan, Daet ✓ Feeding management – use of: • Soilage • Silage • Concentrates ✓ Pasture development ✓ Conduct of Pasture Demonstration Project ✓ Dispose cull and unproductive stocks thru SRFBLP ✓ Repair and maintenance of farm facilities perimeter and paddock fence, animal shed, milk parlor and others. ✓ Monitoring regularly of project ✓ Attend seminars as resource person on livestock production and pasture dev't
	Improved artificial insemination for swine large cattle and small ruminant (goat)	✓ To produce genetically superior breeds of livestock ✓ To avoid spread of sexually transmitted disease in livestock ✓ To impregnate large amount of sows in one ejaculation ✓ Target *Maintain* ➢ 3 AI unit ➢ 9 breeding boars ➢ 2 buck, goat ➢ 4 liquid nitrogen tank *Serve* ➢ 700 swine ➢ 84 cattle ➢ 600 does *Impregnate* ➢ 685 swine ➢ 100 cattle ➢ 480 does *Produce* ➢ 5500 piglets ➢ 100 cattle/carabao ➢ 480 kids	✓ Use of genetically breeders of livestock ✓ Massive information dissemination to encourage more clients to avail of new technology	Artificial Insemination for Swine Large Cattle and Small Ruminant (Goat) • Repair and maintain artificial insemination units facilities • Maintain breeding boars by proper breeding management practices • Feeding management using balanced rations • Strict animal health and sanitation practices • Conduct of health detection • Conduct of pregnancy diagnosis • Conduct of artificial insemination • Purchase of AI paraphernalia, supplies, liquid nitrogen, others • Check motility of boar semen • Regular monitoring of project

d.3 Environment and Natural Resources Development Sector

The Environment and Natural Resources Development Sector ensures that the proper measures to safeguard and conserve land, minerals, forests, marine resources, waste management, etc. are in place.

d.3.1 Urban Ecosystem

Main issues on urban ecosystem cover lack of zoning ordinances in different municipalities, poor drainage and sewerage system and improper waste management. These were addressed by strategies, programs and projects to attain the desired goals and objectives.

d.3.2 Mining

Although the concerns of the province lies solely on small-scale mining operations, issues in general were identified specifically to be able to have a sustainable use of resources to conserve and preserve the environment for the benefit of not only the present but the future generation as well. Several programs and projects were also identified to resolve the issues and reflected in the succeeding pages.

d.3.3 Upland/Forestry

The protection of forestry/upland resources are one of the main concerns of the environmental sector because what happens to the upstream affects the downstream.

In this regard, issues and concerns confronting thrusts have been identified and subsequently addressed by recommended strategies, programs, projects and activities.

d.3.4 Coastal Ecosystem

The main concern of the coastal ecosystem is the protection and conservation of coastal resources for sustainable economic development. Along this line, enforcement of fishery laws will be intensified including information and education campaign as well as advocacy activities. Several programs and projects were likewise recommended to attain the goals of having restored coral reefs, secured territorial waters, minimized coastal erosion and inclusion of budget for coastal resource management.

d.3.5 Lowland Ecosystem

The issue of uncontrolled conversion of agricultural lands to other land uses can be resolved by the formulation and approval of Comprehensive Land use Plans of Municipalities and implementation of approved zoning ordinances.

d.3.6 Disaster Risk Management

One of the priority issues identified is the lack of comprehensive disaster risk management plan. Although in the short term, this will be addressed with the enhancement of the existing disaster preparedness plan, the preparation of a Provincial Disaster Risk Reduction Management Plan and corresponding municipal plans. The Provincial Hazard Profile will serve as input to the Plan.

d.3.1 Urban Ecosystem

I S S U E S	G O A L	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Lack of zoning ordinance in municipalities / laxed implementation of zoning ordinance	Comprehensive municipal zoning ordinance	Formulation and approval of MCLUPs	Compliance to DILG, NEDA, DBM joint memorandum circular	• Formulation of MCLUPs and MDPFP • Field assessment and validation
2. Lack of drainage system	Efficient drainage system	Prevent flooding and clogging	Conformity to engineering standards	• Re-engineering program for defective drainage system
a. SOLID WASTE MANAGEMENT a.1 Absence of areas for disposal of solid wastes in the municipalities causing improper waste disposal	All LGUs in Camarines Norte fully compliant to RA 9003	Establishment of sanitary landfill / controlled dumpsite in every municipality	Compliance to RA 9003 through the League of Municipalities	• Conduct of FS • Fund sourcing
a.2 Non-adoption of re-using, reducing and recycling of wastes in households, establishments and commercial areas		Proper segregation of wastes from households to establishments	Intensified education campaign to all waste producers (households, establishments, etc.)	• Award merit system for compliant communities • Promotion of organic fertilizers thru composting
b. DRAINAGE, SEWAGE AND SEWERAGE				
b.1 Lack of proper drainage and sewerage system	Efficient drainage system	Prevent flooding and clogging	Conformity to engineering standards	• Re-engineering program for defective drainage systems • Imposition of penalties for blocking of waterways
b.2 Blocking of natural water ways causing flood in some areas				

d.3.2 Mining

I S S U E S	G O A L	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Rampant gold panning in mangrove areas / protected areas *(degraded environment, rehabilitation is not assured. Indicate in the map later on… Paracale, Panganiban & Labo)*	Zero gold panning activities within mangrove / protected areas	Prevent gold panning within mangrove and other protected areas	• IEC • Legislative support • Community support	• Strict enforcement of forestry laws / ordinances • Passage/Enactment of local ordinance
2. Unregulated small-scale mining for gold resulting to land over use	Regulated small scale mining for gold	To regulate small scale mining operations for gold in the province	Revision of mining ordinance and updating of small scale mining laws	• Enforcement of mining laws and local ordinances • Formulation of revenue collection scheme for gold ore extraction
3. Non implementation of post mining exploration rehabilitation plan	Restored vegetation within the mined out areas or alternative sustainable land use	Undertake complete rehabilitation of mined areas before exit of mining companies	Due consultation with the affected community on the mine decommissioning plan	Public consultation
4. Uncollected shares of LGUs from payment of excise tax from the national treasury	Utilized revenue from excise tax	40% share from excise tax collected	• Amendatory bill for direct payment of LGU share • Lobbying	Passage of resolution of support for amendatory bill

d.3.3 Disaster Risk Management

I S S U E S	G O A L	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Lack of Disaster Risk Management	Disaster risk management plan in place	Reduction of community exposure to risks	Formulation and adoption of DRMP down to the barangay level	Strengthening of existing disaster preparedness plan
2. Absence of standard evacuation centers	Standard evacuation centers in every community	Construction of standard gender sensitive evacuation centers	• Fund sourcing • Counter-parting	Identification of potential site
3. Lack of equipment /facilities for search and rescue operations	Well-equipped search and rescue operation center	To have a pool of S & R equipment / facilities	Fund sourcing	Inventory and upgrading program of equipment and facilities
4. Lack of institutionalized disaster response system	Institutionalized disaster response system operational	All LGUs	Advocacy	Intensification of Local Ord. 13-96

d.3.4 Upland / Forestry

I S S U E S	G O A L	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Slow judicial process for environmental related violations	Reduction of environmental laws violators	Resolve 75% of cases filed in court within 1 year upon filing	Creation / Assignment of "Green Court"	To pass SP resolution for assignment of "Green Court" in the province
	All protected areas delineated, marked and biodiversity enhanced		Community participation on law enforcement	
2. Lack of actual ground delineation of protected areas	Boundaries of protected areas delineated and markings installed / established	Conduct survey and install physical markers along boundaries	Provision of fund for survey and boundary making	Letter to LEP re-status of boundary delineation of protected areas
3. Illegal cutting of trees	10%increase in forest cover per year	Zero cutting of trees within the protected and forest areas	Intensified patrolling	• Deputation of forest wardens • Establishments of checkpoints • Alternative livelihood
			Heavier penalties for violators through court procedures	
4. Lack of law enforcement personnel	Nationals standards met	• Additional deputized forest wardens (1:500 guard to forest land ratio) • Intensified community involvement	• Deputation of additional forest wardens • Community empowerment • Free legal aide/support to witnesses	• IEC • Training on law enforcement
5. Existence of claims & settlements within the protected areas	Protected areas free of settlers	• No new settlements within the protected areas • Relocation of settlers within the protected areas	Strict enforcement of laws / ordinances	• Sustainable alternative livelihood • Resettlement of all settlers within the PAs
6. Unproclaimed protection areas	Nationally proclaimed protected areas	All areas proclaimed as protected areas	• Lobbying • Legislative support	To pass SP resolution for CN Representative to sponsor a bill for Congressional Act for proclaimed PAs in the province
7. Proclaimed protection areas without congressional act	Nationally proclaimed protected areas	All proclaimed protected areas with corresponding congressional act	Lobbying	
8. Treasure hunting within the protected areas	No treasure hunting activity within the protected area	Totally eliminate treasure hunting within the protected areas	Intensified law enforcement within the protected area	
9. Low budget of LGUs for management & protection of protected areas	Budget prioritization	All LGUs with protection areas allocate funds for PA management and protection	Legislative action	Passage of ordinance / resolution

d.3.5 Coastal

I S S U E S	G O A L	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Continuous degradation of coral reefs due to illegal means of catching fish and other marine products	Restoration of damaged coral reefs	Eradication of illegal fishing within the territorial waters	• Intensified enforcement of fishery laws • IEC	• Coastal resource management program ➢ Intensified patrolling thru the "Bantay Dagat" ➢ Community participation ➢ Radio programs
➢ Laxed patrolling within the territorial waters	Well secured territorial waters	At least 2 patrol boats for every coastal LGU	Fund sourcing	• Legislative support thru ordinance • Re-training program for patrollers and skills enhancement
2. Lack of budget allocation by LGUs for coastal resources management	Budget prioritization of LGUs for CRM	All LGUs with protection areas allocate funds for PA management and protection	Legislative action	Passage of ordinance / resolution
3. Erosion along coasts	Minimized coastal erosion	Establishment of coastal protection structures	Fund sourcing	• Reforestation • Construction of protective structures

d.3.6 Lowland Ecosystem / NPAAS

I S S U E S	G O A L	OBJECTIVES / TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Uncontrolled land conversions in municipalities	No conversion of prime agricultural lands to other uses	Eliminate conversions of prime agricultural lands and protected areas into other uses	Strict enforcement of laws on illegal land conversion	• Formulation and approval of municipal land use plans • Passage of zoning ordinance in the municipalities

d.4 Infrastructure

The development issues and concerns of the infrastructure sector were identified based from the analysis of the planning environment of this sector. These are but not limited to poor condition of existing infrastructures, lack/inadequate infrastructure support facilities, inadequate supply or low percentage of coverage.

Some of the concerns are specific to the sub-sectors which consist of the transportation, communication, power, water and sanitation, irrigation, flood control and drainage, and other infrastructure issues.

Issues and concerns were also identified based on the risk evaluation undertaken and this includes the effect of flooding and rainfall induced landslide to major transport routes and access within the provinces. This will also affect other infrastructure facilities and structures.

With the province's vision as guide, goals, objectives and targets were also identified in response to these development issues and concerns which accordingly served as the bases in the formulation of strategies, programs, projects and activities.

d.4.1 Transportation

Major concerns of the transportation include the poor condition of existing roads, inadequate road network for external linkages and internal circulation in support to the growth and development of urban centers and satellite municipalities of the province.

It is aimed therefore to connect the growth centers to the different satellite municipalities and to other provinces, regional centers and Metro Manila. Aside from this, it is the goal of this sub-sector to lay-out or improve the circulation networks in the province making the activity centers accessible to the satellite barangays, municipalities and the total population.

For water and air transport, major concerns is on the upgrading / rehabilitation / expansion of existing structures and facilities such as the airport, national port and seaports. Thus, it is highly recommended the development and improvement of water and air transport facilities to provide easy access to regions and southeast asian countries.

On the effect of flooding and other risks, there is a need to review the structural design of roads and bridges and development of alternative routes for effective and efficient management system.

d.4.2 Communication

Poor service of existing communication facilities is the concern of the communication sub-sector. Thus, it is proposed to rehabilitate / upgrade / improve existing communication system / facilities and identify

potential ones in order to provide an efficient and effective communication service and facilities in the province.

d.4.3 Power

The energization of all barangays and far-flung sitios in the province is the goal of this sub-sector through the development of alternative source of energy such as hydro geothermal, solar, wind and wave energy and lobbying to LGUs for possible development assistance funds.

d.4.4 Water and Sanitation

This sub-sector is primarily concerned with the inadequacy of water supply and low percentage coverage of households with sanitation facilities. It is therefore the goal of the water and sanitation sub-sector to increase coverage of population served by Levels I, II and III water supply and increasing also water available for distribution.

The percentage of households with sanitary toilets shall be increased through the provisions / construction of sanitary toilets and conduct of massive advocacy / information dissemination.

d.4.5 Irrigation

The goal of this sub-sector is to provide additional and adequate irrigation facilities to increase rice production and attain fund sufficiency by rehabilitating and restoring 2,000 hectares of irrigation system.

This is in response to the identified problem on damaged / dilapidated and inadequate / absence of irrigation facilities.

d.4.6 Flood Control and Drainage

For this sub-sector, problem is the lack of / insufficient drainage system and flood control facilities, thus, it is targeted to develop, construct and rehabilitate sufficient and effective flood and drainage system and facilities wherein there is a need to develop a master plan of drainage system for each municipality as base map in programming and implementing drainage system projects.

d.4.7 Other Infrastructure Issues

There are also other infrastructure issues identified such as the lack of municipal and barangay infrastructure plan and the absence of Municipal Comprehensive Land Use Plan (MCLUPs).

For these concerns, it is targeted for the municipalities and barangays to formulate / adopt their respective Infrastructure Plan and MCLUPs.

d.4.1 Transportation

ISSUES	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Poor condition of existing roads / inadequate road network for external linkages and support to the growth and development of urban centers and municipalities of the province.	• Connect the growth centers to the different satellite municipalities and to other provinces, regional centers and Metro Manila	• Construct 120 km. of new roads for easy access and transport of people and products within the province and other provinces. • Improve / upgrade 1,020 km. of existing roads	• Improvement / construction and rehabilitation of road network • Development of infrastructure support facilities • Increase accessibility by constructing new roads for external linkages	1. Construction of new roads to connect the four (4) growth centers to the different satellite municipalities. • San Lorenzo, Sta. Elena – Villa Belen San Antonio–Mabini–Calabaca–Itok, Capalonga Road • Bagong Silang, Labo – Larap – San Isidro – San Pedro, Jose Pang Road • Bagong Silang – Exciban – Dumagmang – Pag-asa – Baay – Tulay na Lupa Road • Pulangdaga – Gumaus – Luklukan Sur – Osmena Road 2. Construction of San Vicente – San Lorenzo Ruiz Road; San Lorenzo Ruiz – Basud Road 3. Construction of Tulay na Lupa – Mabilo – San Antonio – Calabagas – Cabanbanan Road 4. Construction of coastal road from Contod – Napilihan - Calangcawan Norte, Vinzons – Del Carmen – San Jose, Talisay – Bagasbas, Daet – Mercedes coastal areas 5. Construction of coastal road of Mercedes, Camarines Norte to the adjacent coastal municipalities of Camarines Sur 6. Improvement and upgrading of existing roads connecting growth centers and satellite municipalities: • Labo–Tulay na Lupa rd. • Talisay – San Jose Road • Labo – Vinzons – Talisay (Daang Maharlika Section) • Bagong Silang – Capalonga Road
2. Lack of / inadequate internal linkages / inter municipal roads to equalize access between municipalities	• Lay-out / improve the circulation networks in the province making the activity centers accessible to the satellite barangays / municipalities and the total population	• Construct 180 km of roads that will connect one municipality to the other to shorten travel time between the different satellite municipalities and barangays • Improve / upgrade existing roads connecting growth centers and satellite municipalities	• Improvement / construction and rehabilitation of municipal road network • Development of infrastructure support facilities • Increase internal accessibility by constructing new roads	

ISSUES	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
3. Water and Air Transport • Jose Panganiban national Port for upgrading / rehabilitation • Majority of 11 municipal fishing ports are either dilapidated or damaged • Unoperational airport which require expansion / upgrading	• Develop / improve water and air transport to provide easy access to regions and countries such as Taiwan, Japan and Korea	• Improve / upgrade / expand airports and seaports for fast and easy access of people and products to other provinces, regions and Metro Manila	• Improvement / upgrading / expansion of ports and seaports	1. Upgrading / rehabilitation of Jose Panganiban National port 2. Improvement / rehabilitation of 11 municipal fishing ports 3. Improvement / upgrading / expansion of Daet airport and Larap airport 4. Develop of sea transport (RORO/fast jet) • Jose Panganiban – Catanduanes – Camarines Sur • Jose Panganiban – Quezon, Aurora, Isabela, Cagayan, Western Visayas • Jose Panganiban – Korea / Japan / Taiwan

d.4.2 Communication

ISSUES	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Poor service of existing communication facilities	Provide an efficient and effective communication service and facilities	Develop / improve / upgrade existing communication facilities • Telephones • Cell sites • Broadband for internet access • Radio facilities	• Rehabilitation, improvement and upgrading of existing communication system and facilities • Identify potential and improvement of existing telecommunication facilities	• Rehabilitation / upgrading / improvement of existing ➢ Telephone system ➢ Radio facilities ➢ Cell sites ➢ Broadband for internet access

d.4.3 Power

ISSUES	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Insufficient funds to energize far flung barangays and sitios	Energization of all barangays and far flung sitios in the province.	• All barangays and far flung sitios energized by 2012 • Increased to 95% of household energized by 2012	• Tap and develop alternative sources of energy to unenergized barangays such as hydro, geothermal, solar, wind and wave energy • Lobby to LGUs for development assistance funds	• Construction of 5 MVA substation and 69 KV transmission lines in Larap • Construction of 5 MVA substation and 69 KV transmission lines in Bagong Silang ,Labo • Development of potential alternative sources of energy such as hydro power generation from Colasi Falls in Mercedes and Busigon River in Labo • Development of solar and wave energy in coastal areas, island barangays and other feasible areas in the province • Development of wind turbine power in the coastal municipalities

d.4.4 Water and Sanitation

ISSUES	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Low percentage coverage of population served by Level III water supply facilities and inadequate Level I and II water facilities	Increase coverage of population served by Level III, II and I water supply	Increase to 94% of population served by 2015	• Expansion / extension / construction / installation of Level III, II and I water facilities • Advocacy / information dissemination	• Water and Sanitation Program 1. Expansion / extension of existing Level II water system 2. Identification / establishment of Level III water system in the municipality of Capalonga 3. Improvement / rehabilitation of Level I and II water supply facilities provincewide 4. Repair / rehabilitation of existing Level I and Level II water supply facilities 5. Provision and construction of sanitary toilet facilities 6. Strengthening of BWSA
2. Inadequate water supply	Increase water available for distribution	Meet the increasing water demand	• Maintenance and rehabilitation of watershed areas • Development of surface water as alternative water source to traditional underground sources • Rehabilitation of existing dilapidated transmission, distribution and service lines	
3. Low percentage of households with sanitation facilities	Increase percentage of households with sanitary toilets	Increase to 91% of households with sanitary toilets by 2015	• Provision / construction of sanitary toilets • Advocacy / information dissemination	

d.4.5 Irrigation

ISSUES	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Damaged / dilapidated of existing irrigation facilities 2. Inadequate / absence of new irrigation facilities	Provide additional and adequate irrigation facilities to increase rice production and attain food sufficiency	Rehabilitate and restore 2,000 hectares of irrigation system	• Conduct physical inventory and evaluation of existing irrigation systems • Construct additional irrigation facilities and improve existing irrigation system	3. Expansion of irrigated areas in the province 4. Rehabilitation / maintenance of existing systems 5. Construction of new communal irrigation system in the province 6. Construction of small water impounding projects in the province

d.4.6 Flood Control and Drainage

ISSUES	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Lack of / insufficient drainage system and flood control facilities	Provide sufficient drainage system and flood control facilities	Develop / construct / rehabilitate flood control system facilities	• Feasibility studies • Development plan / master plan of drainage system of each municipality as base map in programming, and implementing drainage system projects	• Construction / improvement of drainage system in all municipalities • Repair / rehabilitation of existing drainage system in all municipalities • Improvement / rehabilitation of existing flood control in all municipalities • Improvement / rehabilitation of existing seawalls in the different municipalities

d.4.7 Other Infrastructure Issues

ISSUES	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
1. Lack of municipal and barangay infrastructure data	Preparation of municipal / barangay infrastructure data	Complete and updated barangay / municipal infrastructure data	• Advocacy meeting, consultations with the MPDCs / MEs • Provision of technical assistance	• Conduct of orientation and consultation meetings with the MPDCs / MEs • Provision of technical assistance to barangays / municipalities
2. Absence of Municipal Comprehensive Land Use Plan	Adoption of Municipal Comprehensive Land use Plan	All municipalities formulate and adopt their MCLUPs	• Conduct consultation and facilitation meetings • Provision of technical assistance	• Review of MCLUPs • Provision of technical assistance to LGUs

d.5 Institutional Development Sector

The institutional development sector coordinates, integrates and supports other sectors through various mechanisms and agreement.

The official concern of this sector is to see that the local officials and bureaucracy are properly tooled-up and firmed-up to manage local growth and change.

d.5.1 Planning

The main concerns of the development planning include inadequate and conflicting data of some operating units resulting to poor diagnosis of issues and concerns. Although the issue on numerous plans has been resolved, there are complete absence of mandated plans at the lower LGU levels such as Comprehensive Land Use Plans, Solid Waste Management Plan, etc. which resulted to poor impositions of restrictions, policies, and other significant processes pivotal to the economic development of the province as a whole. Because planning is least among the priorities of municipalities, there is a need to institutionalize the rationalize planning system between and among LGUs and NGAs for proper coordination and linkages and convergence of some resources.

d.5.2 Administration/Organization and Management

This covers human resource development, organizational structure of an operating unit primary aim of which is to build a professional culture that will promote competency and efficiency, cooperation, interaction and socialization among the members of an organization.

The provincial government in this regard has identified several strategies, programs and projects that would be beneficial to the attainment of the identified objectives.

d.5.3 Governance/Legislation

This area deals with effective legislations and executive agenda, presence of relevant ordinances or resolutions in support to social and economic development including environmental management, participation of civil society or private organization in development processes and transparency among others.

Along this line, issues and concerns have been identified and have been addressed by several strategies with identified programs/projects/activities.

d.5.4 Fiscal Management

With regards to the fiscal management, the province is eighty five (85) percent dependent in the Internal Revenue Allotment thereby having sufficient local funds to implement programs/projects/activities identified in the local development plan.

Collection efficiency is not maximized due to absence of a comprehensive revenue generation plan and other issues were identified along other areas. Anent to these several strategies were identified to address these concerns with corresponding programs / projects / activities.

d.5.1 Planning

I S S U E S	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
Inadequate and sometimes conflicting data of some National Government Agencies and Local Government Units result to poor diagnosis of issues and concerns essential to comprehensive planning	To be able to formulate quality comprehensive development plan	To enhance the capability of the planning body and equip them with reliable and updated data as basis for development programming	• Regular update of data and submission of report • Computerization of data and installation of more advance program/system like GIS, etc. • Appropriate fund for research particularly at the municipal and provincial level in PDC meetings • Adopt motivational schemes to encourage active participation of Mayors	• Computerization of system installation • Continuing research activities • Awards and incentives
Provincial planning is least among the priorities of municipalities	To institutionalize rationalized planning system between and among LGUs in the province	To be able to strengthen coordinative mechanism among LGUs in development planning	• Install planning strategy that will ensure bottoms-up planning • The need for new planning guidelines from NEDA and DILG is also in order to properly coordinate and consolidate various sectoral plans into one comprehensive development plan with the PPFP as the basis	• Policy / guidelines implementation • Adoption of the Rationalized Planning and Budgeting System
Numerous sectoral plans required from LGUs result to uncoordinated plans of the various Local Special Bodies with the Provincial Development Plan	To be able to institutionalize complementary and coordinative mechanism between and among the various local special bodies	• To be able to have an integrated single Comprehensive Development Plan for Camarines Norte • To integrate municipal plan into provincial plan	• Intervention of some government agencies in clarifying some grey areas in the Local Government Code, particularly the relationship of the local special bodies to the Local Development Council • Install coordination mechanism between and among the LGU and various planning bodies for a complementary and comprehensive provincial plan • Other local special bodies should also observe the planning calendar • The PDC should also direct the municipalities to submit their development plans for synergy and optimal allocation of resource	• Policy guidelines implementation • Operational Plan Review • Consultative meetings, conferences, workshops, etc. • People's Assembly Orgnization

I S S U E S	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
			• Review operational plan procedure in planning • Strengthen committee reporting system in the Sanggunian • Conduct continuing consultative meetings with active non-governmental organizations operating in the province • Organize People's Assembly • Strengthen the LDC • Continous monitoring and coordinating efforts (bottoms up) • Technical assistance	
Absence of updated and approved CLUP of municipalities • Zoning ordinance of LGUs is not based on CLUP	To be able to formulate, approve and implement all mandated / required development and sectoral plans	• To have updated and approved CLUP of the municipalities • To have duly enacted zoning ordinance	• Top the League of Local Planners and League of Municipalities to synchronize action for completion. • Provision for technical assistance from the PLUC and SP • Close monitoring of concerned agencies	• CLUP formulation
Absence of shelter plan in the municipalities		To formulate shelter plan	• Organize and make functional local housing board • Top technical assistance from concerned agencies	• Shelter plan formulation
Absence of Solid Waste Management Plan (Provincial and Municipal)		To formulate Solid Waste Management Plan	• Organize and make functional solid waste management board • Tap technical assistance from concerned agencies • Study possible inter government partnership in the establishment of sanitary landfill	• Solid Waste Management Plan Formulation
Child Rights not fully mainstreamed in Local Development Plan in some LGUs		To mainstream child rights in Local Development Plan	• Activate LCPCs • Institutionalize special bodies' coordinative planning mechanism • Adopt the updated child rights and welfare code	• Meetings, conferences, workshops, etc.
Imposition of restrictions by NGAs to LGUs development programs and funds		(For consultation with Local Finance Committee)		

d.5.2 Administration/Organization and Management

I S S U E S	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS ACTIVITIES
Human Resource Development Plan not fully implemented Contents of HRD Plan not properly disseminated to employees	To be able to build a professional culture that is not only centered to promote competency and efficiency but also harmony, maximum cooperation, interaction and socialization among employees	To fully implement the HRD plan	• Operationalization of Human Resource Development Plan • Full assistance / support of Chief of Offices in regard to its dissemination and implementation • Conduct personnel audit • Appropriate funding support for HRM plan implementation • Provide for a generating consensus among Executive Office and provincial government personnel promoting better understanding of inter-government relation • Short term training courses to be prepared by each department for their personnel growth • Training courses conducted by CSC, COA, DBM & other accredited line agencies should be availed of concerned personnel. • Scholarship sponsored by SCS such as Bachelor's Degree Completion and Master's Degree Program with availment guidelines • Each Department Head particularly those undertaking construction projects must keep and maintain his workplace free from work hazards. • Focus on rewarding exemplary performance and provide awareness for remedial action of underperforming employees when necessary.	**Provision of Career Development Opportunities such as:** a. Short term training courses b. Training courses conducted by CSC, COA, DBM & other accredited line agencies c. Scholarship **Health and Medical / Dental Services** a. Annual medical check-up with basic laboratory work-up to all provincial government regular employees b. Availment of first aid medicines c. Medical and rehabilitation services in case of job-related injury d. Provision for safety and accident prevention measures e. Awards and incentive program
Employees Union only limited to health personnel		To have an active employees association	• Consultative meetings among officials and employees • Drafting and approval of the constitution and by-laws	• Trainings, meetings and conferences

I S S U E S	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS ACTIVITIES
Non creation of Agricultural Engineering Division (Special issue on Agricultural Engineering Act)	To have an Agricultural Office in tune with the demands of agricultural sector needs	To create Agricultural Engineering Division	• Review existing organizational structure of the Agricultural Office • Assess viability of creating the division based on agricultural engineering needs of the province • Assess feasibility as far as financial capability of the province is concerned	• Personnel audit and financial assessment
Devolved function to municipalities and barangays assumed by the province		To prioritize devolved provincial functions and services.	• Review section 17 of Local Government Code • Proper planning and budgeting guidelines	• Consultation meetings

d.5.3 Governance / Legislation

I S S U E S	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS ACTIVITIES
Absence of electronic Legislative Tracking System	To be able to have development oriented legislative body and system	• To be able to track the performance of legislators and legislation • To avoid duplication of local ordinances • Easy access to information	• Provision of funds • Coordination with concerned offices and service providers to access the system	• Installation of LTS Program
Ineffective/Non- implementation of some approved resolutions / ordinances	For the constituents to receive the maximum benefits from the effective implementation of the approved resolutions / ordinances	• To ensure implementation of approved resolution and ordinances • To strengthen the monitoring system of the Sanggunian	• Exercise the oversight function of the Sanggunian (monitoring) • Check and monitor the implementation by the executive and concerned department • Media and civil society support in information dissemination and monitoring of programs and projects	• Monitoring and evaluation system (LTS and others) • Active Project Monitoring Team and People's Assembly
Laxity in the implementation of provincial ordinances regulating small mining operation (gold) Mining Act provision with loopholes based on current mining practices in the province	To be able to install mechanism to sustain mining wealth of the province	To be able to adopt provincial ordinances on sustainable mining	• Review of existing approved ordinances and resolution • Conduct study on current mining practices and propose / recommend policies	• Inventory of ordinances • Legislative research • Proper job description of Legislative Researches • Capability building
Absence of Executive Legislative Agenda (inactive participation and incapability of committee members and lack of appropriate mechanism)	To institutionalize / strengthen executive and legislative relations for democratic and transparent governance	• To have effective Executive and Legislative Agenda responsive to the needs of the constituents • To enhance capability of local officials in local governance •	• Consultation with constituents on the basic needs • Prioritization of the needs • Formulate Executive Agenda • Formulate Legislative Agenda • Training needs assessment	• ELA • Capability building programs
Lack of proper coordination between LGUs and NGAs in the implementation of fishery laws, solid waste management and others	To strengthen NGAs and LGU relations in implementing laws and ordinances	To harmonize local ordinances with national laws	Coordination with concerned NGAs	Monitoring of local laws implementation

I S S U E S	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS ACTIVITIES
Inactive / Absence of Housing Board and other Local Special Bodies in the municipality Inactive Solid Waste Management Board, Health Board and other Local Special Bodies	To institutionalize / strengthen participation of LSBs in local governance	Reactive / reorganize Housing Board and other Local Special Bodies in the province and municipalities	Encourage LCEs	Monitor organization and functionality
Lack of consultation with concerned / affected sector prior to legislation (legislators and public)	To establish open and participatory legislative practices and system.	Encourage community participation	• On-site consultation • Joint / simultaneous with municipal caravans / barangay visitation	Regular consultation
Non functional facilities, structure, office set-up of Sangguniang Panlalawigan Unfunded mandates from NGAs	To be able to establish effective, functional and efficient Sanggunian Office	To have functional facilities, structure, office set-up of Sangguniang Panlalawigan	Legislative building	Construction of legislative building
Lack of monitoring and evaluation system to assess impact of economic and social services	To institutionalize / monitoring and evaluation system in program implementation	To install monitoring and evaluation system in all programs	Monitoring and evaluation scheme should always be part of every program / project proposal	Monitoring and evaluation system

d.5.4 Fiscal Management

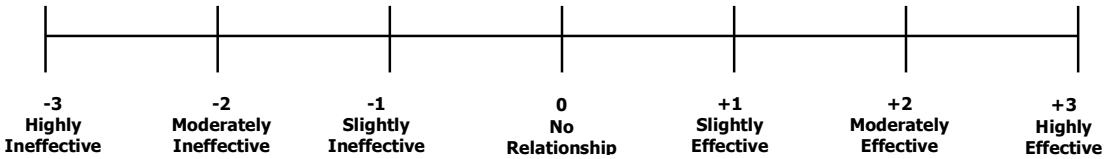
I S S U E S	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
The province is 85% dependent on the Internal Revenue Allotment (IRA)	To strengthen the local financial capability of the province	• To be able to increase local revenue collection by 10% yearly • To be able to provide investment friendly climate to investors.	• Intensive collection campaign of all provincial impositions such as house to house collections and personal follow-ups • Conduct field collection by municipality • Create a conducive climate for new investment	• Massive revenue collection campaign • Install Computer-Based Financial Management System • Adoption of Investment Incentive Codes for the province and the municipalities.
Insufficient local fund to implement PPAs identified in the Local Development Plan	• To be able to implement all identified development programs in the CDP	• To be able to tap alternative sources of funds for development projects	• Explore on the wide range of developmental partnership initiatives with legitimate business investors within and outside of the province • Tapping available and accessible ODAs • Inter-government Partnership	• Partnership with private sectors • Access ODAs
Low budget for social spending (budget for social services)	• To be able to implement all identified development programs in the CDP	• To be able to increase appropriation for social services	• Enhance management of existing economic enterprises (hospital, bagasbas tourist inn, sports facilities, sports center, etc.)	• Partnership with other LGUs
Collection efficiency not maximized (limited number of collectors)	To enhance collection performance efficiency through effective and systematic collection strategies	To attain high level of employee work performance and satisfaction	• Regular update on personnel skills through trainings / seminars • Reward for the top grossing revenue collectors for more efficient performance • Reassign permanent employees / collectors to avoid familiarizations with the tax payers for internal control purposes. • Procure vehicle for exclusive use of PTO/Revenue Collectors for easy mobility and better interface with the tax payers. • Put up checkpoints and organize task force compose of PTO, LTO, PNP and EERMD at Tabugon, Sta. Elena, Mercedes, and Basud, CN	• Capability building programs • Provision for mobility (vehicles) • Awards and incentives • Personnel assessment and audit • Task Force organization Checkpoints establishment

I S S U E S	GOAL	OBJECTIVES/ TARGETS	STRATEGIES	PROGRAMS / PROJECTS / ACTIVITIES
Failure of the province to facilitate the transfer of the Real Property Tax Assessment & Collection records of nine (9) barangays recovered by the province of Camarines Norte from the province of Quezon .	To cause the expeditious and smooth transfer of the RPT records to the province.	To transfer all the Real Property Tax Collection and Assessment Records on the basis of the Notice of Judgment issued by the Supreme Court.	• Organize task force composed of LCE (Governor & Mayor), A member of SP & SB, Legal Officer, Provincial and Municipal Assessor & Treasurer who will be responsible in the coordination preparatory to the transfer of RPT records from Quezon to this province. • Organize a team from the Provincial Assessor and Provincial Treasurer's Office that will be responsible in the determination, inventory of the RPT records to be transferred to the province. • Validation of records retrieved through tax mapping • Encoding & issuance of new and revised tax declaration based on the output of the field operation conducted. • Assessment of tax payments to bill the taxes due the province of Camarines Norte	The project shall be divided into three (3) activities: 1. Real Property Tax Records retrieval or reproduction. 2. Physical inventory of the real properties as tie up to the RPT records (Tax Mapping Operation). 3. Revision of the tax declarations based on the prevailing Schedule of Fair Market Values of the province. 4. RPT payments ledger / records retrieval or reproduction
Most of the LGU properties have no title	To be able to identify and assess LGU real properties	To cause immediate titling of LGU properties	• Conduct of survey and apply for approval • Allocate funds	• Property titling
Absence of electronic accounting system	To be able to have efficient and effective accounting system in place	To have electronic accounting system	Budget provision to procure the system	Procurement of electronic accounting system

ANNEXES

Annex 1

THE 7-POINT SCALE FOR RATING



FOCUS QUESTION for the GAM:
"How effective is the alternative strategy in achieving the vision for the province"

Note: The focus question can take on several variations, according to the elements, i.e.,

- "how effective is the alternative strategy in achieving richly endowed natural environment?"
- "how effective is the alternative strategy in achieving well-planned infrastructures?"
- "how effective is the alternative strategy in achieving vibrant economy?"
- "how effective is the alternative strategy in achieving an empowered citizenry?"
- "how effective is the alternative strategy in achieving transparent and accountable leadership?"
- " how effective is the alternative strategy in making Camarines Norte a vital link between Southern Tagalog and Bicol

Annex 2

Preferred Alternative Strategies Workshop

Goal Achievement Matrix

Social Sector: **Business Sector**

GOALS/ CRITERIA	WEIGHT	Do Nothing	Core Metro	Bi-Polar	Multiple Centers
1. Natural Environment					
Richly Endowed	15	-3	2	3	-2
		-0.45	0.30	0.45	-0.30
2. Built Environment					
Well-planned	20	-3	1	2	3
		-0.60	0.20	0.40	0.60
3. Local Economy					
Vibrant	20	-3	2	2	3
		-0.60	0.40	0.40	0.60
4. People as Society					
Empowered citizenry	15	-3	2	2	3
		-0.45	0.30	0.30	0.45
5. Local Leadership					
Transparent and Accountable	25	-3	1	1	3
		-0.75	0.25	0.25	0.75
6. Role of Camarines Norte					
Vital Link	5	-3	2	2	3
		-0.15	0.10	0.10	0.15
TOTAL	100	-3.00	1.55	1.90	2.25
RANK		4	3	2	1

Annex 3

Preferred Alternative Strategies Workshop

Goal Achievement Matrix

Social Sector: **Youth**

GOALS/ CRITERIA	WEIGHT	Do Nothing	Core Metro	Bi-Polar	Multiple Centers
1. Natural Environment					
Richly Endowed	20	-1	1	-1	1
		-0.20	0.20	-0.20	0.20
2. Built Environment					
Well-planned	15	-2	1	2	3
		-0.30	0.15	0.30	0.45
3. Local Economy					
Vibrant	15	-1	2	1	3
		-0.15	0.30	0.15	0.45
4. People as Society					
Empowered citizenry	25	1	2	2	2
		0.25	0.50	0.50	0.50
5. Local Leadership					
Transparent and Accountable	20	1	2	2	2
		0.20	0.40	0.40	0.40
6. Role of Camarines Norte					
Vital Link	5	0	1	3	3
		0.00	0.05	0.15	0.15
TOTAL	100	-0.20	1.60	1.30	2.15
RANK		4	2	3	1

Annex 4

Preferred Alternative Strategies Workshop

Goal Achievement Matrix

Social Sector: **Non-Government Organizations**

GOALS/ CRITERIA	WEIGHT	Do Nothing	Core Metro	Bi-Polar	Multiple Centers
1. Natural Environment					
Richly Endowed	30	-2	1	2	2
		-0.60	0.30	0.60	0.60
2. Built Environment					
Well-planned	10	-3	2	2	3
		-0.30	0.20	0.20	0.30
3. Local Economy					
Vibrant	20	-2	3	2	3
		-0.40	0.60	0.40	0.60
4. People as Society					
Empowered citizenry	20	1	3	2	3
		0.20	0.60	0.40	0.60
5. Local Leadership					
Transparent and Accountable	10	-1	2	2	3
		-0.10	0.20	0.20	0.30
6. Role of Camarines Norte					
Vital Link	10	2	2	3	3
		0.20	0.20	0.30	0.30
TOTAL	100	-1.00	2.10	2.10	2.70
RANK		4	2.5	2.5	1

Annex 5

Preferred Alternative Strategies Workshop

Goal Achievement Matrix

Social Sector: **Academe**

GOALS/ CRITERIA	WEIGHT	Do Nothing	Core Metro	Bi-Polar	Multiple Centers
1. Natural Environment					
Richly Endowed	50	-3	1	-1	2
		-1.50	0.50	-0.50	1.00
2. Built Environment					
Well-planned	9	-3	2	1	2
		-0.27	0.18	0.09	0.18
3. Local Economy					
Vibrant	7	-3	1	2	2
		-0.21	0.07	0.14	0.14
4. People as Society					
Empowered citizenry	9	1	1	2	2
		0.09	0.09	0.18	0.18
5. Local Leadership					
Transparent and Accountable	10	-3	1	1	2
		-0.30	0.10	0.10	0.20
6. Role of Camarines Norte					
Vital Link	15	-3	1	2	3
		-0.45	0.15	0.30	0.45
TOTAL	100	-2.64	1.09	0.31	2.15
RANK		4	2	3	1

Annex 6

Preferred Alternative Strategies Workshop

Goal Achievement Matrix

Social Sector: **Municipal Planning and Development Coordinators**

GOALS/ CRITERIA	WEIGHT	Do Nothing	Core Metro	Bi-Polar	Multiple Centers
1. Natural Environment					
Richly Endowed	25	2	1	-1	-2
		0.50	0.25	-0.25	-0.50
2. Built Environment					
Well-planned	20	-3	1	2	3
		-0.60	0.20	0.40	0.60
3. Local Economy					
Vibrant	15	1	2	1	3
		0.15	0.30	0.15	0.45
4. People as Society					
Empowered citizenry	15	-1	1	1	2
		-0.15	0.15	0.15	0.30
5. Local Leadership					
Transparent and Accountable	15	1	1	1	1
		0.15	0.15	0.15	0.15
6. Role of Camarines Norte					
Vital Link	10	-3	-2	2	3
		-0.30	-0.20	0.20	0.30
TOTAL	100	-0.25	0.85	0.80	1.30
RANK		4	2	3	1

Annex 7

Preferred Alternative Strategies Workshop

Goal Achievement Matrix

Social Sector: **Farmers and Fisherfolks**

GOALS/ CRITERIA	WEIGHT	Do Nothing	Core Metro	Bi-Polar	Multiple Centers
1. Natural Environment					
Richly Endowed	20	-2	2	3	3
		-0.40	0.40	0.60	0.60
2. Built Environment					
Well-planned	20	-1	2	3	3
		-0.20	0.40	0.60	0.60
3. Local Economy					
Vibrant	25	-2	2	2	3
		-0.50	0.50	0.50	0.75
4. People as Society					
Empowered citizenry	10	-3	1	2	3
		-0.30	0.10	0.20	0.30
5. Local Leadership					
Transparent and Accountable	15	-3	2	3	2
		-0.45	0.30	0.45	0.30
6. Role of Camarines Norte					
Vital Link	10	-2	1	3	3
		-0.20	0.10	0.30	0.30
TOTAL	100	-2.05	1.80	2.65	2.85
RANK		4	3	2	1

Annex 8

Preferred Alternative Strategies Workshop

Goal Achievement Matrix

Social Sector: **NGAs and Other Government Offices**

GOALS/ CRITERIA	WEIGHT	Do Nothing	Core Metro	Bi-Polar	Multiple Centers
1. Natural Environment					
Richly Endowed	20	1	1	1	2
		0.20	0.20	0.20	0.40
2. Built Environment					
Well-planned	10	-3	1	1	2
		-0.30	0.10	0.10	0.20
3. Local Economy					
Vibrant	30	-3	1	2	2
		-0.90	0.30	0.60	0.60
4. People as Society					
Empowered citizenry	20	1	1	2	2
		0.20	0.20	0.40	0.40
5. Local Leadership					
Transparent and Accountable	15	1	1	1	2
		0.15	0.15	0.15	0.30
6. Role of Camarines Norte					
Vital Link	5	-1	1	1	3
		-0.05	0.05	0.05	0.15
TOTAL	100	-0.70	1.00	1.50	2.05
RANK		4	3	2	1

Annex 9

SUMMARY RESULTS OF THE GAM

	Business	NGOs	Farmers & Fisherfolks	Academe	Gov't Agencies	Youth	MPDCs	TOTAL	RANK
Do Nothing	-3	-1	-2.05	-2.64	-0.7	-0.2	-0.25	-9.84	**4**
Core Metro	1.55	2.1	1.8	1.09	1	1.6	0.85	9.99	**3**
Bi-Polar	1.9	2.1	2.65	0.31	1.5	1.3	0.8	10.56	**2**
Multiple Centers	2.25	2.7	2.85	2.15	2.05	2.15	1.3	15.45	**1**

Annex 10

PROJECTED RICE SUFFICIENCY LEVEL
Province of Camarines Norte

Municipality	Consumption Requirement (m.t.)			Net Rice Production (m.t.)		
	2013	2023	2033	2013	2023	2033
Basud	5,094.16	6,143.46	7,192.77	5,375.86	9,124.95	12,675.48
Capalonga	3,794.44	4,456.44	5,118.67	4,089.85	9,165.69	13,628.16
Daet	12,083.73	14,555.08	17,012.98	6,476.88	8,325.23	9,987.35
J. Panganiban	7,508.24	9,592.17	11,533.89	3,298.89	5,841.90	11,310.76
Labo	12,311.78	14,856.77	17,401.87	14,396.52	24,663.45	33,743.69
Mercedes	5,920.39	6,729.79	7,539.19	1,379.96	1,617.02	3,480.98
Paracale	5,784.51	6,535.63	7,286.74	2,604.48	4,327.17	5,704.05
Sn Lorenzo Ruiz	1,864.69	2,344.84	2,825.11	534.46	1,087.47	1,888.94
San Vicente	1,512.17	1,955.16	2,398.15	485.04	721.36	936.94
Sta. Elena	8,240.38	11,700.04	15,160.04	4,181.79	7,717.56	11,854.05
Talisay	3,675.05	4,753.73	5,832.63	6,283.66	7,904.20	9,573.88
Vinzons	5,772.76	6,806.48	7,953.60	9,976.29	11,238.71	12,520.09
TNL	1,465.07	1,908.06	2,351.05			
Bagong Silang	1,458.86	1,901.85	2,344.84			
TOTAL	**76,486.23**	**94,239.50**	**111,951.53**	**59,083.68**	**91,734.71**	**127,304.37**

Municipality	Surplus/Deficit (m.t.)			Sufficiency Ratio %		
	2013	2023	2033	2013	2023	2033
Basud	281.70	2,981.49	5,482.71	105.53	148.53	176.23
Capalonga	295.41	4,709.25	8,509.49	107.79	205.67	266.24
Daet	(5,606.85)	(6,229.85)	(7,025.63)	53.60	57.20	58.70
J. Panganiban	(4,209.35)	(3,750.27)	(223.13)	43.94	60.90	98.07
Labo	2,084.74	9,806.68	16,341.82	116.93	166.01	193.91
Mercedes	(4,540.43)	(5,112.77)	(4,058.21)	23.31	24.03	46.17
Paracale	(3,180.03)	(2,208.46)	(1,582.69)	45.03	66.21	78.28
Sn Lorenzo Ruiz	(1,330.23)	(1,257.37)	(936.17)	28.66	46.38	66.86
San Vicente	(1,027.13)	(1,233.80)	(1,461.21)	32.08	36.90	39.07
Sta. Elena	(4,058.59)	(3,982.48)	(3,305.99)	50.75	65.96	78.19
Talisay	2,608.61	3,150.47	3,741.25	170.98	166.27	164.14
Vinzons	4,203.53	4,432.23	4,566.49	172.82	165.12	157.41
TNL						
Bagong Silang						
TOTAL	**(17,402.55)**	**(2,504.79)**	**15,352.84**	**77.25**	**97.34**	**113.71**

Annex 11

PROJECTED FISH SUFFICIENCY LEVEL: CY 2013, 2023, 2033

Province of Camarines Norte

MUNICIPALITY	Consumption Requirement (m.t.)			Net Rice Production (m.t.)		
	2013	2023	2033	2013	2023	2033
Basud	1,623.64	1,958.08	2,292.52	207.80	282.37	502.75
Capalonga	1,209.38	1,420.38	1,631.45	1,795.45	2,653.05	3,924.48
Daet	3,851.39	4,639.07	5,422.46	557.35	858.39	1,323.15
J. Panganiban	2,393.06	3,057.26	3,676.14	2,967.55	4,062.99	6,286.69
Labo	3,924.07	4,735.22	5,546.41	27.62	43.51	67.56
Mercedes	1,886.98	2,144.95	2,402.93	9,122.49	14,581.17	22,641.44
Paracale	1,843.67	2,083.07	2,322.47	2,649.49	4,013.45	6,087.69
Sn Lorenzo Ruiz	594.32	747.36	900.43			
San Vicente	481.97	623.16	764.35			
Sta. Elena	2,626.42	3,729.10	4,831.88	2,556.08	3,667.92	6,735.31
Talisay	1,171.33	1,515.13	1,859.00	116.73	173.47	258.11
Vinzons	1,839.92	2,169.40	2,535.01	1,732.12	2,689.75	506.56
TNL	466.96		749.34			
Bagong Silang	464.98		747.36			
TOTAL	**24,378.09**	**28,822.18**	**35,681.75**	**21,732.68**	**33,026.07**	**48,333.74**

MUNICIPALITY	Surplus/Deficit (m.t.)			Sufficiency Ratio %		
	2013	2023	2033	2013	2023	2033
Basud	(1,415.84)	(1,675.71)	(1,789.77)	12.80	14.42	21.93
Capalonga	586.07	1,232.67	2,293.03	148.46	186.78	240.55
Daet	(3,294.04)	(3,780.68)	(4,099.31)	14.47	18.50	24.40
J. Panganiban	574.49	1,005.73	2,610.55	124.01	132.90	171.01
Labo	(3,896.45)	(4,691.71)	(5,478.85)	0.70	0.92	1.22
Mercedes	7,235.51	12,436.22	20,238.51	483.44	679.79	942.24
Paracale	805.82	1,930.38	3,765.22	143.71	192.67	262.12
Sn Lorenzo Ruiz	(594.32)	(747.36)	(900.43)	-	-	-
San Vicente	(481.97)	(623.16)	(764.35)	-	-	-
Sta. Elena	(70.34)	(61.18)	1,903.43	97.32	98.36	139.39
Talisay	(1,054.60)	(1,341.66)	(1,600.89)	9.97	11.45	13.88
Vinzons	(107.80)	520.35	(2,028.45)	94.14	123.99	19.98
TNL						
Bagong Silang						
TOTAL	**(2,645.41)**	**4,203.89**	**12,651.99**	**89.15**	**114.59**	**135.46**

Annex 12

PROJECTED MEAT SUFFICIENCT LEVEL: CY 2013, 2023, 2033
Province of Camarines Norte

Commodity	Consumption Requirement (m.t.)			Net Production (m.t.)		
	2013	2023	2033	2013	2023	2033
1. Beef	812.60	1001.22	1189.39	387.80	519.06	694.6
2. Carabeef	264.10	325.40	386.55	595.70	638.06	683.39
3. Pork	5546.01	6833.30	8117.60	5490.6	12750	29607.64
4. Chevan						
6. Chicken Meat	2722.22	3354.07	3984.46	598.0	1327.35	2946.27
TOTAL/ AVERAGE	**9,344.93**	**11,513.99**	**13,678.00**	**7,072.10**	**15,234.47**	**33,931.9**

Commodity	Surplus/Deficit (m.t.)			Sufficiency Level %		
	2013	2023	2033	2013	2023	2033
1. Beef	-424.80	-482.16	-494.79	47.72	51.84	58.40
2. Carabeef	331.60	312.66	296.84	225.6	196.08	176.79
3. Pork	-55.41	5916.7	21490.04	99.0	186.59	364.73
4. Chevan						
6. Chicken Meat	-2124.22	-2026.72	-1038.19	21.97	39.57	73.94
TOTAL/ AVERAGE	**(2,272.83)**	**3,720.48**	**20,253.90**	**75.68**	**132.31**	**248.08**

Annex 13

PROJECTED TIMBER CONSUMPTION: CY 2013, 2023, 2033
Province of Camarines Norte

Year	Population	Consumption (cu.m.)
2003	500,639	28,085
2013	612,698	36,761
2023	750,292	47944
2033	922,935	114,352

Annex 14

PROJECTED FUELWOOD CONSUMPTION: CY 2013, 2023, 2033
Province of Camarines Norte

Year	Population	Consumption (cu.m.)
2003	500,639	232,79
2013	612,698	257,945
2023	750,292	292,614
2033	922,935	336,871

Annex 15

PROJECTED BAMBOO CONSUMPTION: CY 2013, 2023, 2033
Province of Camarines Norte

Year	**Population**	**Consumption (cu.m.)**
2003	500,639	4,225
2013	612,298	4,929
2023	750,292	5,717
2033	922,935	6,636

Annex 16

PROJECTED RATTAN CONSUMPTION: CY 2013, 2023, 2033
Province of Camarines Norte

Year	Population	Consumption (cu.m.)
2000 2003	 581,639	12,811 12,972
2013	612,298	17,806
2023	750,292	21,984
2033	922,935	27,245

CREDITS

CREDITS

The technical expertise and cooperative efforts of the following members of the Provincial Land Use Committee (PLUC) and its Provincial Technical Working Group (PTWG) including the Technical Support Staff, in the completion of the Provincial Development and Physical Framework Plan (PDPFP) 2008-2033 is hereby given due acknowledgment and recognition, to wit:

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Ms. Francia C. Pajares, Representative of the Office of Provincial Agriculturist
Engr. Cesar C. Paita, Provincial Engineer – Office of Provincial Engineer
Ms. Eva Balisnomo, Representative of the Housing & Land Use Regulatory Board (Region V)
Mr. Elpidio Z. Orata, Provincial Environment and Natural Resources Office – Department of Environment and Natural Resources
Mr. Huberto L. Villaraza, Provincial Agrarian Reform Officer – Dept. of Agrarian Reform
Mr. Ernesto A. Pardo, Provincial Director – Department of Trade and Industry
Representative of the District Engineer – Department of Public Works and Highways
Mr. Robin M. Mercado, Provincial Director – Department of the Interior and Local Government

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