



ECONOMIC SECTOR



4.1 AGRICULTURE



A. Situational Analysis

Agricultural sector is considered as the springboard of rural development. The occupational grouping of the municipality states that majority of the population depends on agriculture as the main source of living.

The dominant role that agriculture continues to display in the economy underscore the municipality's comparative advantages in agricultural production.

Thus, the pragmatic and viable route to Delfin Albano's growth and stability begins with unleashing the potentials of agricultural producers to contribute more to nation building.

The municipality's total farm area is 12,366.71 hectares, which is approximately 64.76% of the total land area of the municipality. The basic crops grown are rice, corn, cassava and vegetables.

1. Existing Major agricultural Crops by Area, Production and Market

a) Rice Production and Yield

The municipality engages in rice production as its primary agricultural activity. Its fertile soils ablative rains and the presence of the Cagayan River , Mallig River and other water bodies such as small impounding projects serve as sources of irrigation has enabled the municipality to produce rice sufficient enough for the entire population. A total effective area of 9,947.35 hectares is devoted to rice production. Of this total rice land, only the rice fields at the eastern part of the municipality and those serviced by small water impounding projects (SWIP) are irrigated. The rest are rain fed rice land areas.

In 2016, total production for both irrigated and rain fed areas reached 33, 163 metric tons (M.T.)valued at P 563.771 million pesos.

- b) Corn production is the secondary user of agricultural land in the municipality. A total of 2,605 hectares is planted corn. Total production in 2016 was 65,125 metric tons.

Most individual farms are relatively small in size, but they are cultivated quite extensively particularly in irrigated areas. Farming technology in the municipality has greatly improved due to the massive government campaigns, which promoted the adoption of modern farming techniques. High yielding crop varieties are more widely used. Fertilizer and chemicals are applied in more areas and to crops other than palay.

Farm mechanization has already gone far to a certain extent. While the use of farm animals, particularly carabao is still utilized by farmers, most of them own tractors, power tillers and the like. Water from rivers, small water impounding dams and small farm reservoirs serve as source of water.

Table III-1. Existing Major Agricultural Crops by Area, Production and Market, Year 2016

Major Crops	Location	Area		Annual Production		Product Market	No. of Farmers	No. of Tenants	Type of Farming Technology	Existing Agricultural Support facilities		Hazard Susceptibility (H/M/L)			
		Ha	% Util	Volume	Value (Php)					Pre Harvest	Post-Harvest	FI	TC	Dr	Ln
Rice	8604.35	8604.35		28,895,300	19.51	Local	2556	724	Modern	FMR	MPDP, flatbed Dryer	M	M	L	L
Corn	2605	2605		5,931,400	12.50	Local	1193	129	Modern	FMR		M	M	L	L
Cassava	352.2	352.2		12,327,000	9.10	Local	95	68	Modern	FMR		L	L	L	L
Tobacco	224.73	224.73		9,856,789	na	Local	128	0	Modern	FMR		L	M	M	L
Vegetable	11.56	11.56		10,095.1	15	Local	36	0	Modern	FMR		L	M	M	L
Sugarcane	921.07	927.07		35,835,600	Na	Local	Leased	0	Modern	FMR		L	M	M	L

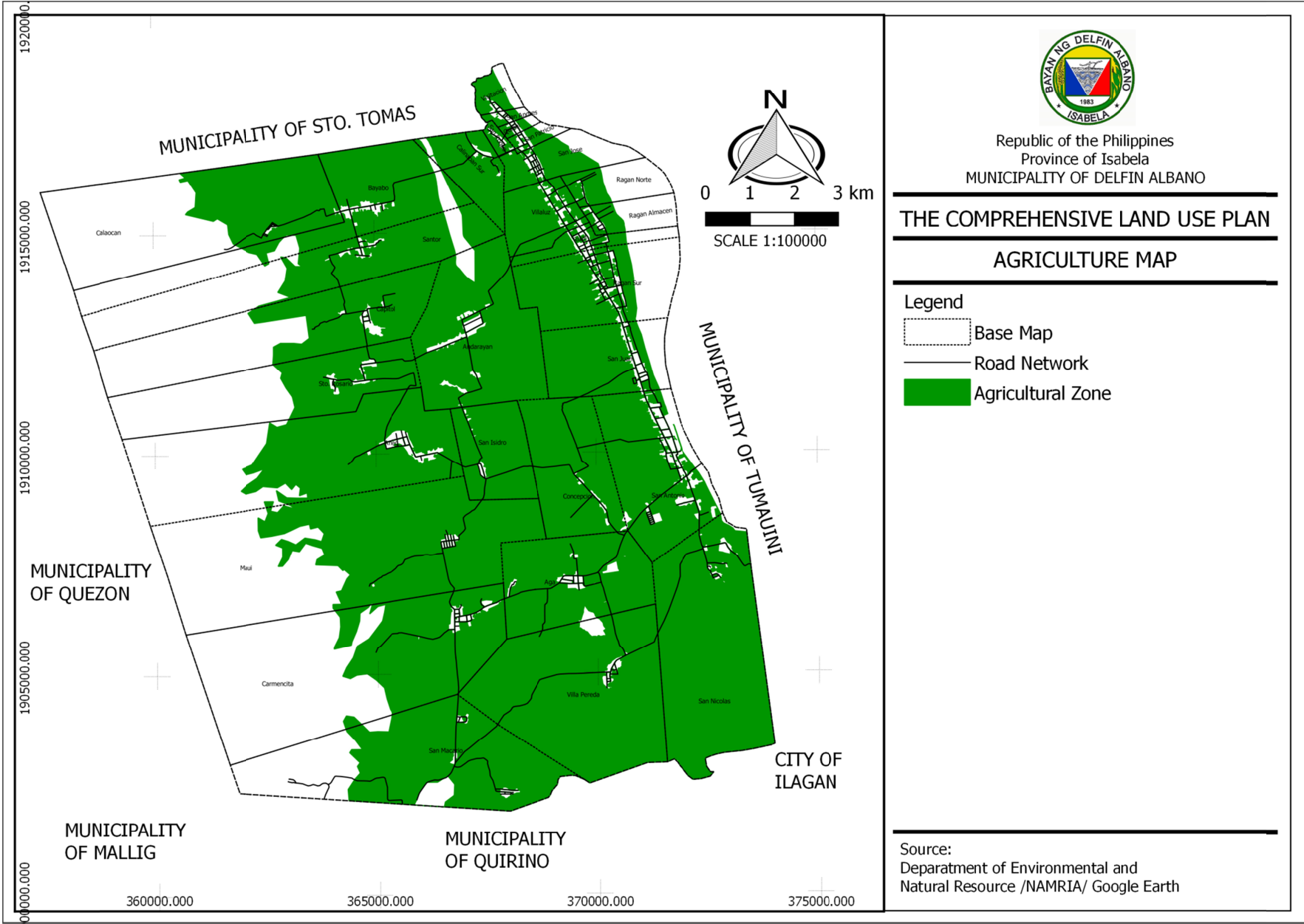


Table III-10. Comparative Area Utilization of Significant Agricultural Activities

Agricultural Activities	2014		2015		2016	
	Area	%	Area	%	Area	%
Rice	5897	100%	5897	100%	5897	100%
Corn	1432	88.13%	1432	88.13%	1432	88.13%
Cassava	205.5	-	287.7	-	352.2	-

Table -1. Existing Major Agricultural Crops by Area, Production and Market, Year 2016

	Area	Production (MT)	Market value	Hazard Susceptibility		
				Tc	Fl	Dr
Rice	5897	33,163	563,771,000	H	M	H
Corn	1262	11,545	138,540,000	H	M	H
Cassava	352.2	12,327	112,175,700	L		L

Fishery

Delfin Albano is blessed for having a potential fishing ground, the Cagayan River and the Small Water Impounding Project, utilized as irrigation and fish culture. There are also fishermen in the locality, but they don't depend solely on fishing as their main source of livelihood. Resident living near Cagayan River usually engaged themselves in fishing. The usual catches are tilapia, carp, mullet, cat fish and other species. Their methods and materials used are fishnets, gillnets, cast nets and the hook and lure. There are some backyard and small fishpond in the municipality. Fishes caught are usually for home consumption and the surplus are sold to the market or at the neighborhood.

Table III-4. Existing Fishing Grounds and Aquaculture Production, Year 2016

Fishing Grounds	Barangay	Production (kg)		Post-Harvest Facilities				Product Market	Hazard Susceptibility (H/M/L)								
		Volume (mL)	Value	Type	No.	Capacity	Status		FI	TC	Dr	Eq	Vo	Ln	Ts	Su	O
Cagayan River		47,378	110					5,211,580	H	H	M			L			
SWIP		37,302	110					4,103,220		M	M						
Ponds		31,500	110					3,465,000	L	L	M						

Livestock and poultry

Larger animals such as carabao population reached 5286. These are usually agricultural helpers except for the old ones, which find their way to the slaughterhouse. The smaller animals like goats has a population of 1,555 heads which are usually raised for meat consumption. The hog population has the highest count in the municipality. A total of 2,716 swine have been estimated in 2016 and mostly raised backyard. This reflects that hog raising is still the most convenient and acceptable backyard livelihood project of the residents of the municipality. Chicken population reached 26,114. In rural areas, goat raising is becoming lucrative due to the terrain and the availability of large tracts of open grassland. Meat demands of the population can be easily met by the current number of animal population in the municipality.

Table -2. Existing Livestock and Poultry Farms, Year 2016

Large Animals	3,795			
Small Requirements	1,555			
Swine	2,716			
Poultry	26,114			

Table -3. Existing Fishing Grounds and Aquaculture Production, Year 2016

	Cagayan River/ Swamp	SWIP	Ponds	
CBW	49,358	40,580		
Private Ponds			4,450	

4 Agricultural Facilities and Services

The irrigation system is considered as the most beneficial among these facilities for this enables the farmers to plant palay twice or even thrice a year. There are 6 small water impounding projects and 71 small farm reservoir located at the western barangays. The multi- purpose drying pavements constructed in the different barangays proved to be very helpful among farmers in easing their problem of drying their harvest. To date there are 100 multi-purpose pavements, 19 ricemills, 14 corn shellers, 192 rice threshers, 780 hand tractors, 73 combine harvester and 1 mechanical dryer.

Technical Extension Services

Technical extension services are conducted by the Municipal Agriculture Office. They provide the farmers with assistance regarding applications/adoption of packages of technology involved in crop production, assistance in marketing s and extension of services by conducting farmer`s trainings relative to farming techniques.

Table III-6. Existing Agricultural Support Facilities and Services, Year

Post-Harvest Facilities and Support	Barangay	No.	% Utilization	Type/Capacity	Remarks
Rice Mill		19			

Corn Shelter		14			
Multi-Purpose Drying Pavement		100			
Mechanical Dryer		1			
Private Thresher					
Blowers					
Three Wheels/Center Cars		67			
Four Wheel Tractors		54			
Jeep/Elf		42			
Forward		30			
Warehouse		37			
Flatbed Dryer		3			
Rice Thresher		192			
Hand Tractor		780			
Combine Harvester		73			

Table III-11. Agriculture Related Projects, Approved/Funded for Implementation

Name /Type of Project	Location	Type	Proponent (Government, Private, Other)	Estimated Start Date	Estimated Date of Completion
Construction of Small Farm Reservoir (SFR)	Selected (Western Barangays)				
	San Isidro 7				
	San Antonio 3				
	Bayabo 2				
	Carmencita 1				
	Aga 4				

	San Juan 1				
	Maui1				
	San Jose 2				
	Villa Pereda 2				
	San Macario 2				
	Calinaoan Sur 1				
	Calaocan 2				
	Santor 2				
	Capitol 3				
	Sto. Rosario 3				
	Aneg 3				
	San Nicolas 2				
Solar Driers	Selected Barangays				
	Maui 2			July 26, 2016	August 5, 2016
	Rizal 1			March 2, 2016	March 11, 2016
	Aneg 1			September 1, 2016	September 10, 2016
	San Juan 2				
	Ragan Sur 2				
	Bayabo 1			November 7, 2015	November 19, 2015
	Villaluz 1				
	San Antonio 1				
	San Jose 1			July 28, 2016	August 12, 2016
	San Roque 1				
	Calinaoan Sur 1				
	Calaocan 1				
	Santor 1			August 15, 2016	August 23, 2016
	Capitol 1				

Farm-to-Market Road	Maui – Aneg				
	San Macario – Villa Pereda				
	AndarayanTramo - Concepcion				
	Bayabo – Santor – Capitol				
	Andarayan (P7) – Sto. Rosario				
	San Nicolas – Aga				
	Calinaoan Sur				
	Andarayan – Calinaoan Sur				
	Bayabo				
Farm-to-Market Bridges	Bayabo – Calaocan Bridges				
	San Roque				
	Gumiran Bridges Concepcion				
	Aneg – Sto. Rosario Bridge				
	Purok 7, Andarayan				
	Balauini Bridge, Maui				
	Culimpapa Bridge, Aga				
Deep Well Pump	16 Barangays (Western Barangays)				
Livestock					

Dispersal/Re-Dispersal					
Anti-Rabies Vaccination	Different Barangay	Dog	Government		
Animal Health Care Program	Different Barangay	Livestock/Poultry	Government		
Seed Assistance	Different Barangay	Rice/Corn	Government		
Soil Analysis	Different Barangay	Rice/Corn	Government		
Technical Assistance	Different Barangay	Rice/Corn/ Fishery/Livestock			
Fish Production					
Deep Well Pump					
Open Source Pump	Selected Site San Juan, Ragan Sur, Visitacion, San Andres		Government		
Techno-Demo Farm	Selected Site Rice (Maui) Corn (Ragan Norte) Cassava (Villa TJ) Fishing (San Antonio)		Government	2013 2013 July 2017 June 1, 2017	2018 2018 May 2018 December 19, 2017
Seed Production & Procurement	Selected Site				
Livestock Genetic Improvement Program	29 Barangays	Artificial Insemination (AI)	Government	Year Round	Year Round
Small Program Machineries	29 Barangays				

Mechanical Dryer	San Antonio				
	Rizal				
	Maui				
	San Juan				
	Bayabo				
	Capitol				
	Aneg				
	Sto. Rosario				
Farm Mechanization	Delfin Albano	4-wheel Tractor	Government	-	2016-2017
Credit Assistance & Microfinance Services	San Isidro Auto Saving Group				
	Andarayan ARC Cluster				
Planting Materials	Delfin Albano Tobacco Growers Cassava Stalks		Government		May 2015/2016
Farm Inputs	Delfin Albano Tobacco Growers				
Shallow Tube Well Pump	San Antonio				
	San Juan				
	Ragan Sur				
	Rizal				
	San Jose				
	Calinaoan Sur IA				
	Bayabo				
	Calaocan				

	Santor IA				
	Capitol IA				
	Sto. Rosario IA				
	Andarayan				
	Aneg IA				
	San Isidro IA				
	Maui IA				
	Carmencita IA				
	Villa Pereda				
	San Nicolas				
	Aga				
	Concepcion				
Vermicompost and Culture	Ragan Sur				
	Maui				
Production Support Program	Aga				
	Andarayan				
	Aneg IA				
	Bayabo IA				
	Calaocan				
	Calinaoan Sur IA				
	Capitol IA				
	Carmencita IA				
	Concepcion				
	Maui IA				
	Ragan Sur				
	Rizal				
	San Antonio				

	San Isidro IA				
	San Juan				
	San Macario				
	San Nicolas				
	Santor IA				
	Sto. Rosario IA				
	Villa Pereda				
	Villa Luz				
Provision of Cassava Granulator cum Shredder	Maui Delfin Albano, Isabela				2015
Cassava Grater & Presser	Villa TJ Carmencita, delfin Albano, Isabela				2017

A. Current and Future Needs

The need to increase food production is imperative considering the increasing population. In determining the food requirements, the per capita food requirements per foodstuff recommended by the Food and Nutrition Resource Council were considered.

Agricultural Products	kg//yr
Cereal and cereal products	124
Sugars and syrups	70
Starchy roots and tubers	60
Vegetables	39

Fruit	28
Dried beans, nuts and Seeds	4
Milk and Milk Products	16
Eggs	4
Fish and Poultry	54
Miscellaneous	7

Projected Food Requirement in metric tons: 2018-2027

Agricultural Product	Kg/yr	2017	2018	2019	2020	2021	2026	2027
Cereals and Cereal Products	124	3361	3392	3423	3454	3486	3649	3670
Sugar and Syrups	70	1897	1914	1932	1950	1968	2060	2079
Starchy Roots and Tubers	60	1626	1641	1656	1671	1687	1766	1782
Vegetables	39	1057	1066	1076	1086	1096	1147	1158
Fruit	28	758	765	772	780	787	824	831
Dried Beans, Nuts and Seeds	4	108	109	110	111	112	117	118
Milk and Milk Products	16	433	437	441	445	449	470	475
Eggs	4	108	109	110	111	112	117	118
Fish, Meat and Poultry	54	1463	1477	1490	1504	1518	1589	1604
Miscellaneous	7	189	191	193	195	197	206	207

Based from the data of production the municipality is already self sufficient in rice, corn, and meat, but it is still insufficient in other foodstuff. The people had to depend from other outside producers.

The agriculture sector is geared to make the municipality food secured and self sufficient through the sustainability of agri-forestry, agri-fishery, and agri –livestock resources to enhance productivity and profitability.

One of the current and projected needs to be addressed is the conversion of agricultural lands for residential and commercial purposes. Policies should be enacted to protect croplands especially prime agricultural areas because these are the potential areas for productivity. Hence, strict enforcement of land conversion should be implemented in harmony with existing laws relative to land conversions..

Due to high cost of agricultural inputs specially hybrid/certified seeds and inorganic fertilizers, the government should continue the provision of price subsidies. This may ease the burden of farmers and will lead to better quality of produce.

The promotion of organic farming which emphasizes organic fertilizer production and utilization is now a trend among health conscious individuals who prefer organically grown vegetables for consumption. Composting of farm residues and households wastes applied as organic fertilizer for crop production reduces dependency on commercial or synthetic fertilizers. Provision of composting facilities including shredding machines will facilitate the implementation of this program.

Improvement of farm-to-market roads will give farmers better access to market their produce. Freight charges are high and product damages incur due to poor transport and handling resulting to low prices and meager profits to farmers.

FORESTRY

A.Situational Analysis

Delfin Albano has a total land area of 19,095.23 hectares; of which 72.63% or 13,868.27 are alienable and disposable and only 27.37% or **5,226.96** hectares are forest lands. Out of the 5,226.96 hectares of forest lands, Production Forest are divided into National Greening Program, Integrated Social Forestry, Sanitary Landfill, Socialized Integrated forest management Agreement, Eco- tourism overlay zone and rest are

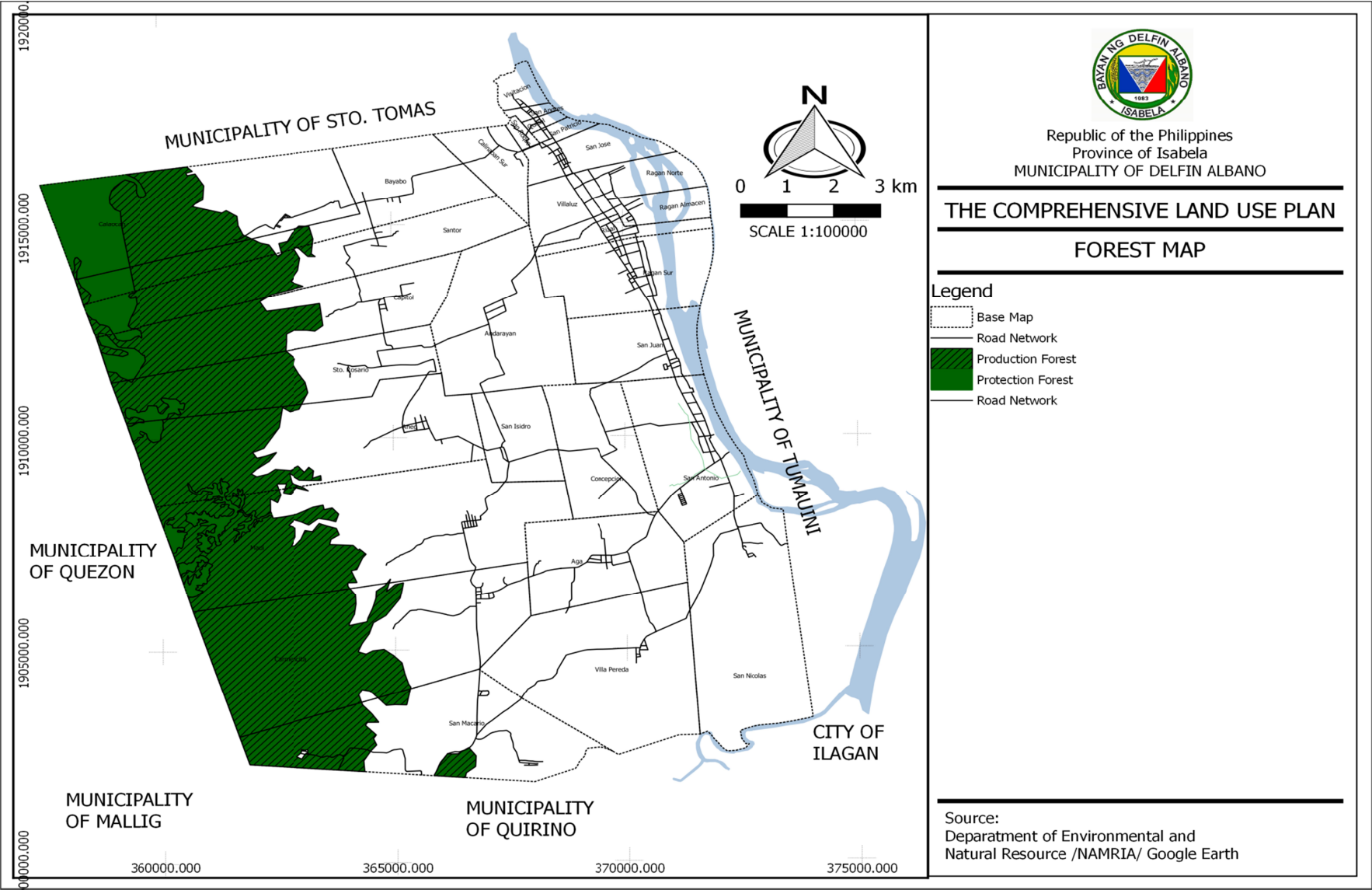


grazing lands or pasturelands.

Integrated Social Forestry (ISF) Projects

15

Name of Project	Location	Area	No. of Beneficiaries	Status
1. Carmencita ISF	Carmencita, Delfin Albano, Isabela	83.0	30	Existing
2. Bayabo ISF	Bayabo	88.0	36	Existing
TOTAL		171.0	66	



Natural Forests

Based on land cover map generated from NAMRIA (2010) the natural forest of Delfin Albano comprised only of 5,226.96 hectares. These are inadequately stocked forest areas that are sporadically located at Barangays Aneg, Carmencita, Calaocan, Capitol and Sto. Rosario. The remaining natural forest is vulnerable to kaingin making and illegal gathering of fuel wood and lumber materials for housing.

Plantations

In 1988, contract reforestation was awarded to the local community of Sto. Rosario and Capitol covering an area of 163has. funded under Asian Development Bank & Overseas Economic Community Fund (OECF). These plantations had gradually reduced illegal gathering of wood for fuel and lumber for housing construction. Likewise, forest fire during summer is a contributory factor in the reduction of plantations. There are seven SIFMA holders awarded to local residents of the Municipality of Delfin Albano located at Barangay Sto. Rosario. For the year 2011 to date, the local residents of Barangays Sto. Rosario, Aneg, Calaocan, Capitol and Carmencita, and the local government unit joined the National Greening Program as part of their commitment in the restoration of the environment covering an area of 584 hectares.

Grassland and brushlands

These areas are dominated by Cogon (*Imperata cylindrica*), Samon (*Themeda triandra*), Talahib, and other grass species. Cogon is used by most farmers as roofing material for houses and animal shelters, some other grass species are being fed to carabaos, cows and goats. SIFMA project is within the grassland covering an area of 50.0 hectares located at Sto. Rosario, Delfin Albano, Isabela. There are two Integrated Social Forestry Projects at Carmencita and Bayabo covering an area of 171 hectares awarded

to 66 beneficiaries. There are also pasture permittees occupying portions which fall within the Barangays of Aneg, Sto Rosario and Carmencita.

AGRICULTURE SECTOR ANALYSIS MATRIX		
TECHNICAL FINDINGS/OBSERVATIONS	IMPLICATIONS/EFFECTS	POLICY OPTION/INTERVENTIONS
1. Presence of Flood Prone and Soil Erosion Prone Areas	Low prices of produce Decrease in revenue	Soil and water conservation, crop insurance and watershed development
2. Inadequate Marketing Strategies	Low prices of produce Decrease in revenue	Establishment of market information system Conduct of market matching/linkaging
3. High cost of farm inputs	Low quality of farm produce to use of traditional varieties and/or low quality of seeds and other inputs Low yield and quality of produce due to use of traditional varieties and/or low quality seeds and other inputs	Conduct trainings/seminars on production, cost-cutting technologies like Soil Analysis Organic Fertilizer Production and Utilization, Integrated Pest Management, Palay Check System Conduct of training on cost-cutting technologies of farm inputs like Soil Analysis Organic Fertilizer Production and Utilization, Integrated Pest Management, Palay Check System
4. Unpaved barangay Roads	Poor handling/and transport Low price of produce Low profit of farmers	Concreting/rehabilitation of farm-to-market roads

4.2 COMMERCE AND TRADE

A.Situational Analysis

The Public Markets found in Ragan Sur (Poblacion) and barangay San Antonio are the primary concentration of commerce in the municipality housing a variety of commercial activities. People from the barangays and even from other places sell their products in these markets.

Based on major types of business, the commercial establishments are classified as wholesale, retail and services.

Most of the business establishments in the municipality can be categorized as small enterprises, most of which are sari sari stores, based in the poblacion and scattered in the different barangays.



Commercial Areas

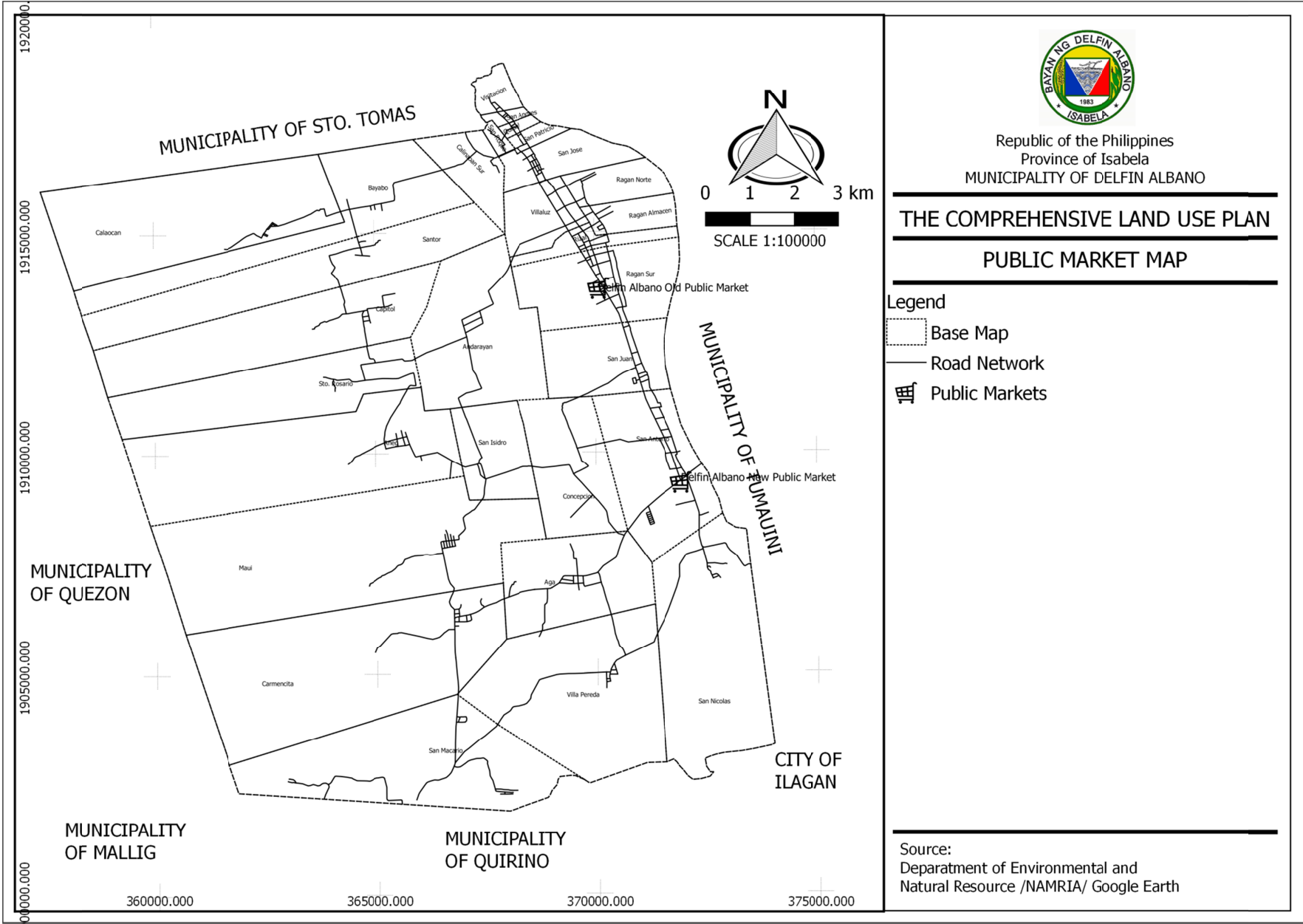
Commercial areas are mostly located at the urban area, while the rest of commercial areas are scattered in the rural barangays. There are 6.0 hectares occupied by commercial establishments in the urban barangays. Mostly, the sari sari stores in the rural areas are attached to existing residential structures.

Table-1. Inventory of Commercial Establishments

TYPE OF COMMERCIAL ESTABLISHMENTS	TOTAL
Buying Station	15
Coffee Shop(Coffee Vendo)	1
Computer Shop	6
Dental Clinic	2
Restaurant/Eatery	12
Motor Parts	8
Electronics	3
Lumber And Hardware	5
Farm Harvester	13
Food Stand	3
Fpa	6
Funeral Homes	2
Gas Station	5

Hospitals	3
Kwarta Padala	1
Meat Shop	11
Micro Finance	2
Pawnshop	2
Pharmacy	4
Product Retail	8
Junk Shop	3
Sari-Sari Store	310
Recreation(Resort)	1
Rural Bank	2
School	2
Trucking	5
Tailoring	1
Water Refiling	8
Wholesale	17

Public Market	2
Office	1
TOTAL	464



1. Inventory of Commercial Establishments by Economic Activity

In 2016, there are 464 business establishments recorded in the municipality. It is dominated by wholesale and retail trade accounting to 66.81 percent. It can be noted that the list of business permits issued do not always tally with the number of establishments surveyed. Some business ventures engaged in services do not actually occupy business offices or stalls. They are either ambulant vendors or they do business activities in their respective houses.

A. Current and Projected needs

In 2027, the population is projected to reach more than 29,000, thus demands for more goods and services also increases. With this, there is a need to expand and improve this sector.

The existing public market needs upgrading to expand more stalls. The Local Government should allocate funds to upgrade and improve the business district of the municipality. The municipal streets around the public market also needs prioritization and maintenance in terms of cleanliness and sanitation purposes because vendors tend to occupy said areas on busy days.

Infrastructure support must also be maintained and upgraded. A viable system of communication, power service, water service and transportation is necessary to attract more investors to spur the economy of the municipality. Giving more incentives, seeking technical assistance from concerned agencies in the preparation of project studies and representation of the local government with financial institutions for the access of credit should be solicited. Likewise, the projected built up area needed due to the increase of population and services are around 1,078 hectares for the next ten years. As per planning standard, at least 1.5 to 3 percent of the total built up area should be allocated for commercial purposes. Hence, there is a need to allocate at least 16 to 32 hectares for commercial area.

4.3 INDUSTRY

A. Situational Analysis

There are 30 different industries recorded as of 2016. The most significant economic agro-industrial activity of the municipality in terms of income and labor are the 8 rice mills with 15 buying stations. These rice mills polish palay for household consumption and for transport to Manila.

Table -2. Inventory of Existing Industrial Establishments , Year 2016

TYPE OF INDUSTRIES	TOTAL
Rice Mill	8
Chb Making	2
Iron Works/Welding Shops	8
Furniture Making	4
Bakery	7

There are also 4 furniture making shops, 8 iron works, 7 bakeries and 2 hollow blocks making. With the exception of the existing rice mills, which promises to be a good source of income and livelihood, the existing industries within the municipality have manifested low performance in terms of job generation and as a complementary service to the growth of agricultural income.

Most of the industries are small-scale enterprises classified as micro-industries with a capitalization of only P150, 000 to 1.5 million pesos. These include the welding shops, vulcanizing shops, hollow blocks making, furniture making, candle making, tailoring etc. Such products mostly cater only to the local residents. The growth of these small scale industries are slow considering that the municipality depends mostly in farming and other related economic activities.

B. Current and projected Needs

The observation on the industry sector is quite similar with the commerce sector. The growth on industry in the municipality is slow especially on small and medium enterprises. The municipality should initiate the use of raw and indigenous resources available in the locality thru home-based labor- intensive small and medium enterprises to augment employment and income.

According to planning standards, the industrial area requirement per 1000 population is 0.80 hectares for light intensity industries. In 2027, the projected population is expected to reach more than 29,000. Given these parameters, and considering the vision of the municipality to become the agro-industrial center in northern Isabela, there is a need to allocate an area intended for agro-industries for prospective investors to locate their processing plants. Such being the case, the required industrial area is 23 hectares for the next ten years. There is also a need to provide or upgrade support infrastructures in the proposed industrial area.

INDUSTRY SECTOR ANALYSIS MATRIX

Sub Sector	Technical Findings/ Observations	Implications (Effects)	Policy Options/Interventions
INDUSTRY	<p>Inadequate productive employment opportunities to small and medium enterprises.</p> <p>No identified agro industrial area</p>	Limited employment opportunities	<p>Maximize use of agricultural raw materials and indigenous resources through home-based labor intensive and resource-oriented home-based small and medium industries to augment employment and income opportunities</p> <p>Coordinate with the DTI, other agencies and private sectors for the establishment of industrial facilities in the municipality.</p> <p>Designate an agro industrial area in the municipality in the land use plan</p>

4.4 TOURISM

A. Situational Analysis



Tourism is a potent tool in generating local income, which will eventually help in maintaining the economic stability of the municipality.

The prominent tourist attraction of the municipality is the TAPJ Resort located in barangay Aga .It is a large resort equipped with facilities like cottages, swimming pools and conference halls and endowed with natural and man-made physical attributes. It is ideal for holding meetings, seminars, conferences and other events as well as for leisure and entertainment.

Table III- 28 Inventory of Tourism Establishments, 2015 to Year 2017

Name of Tourist Attraction	BRGY.	Area (ha)	Types of Tourism Product and Services	Description	No. of Visitors	Accommodation		Name of Owner	Hazard Susceptibility (H/M/L)								
						Type	No. of Rooms		Fl	T C	Dr	Eq	Vo	L n	Ts	Su	o
TAPJ Resort and Restaurant	AGA	7	Rest & Recreation	Resort	750	Villa Dorm	62	ESTHER P. CO									

Cocina Pacita		.002					N/A	FELICITO FURIGAY									

Table -3. Accessibility of Existing Tourism Establishment and Tourist Attraction, Year 2015 to Year 2017

Name of Establishments	2015	2016	2017	Hazard Susceptibility		
				Tc	fL	Dr
TAPJ Resort and Restaurant	Accessible	Accessible	Accessible	L		L
Cocina Pacita	Accessible	Accessible	Accessible	L		L
Mini Chocolate Hills	Accessible	Accessible	Accessible	L		L
Table Hills	Accessible	Accessible	Accessible	L		L
Bird Sanctuary and Breeding Grounds	Accessible	Accessible	Accessible	M		L

Table -4. Facilities in Existing Tourism Establishments and Markets Catered, Year 2016

Tourism Establishment	Facilities
TAPJ Resort	Accommodation and Pools (Local and Foreign)
Cocina Pacita	Food (Local Tourists)

Table -5. Inventory of Tourism Support Facilities and Services, Year 2015 to Year 2017

Support Facilities and Services	2015	2016	2017
Gas Stations	8	10	12
Comfort Rooms	1	1	1
Bank/ATM	1	1	1

Wellness Center	1	1	1
Hospitals	4	4	4

Table -6. Local Revenue and Employment by Tourism Activities, Year 2015 to Year 2017

Name	2015	2016	2017
TAPJ Resort	10	10	10
Cocina Pacita	4	4	4

Table -7. Cultural and Tourism Activities/Festivals

Town Fiesta
Bangkarera Festival
Delfin Albano's Got Talent
Barangay Fiesta and Harvest Festival Thanksgiving

Other fine destinations for food tripping is Cocina Pacita located at Ragan Sur. The existence of wireless communications, such as SMART and GLOBE Com is a great help to boost tourism activities in the municipality. Transportation is also available such as public utility, vans, tricycles, and some public utility buses. Power is provided by the Isabela Electric Cooperative.

1. Potential Tourist Sites

The potential eco tourist areas in the municipality include the Bird Sanctuary and Breeding grounds located in barangay Carmencita, Also on the western part of the municipality, there is a Mini Chocolate Hills and Table Hills. With its fascinating sight, it can be developed as picnic areas, camping areas or mountain climbing areas. Yet, since this kind of eco tourist spot is

accompanied with possible threats to the environment such as pollution and contamination of wastes. Hence, necessary remedies to mitigate, if not to eliminate its possible negative effect, must be given due course at this early..

As far as susceptibility to hazard is concerned, the area is classified as `low and moderate` in the level of susceptibility, hence, it is safe from flood, landslides and earthquakes.

Table III- 29 Potential Tourist Attractions in the Locality

Barangay	Potential Attraction	Within Forestland (Ha)	Within A&D lands	Hazard Susceptibility (H/M/L)								
				Fl	Tc	Dr	Eq	Vo	Ln	Ts	S U	o
Carmencita												
	Mini Chocolate Hills	/					/		/			
	Bird Breed Ground	/		/			/		/			
Aneg												
	Table Hill	/					/		/			

Table III- 33 Inventory of Tourist by Country of Origin Yea **2017**

Name of Tourist Attraction/ Establishment	Number of Tourist/ Visitors									
	2013		2014		2015		2016		2017	
	LOCAL	FOREIGN	LOCAL	FOREIGN	LOCAL	FOREIGN	LOCAL	FOREIGN	LOCAL	FOREIGN
TAPJ RESORT	200	10	200	10	200	12	240	12	240	12

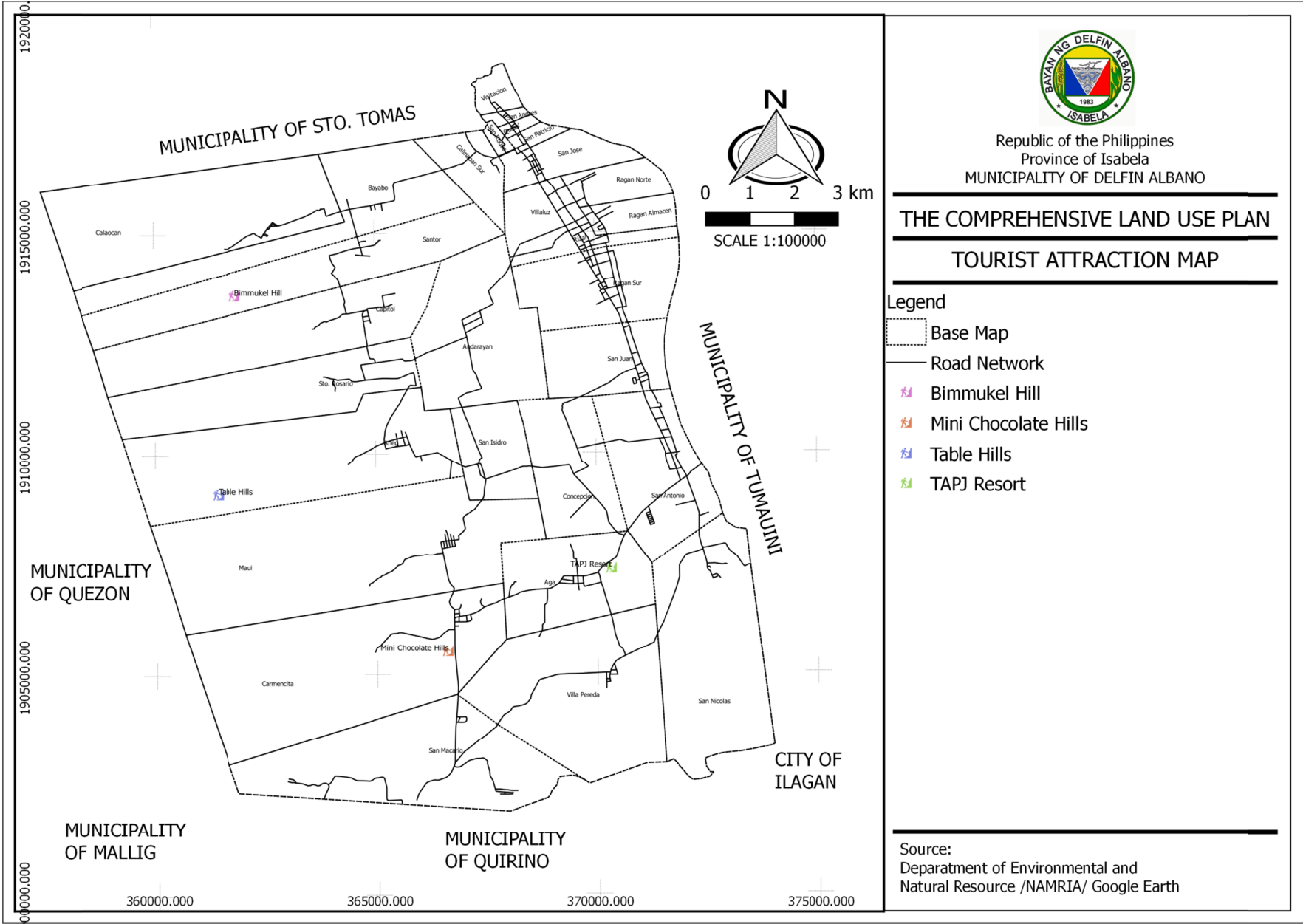


Table III- 34 Cultural and Tourism Activities/ Festival

Activity	Frequency of Activity	Duration of Activity
Town Fiesta	ONCE A YEAR	4 DAYS
Bangkarera Festival	ONCE A YEAR	1 DAY
Delfin Albano's Got Talent	ONCE A YEAR	2 DAYS
Barangay Fiesta and Harvest	ONCE A YEAR	2 DAYS
Thanksgiving	ONCE A YEAR	

B.Current and Development Needs

As regards to the current situation of tourist facilities in its entirety, much is still needed to be done, to improve it further. The municipality is rich in natural beauty, such as rivers, small dams, rolling hills, bird sanctuaries, which when further or fully developed can possibly attract more tourists to come to witness the natural beauty of the municipality . Besides, the municipality is also promoting agro-tourism along the river, capitalizing on the presence of the mighty Cagayan River and magnificent view of the nearby Tumauni-Delfin Albano Bridge, by constructing floating cottages, floating restaurants and the like. There is a need therefore, to strengthen the coordination with the Department of Tourism and other private entities for the promotional activities and the provision of more tourism services.

The existing infrastructure facilities should be improved to fascinate and entice more people to visit the municipality.

Furthermore, in the promotion of tourism activities, a significant factor to consider is the peace and order condition in the area. Delfin Albano is generally a peaceful place and criminality is low, hence there is a need to maintain and manage peace and order situation to prevent criminal elements from victimizing potential tourists. Other factors to be considered are support facilities such as restaurants, lodging houses and other infrastructures in order to entice more people to visit the municipality. While some of these facilities are already existent, maintenance and upgrading must be done.

Tourism has positive and negative effects. Thus, certain measures must be undertaken to abate the negative impact of development. The LGU must adopt policies to regulate tourism development and operations, in conformity with existing national policies in terms of preservation of the environment and possible land use conflicts.

TOURISM SECTOR ANALYSIS MATRIX

Sub Sector	Technical Findings/ Observations	Implications (Effects)	Policy Options/Interventions
TOURISM	Inadequate tourism related services and facilities Inadequate promotional activities and programs	Decrease number of investors and tourists Decrease of tourists and revenues	Improve and upgrade existing tourism related facilities Entice more investors to invest in tourism related services and facilities Tie up with the Department of Tourism and other private entities for a more effective tourism related promotional programs such as tour packages incentives, etc.

INTEGRATED ECONOMIC SECTOR ANALYSIS- The Economic Structure

The structure of the local economy can be analyzed using any or combination of the following parameters: employment, value or volume of production, revenues and land utilization. This will provide an approximate view of the economy and establish the economic driver.

The economic activities are classified into three major sectors namely; primary, secondary and tertiary sector. The primary sectors include agriculture, forestry, fishery, and quarrying. The secondary sectors compose of manufacturing, electricity, gas, water

supply and construction. The tertiary sectors include wholesale, retail, other businesses and services not included in the primary and secondary sectors.

The data used in the analysis were culled from the previous sectoral discussions reflecting the land utilization of each sectors.

.

Land Utilization by Major Sector

Sector/Activity	Area	Percent
Primary	11,011 Has.	99.93
Secondary	.5 has	0.05
Tertiary	6.0 has	0.01
Total	11,018.5 has	100.00

Based from the above table, and using land utilization as the parameter, shows that the primary sector has the highest share accounting to 99.93 percent. The tertiary sector follows second with 0.05 percent and the last is the secondary sector with 0.01 percent. Considering that the share of the primary sector is more than 50 percent implies that the municipality is pre-dominantly rural.

INTEGRATED ECONOMIC SECTOR ANALYSIS MATRIX

Technical Findings/ Observations	Implications/ Effects	Policy/Options/Interventions
<p>Presence of flood prone and erosion prone agricultural areas</p> <p>Inadequate access to capital of businessmen in commerce and trade activities</p> <p>Inadequate productive employment opportunities of small and medium enterprises</p>	<p>Decrease in yield and revenues</p> <p>Limited expansion of business activities</p> <p>Low income</p>	<p>Watershed development, soil and water conservation</p> <p>Crop insurance</p> <p>Giving of tax incentives, conduct trade and investment promotion programs</p> <p>Maximize use of agricultural raw materials through home based small and medium enterprises</p>



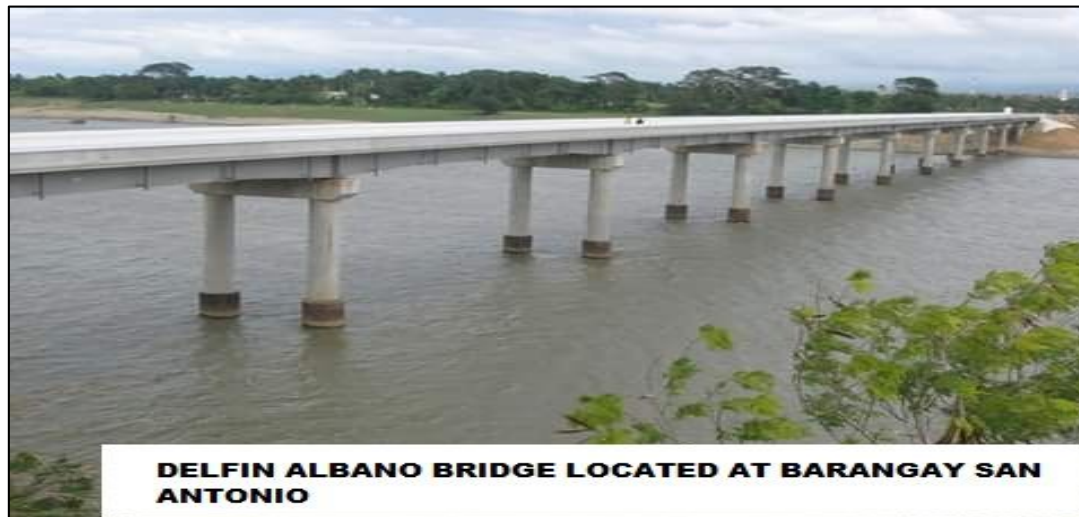
Delfin Albano, Isabela

5.0 INFRASTRUCTURE AND UTILITIES SECTOR

5.1 TRANSPORTATION

A. Situational Analysis

Transportation in Delfin Albano harnesses the economic development of the community. It provides mobility of its population, movement of people, and circulation of information within and beyond the municipality. It facilitates the delivery of services even to the remotest rural barangays.



DELFIN ALBANO BRIDGE LOCATED AT BARANGAY SAN ANTONIO

The construction of the Delfin Albano-Tumauni Bridge , paved the mobilization of goods and people in the municipality to other parts of the province. The other alternative routes are the Delfin Albano-Ilagan and Gamu route, the Delfin Albano-Mallig route, Delfin Albano-Quirino route and the Delfin Albano-Sto. Tomas-Cabagan Overflow bridge which are accessible by land.

Public land transportation in the municipality, such as buses and vans, at all times of the day is not always readily available. This is due to the location

of the municipality not being located along the main artery of the Maharlika Highway going to Manila. There are buses and vans in the municipality but the frequency of trips are not available anytime and mostly in the morning and tend to decrease in the afternoon. Tricycles however are readily available anytime within the poblacion to San Antonio. In order to

travel south to San Antonio , a commuter must take a five kilometers tricycle ride to the intersection of San Antonio, or further crossing the Cagayan River, through the bridge, going to the town of Tumauni, where public utility buses are readily available anytime of the day.

1. Roads

The total road network of the municipality is 236.472 kilometers. This is composed of 24.42 kms national road or 10.33% of the total road length; 12.36 kms provincial road or 5.24 % share, 5.1 municipal roads or 2.16 % and 194.57 kms barangay roads or access roads comprising 82.30 % of the total road length.

Table -8. Inventory of Roads by System Classification and Type of Pavement, Year 2016

Category	Type/Condition	Length (km.)	Hazard Susceptibility			
			Tc	Fl	Eq	Ln
National Road	Concrete Pavement	24.42 km	L	L	L	L
Municipal Road	Concrete pavement	1.38 km	L	L	L	L
	Gravel/Earth road	3.72 km	L	L	L	L
Access Roads	Concreted	29.827 km	L	L	L	L
	Gravel	146.76 km	M	M	L	M
	Earth road	17.985	M	M	L	M
Provincial Road	Concreted	7.23 km	L	L	L	L
	Gravel	5.15 km	M	M	L	M
Total		236.472 km				

The total length of the National Road is generally in good condition considering that the national road total length is already paved or concreted. The good condition of the national roads enables motorists to drive smoothly in all types of weather

conditions. The total length of the provincial road that is made of concrete is 7.23 kilometers, while 1.38 kilometers of municipal roads are also concreted.

The barangay roads are either concrete or gravel surfaced. The major length however is still gravel roads. A total of 146.76 kms of barangay are still gravel surfaced, 17.98 kms are earth roads and 29.82 kms are concreted..

2 .Bridges

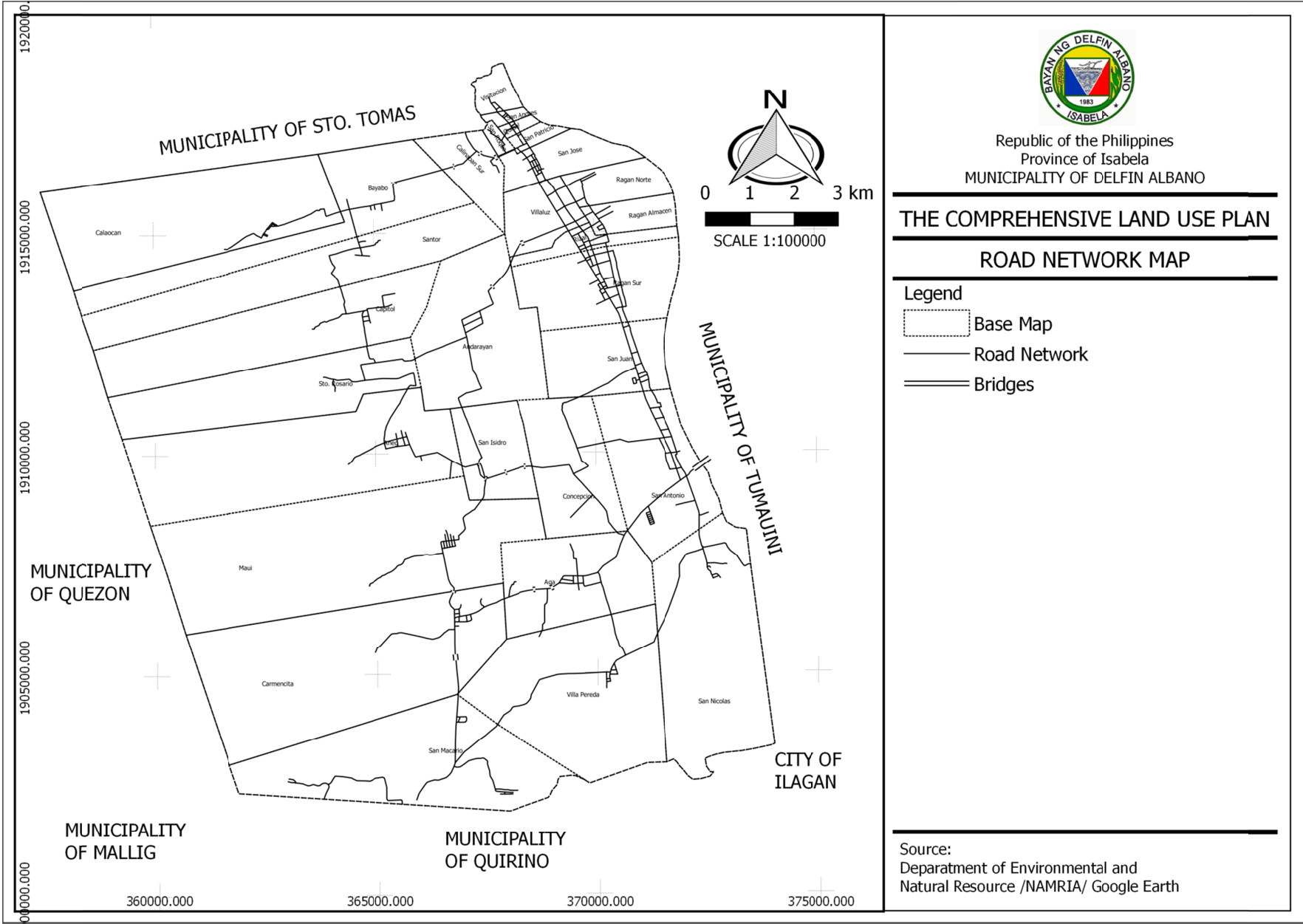
The existing bridges are all under the administrative category of either provincial or municipal bridges. There are seventeen (17) bridges in the entire municipality; six are located in San Isidro, two each are in barangays Carmencita and Andarayan and three in Calinaoan Sur. The total length of the bridges is 206 linear meters.

Majority of the bridges within the municipality are found to be in good condition considering they are made up of reinforced concrete.

Table -9. Inventory of Bridges by Location, Type, Capacity and Condition, Year 2017

Name of Bridge	Location	Type	Length	Along this Road	Hazard Susceptibility		
					Tc	Fl	Ln
Aga Bridge I	Aga	Concrete	14.0 ln. m	Delfin Albano-Mallig Road	M	M	L
Aga Bridge II	Aga	Concrete	7.0 ln. m	-do-	L	L	L
Carmencita Bridge	Carmencita	Concrete	28.0 ln. m	-do-	L	L	L
Calinaoan Sur Bridge I	Calinaoan Sur	Concrete	35.0 ln. m	Delfin Albano-Sto. Tomas Road	L	M	L

Calinaoan Sur Bridge II	Calinaoan Sur	concrete	14.0 ln. m	-do-	L M L
Andarayan Bridge I	Anadarayan	concrete	21.0 ln. m	Villaluz-Andarayan Road	L M L
Andarayan Bridge II	Andarayan	concrete	6.0 ln. m	-do-	L M L
Capitol Bridge	Capitol	concrete	6.0 ln. m	Sto. Rosario-Capitol Road	L L
Bayabp Bridge	Bayabo	concrete	8.0 ln. m	Calinaoan Sur-Bayabo Road	L L
Balisa Bridge	Calinaoan Sur	steel	12.0 ln. m	Calinaoan Sur FMR	L L
Maui Bridge	Maui	steel	12.0 ln. m	Maui-Aneg FMR	L L L
Carmencita Bridge	Carmencita	concrete	21.0 ln. m	Carmencita-Maui Road	L L M
San Isidro Bridge I	San Isidro	concrete	5.0 ln. m	Concepcion-San Isidro Road	L L M
San Isidro Bridge II	San Isidro	concrete	3.0 ln. m	-do-	L L M
San Isidro Bridge III	San Isidro	concrete	4.5 ln. m	-do-	L L M
San Isidro Bridge IV	San Isidro	concrete	5.0 ln. m	-do-	L L M
Vila Bridge	San Isidro	concrete	14.0 ln. m	-do-	L L M
San Isidro Bridge V	San Isidro	concrete	5.0 ln. m	San Isidro-Andarayan Road	L L M



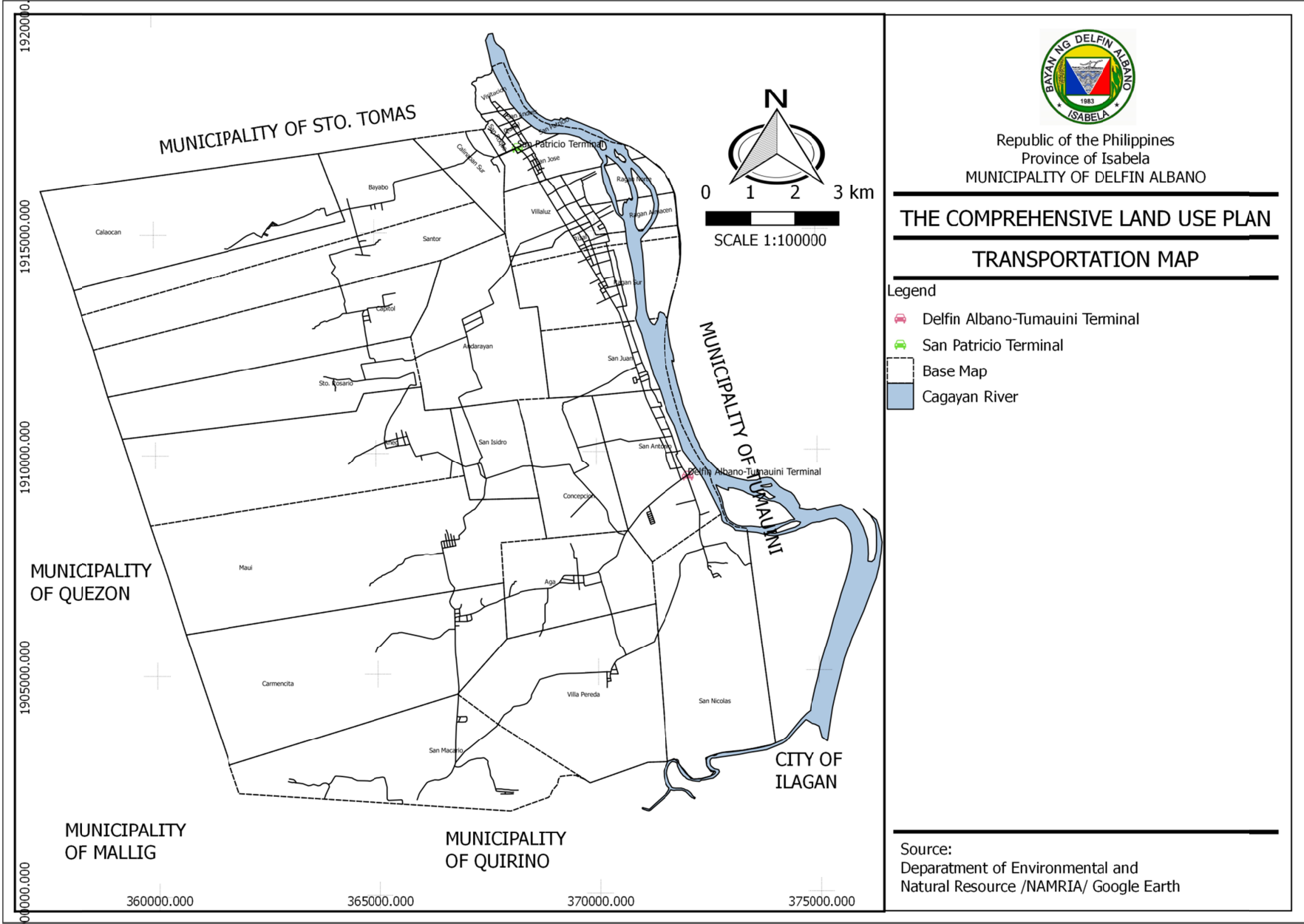


Table -10. Inventory of Ancillary Road Facilities, Year 2016

ROAD NAME	ROAD LENGTH IN KILOMETERS (KMS.)					Hazard Susceptibility		
	Earth	Gravel	Asphalt	Concrete	Total	Tc	Fl	Ln
1. AGA						L	M	L
Acosta St.		2.000			2.000			
Baquiran St.		1.000			1.000			
Gambalan St.		.500			.500			
Navarro St.		.380		.162	.542			
Rosales St.		.200			.200			
Salacup St.		.250			.250			
Vinarao St.		.170			.170			
Gayong-Gayong St.		1.440			1.440			
Aga-Villa Pereda FMR		1.500			1.500			
		7.440		1.62	7.602			
2. ANDARAYAN						L	M	L
I.Badua St.		.447			.447			
Balino St.		.447			.447			
Balicao St.		.200		.100	.300			
D. Dagupan St.		3.850		.490	4.340			
J. Marcos St.		2.360		.040	2.400			
Villanueva St.		.200			.200			
Tramo FMR		3.000			3.000			
		10.504		.630	11.134			
3. ANEG						L	M	L
Aneg Road		4.817		.260	5.077			
A. Abalos St.		.160			.160			
Dumenden St.		.160			.160			
Calceron St.		.188			.188			
Garcia St.		.160			.160			

Lacaulan St.		.110			.110	
Macalinao St.		.128		.060	.188	
Ordillo		.188			.188	
Somera St.		.515			.515	
Villalnueva St.		.160			.160	
Diaz St.		.267			.267	
Aneg-Sto. Rosario FMR	2.500				2.500	
Aneg-Manano SWIP	3.500	1.000			4.500	
Road	6.000	7.853		.320	14.173	
4. MAUI						M
A. Luis St.		.100			.100	
F. Luis St.		.100			.100	
M. Hidalgo St.		.175			.175	
D. Austria St.		.175			.175	
P. Hidalgo St.		.100			.100	
E. Hidalgo St.		.175			.175	
J. Hidalgo St.		.425			.425	
J. Reyno St.		3.050		.450	3.500	
E. Felipe St.		2.000			2.000	
		6.300		.450	6.75	
5. QUIBAL						H
Albano St.		.042		.060	.102	
Fernandez St.				.100	.100	
R. Ulep St.				.300	.300	
Respicio St.		.232		.050	.282	
Jimenes St.		.257		.060	.307	
		.531		.570	1.091	
6. RAGAN ALMACEN						H
Acojido St.		.100			.100	
Alamo St.		.170		.450	.620	

Magaoay St.		.200		.100	.300	
Marinao St.		.450			.450	
		.920		.550	1.47	
7. RAGAN NORTE						H
Don Juan St.		.375			.375	
Caronan St.		.100			.100	
Don Gregorio St.		.300		.900	1.200	
Don Jose St.		.350			.350	
Don Tomas St.		.150		.200	.350	
		1.275		1.100	2.375	
8. RAGAN SUR						H
A. Bacani St.		.235			.236	
F. Bacani St.		.350			.350	
Fernando Bacani St.		1.310			1.31	
Caliguiran St.		.520			.120	
Central St.		.050		.171	.221	
T. Constantino St.		.627			.627	
Rodriguez St.				.092	.092	
J. Sia St.		1.018		.480	1.498	
Tagufa St.		.300		.100	.400	
P. Tagufa St.				.098	.098	
J. Vinarao St.		.539			.539	
V. Baquiran St.		.260			.260	
Saint Joseph St.				.065	.065	
P. Taccad St.				.090	.090	
Taccad				.090	.090	
Laciste St.		.200		.090	.290	
Public Market Road				.210	.210	
Gimong Road		2.000			2.000	
V. Taccad St.		.500		.300	.800	

		7.509		1.786	9.295	
9. RIZAL						H
Balete St.		.490		.100	.590	
Barut St.		.100			.100	
Catiggay St.		.385			.385	
Laya St.		.298			.298	
Laman St.		.381			.581	
Miguel St.		.510		.200	.510	
Laya St. Ext'n.		.250			.250	
V. Taccad St.		.950		.300	1.250	
		3.364		.600	3.964	
10.SAN ANDRES						VH
Bagain St.				.100	.100	
Cacal St.		.119			.119	
Casama St.		.150			.150	
Sagayaga St.				.119	.119	
Sanchez St.		.050		.330	.380	
Tamayo St.		.075		.300	.375	
		.394		.849	1.243	
11.SAN ANTONIO						M
A. Aranda St.		.085		.100	.185	
Alejo Galutera St.		.450			.450	
E. Sagabaen St.		.121			.121	
Juan Ramiro St.		.802			.802	
P. Pua St.		.105			.105	
D. Ramiro St.		.250			.250	
P. Laman St.		.100			.100	
V. Menedez St.		.619			.619	
Ilar St.		.145			.145	
Antonio Rivera St.		1.000			2.000	

High School St.		.200			.200	
San Antonio-		2.000			2.000	
Concepcion FMR		1.000			1.000	
Core Shelter Road		6.875		1.100	7.975	
15.SAN ISIDRO						M
Bonifacio St.		.100		.500	1.500	
Tino Dy St.		.400			.400	
Sales St.		.177			.177	
San Isidro Road		1.055		1.000	2.055	
		2.632		1.500	4.132	
16.SAN JOSE						M
Acosta St.		.300		.100	.400	
Carnate St.		.405			.405	
Dumaua St.		.153		.077	.230	
Galapon St.		.726			.726	
Garro St.		.170			.170	
Madolora St.		.375			.375	
Padron St.		.713			.713	
Polidos St.		.157			.157	
Ranches St.		.598		.330	.928	
Tumolva St.		.390			.390	
		3.987		.507	4.494	
17.SAN JUAN						M
Acacio St.		.270			.270	
Damo St.		.140			.140	
Guting St.		.165			.165	
Madamba St.		.166			.166	
Manibog St.		.166			.166	
Carnate St.		.170			.170	
San Juan Road		1.665		.300	2.165	

		2.942		.300	3.242	
18.SAN MACARIO						M
Aglos St.		.200			.200	
Agustin St.				.100	.100	
Endril St.		.100			.100	
Reyno St.		.105			.105	
Tomas St.		.105			.105	
Tamayo St.		.050		.150	.200	
Vides St.		2.400		.100	2.500	
		2.960		.350	3.310	
19.SAN NICOLAS						M
Batarao St.		1.650			1.650	
Dumencil St.		.502			.500	
Managuelod St.		.900			.900	
Hudi St.		.150		.100	.250	
		3.200		.102	3.300	
20.SAN PATRICIO						VH
Alamo St.				.153	.153	
Carnate St.				.081	.081	
A. Ramos St.		.131		.500	.631	
Viernes St.				.385	.385	
		.131		1.119	1.250	
21.SAN ROQUE						H
Bumanglag St.		.540			.540	
Curammeng St.				.120	.120	
Ramil St.				.159	.159	
Tangonan St.				.220	.220	
Vallegos St.		.090			.090	
		.630		.499	1.129	
22.STO. RASARIO						-

Bonifacio St.		.685			.688	
Domingo St.		.570		.100	.670	
Galleon St.		.700			.700	
Ferrer St.		.775			.775	
Ramones St.	.720	.500			1.200	
Sto. Rosario SWIP Road	3.500	1.000			4.500	
	4.220	4.213		.100	8.533	
23.SANTOR						-
Banquirig St.		1.724		.061	1.785	
Dumalag St.		.378			.378	
Madriaga St.		.300			.300	
Tacata St.		.381		.100	.481	
Taccad St.		1.705		.120	1.825	
Santor-Capitol Road		1.785			1.785	
		6.273		.281	6.554	
24.VILLA LUZ						M
Don Domingo St.		.300			.300	
Don Patricio St.		.250		.050	.300	
Don Benito St.		.590		.300	.890	
Rafael St.		1.400		.100	1.500	
		2.540		.450	2.990	
25.VILLA PEREDA						M
Baay St.		.120			.120	
Calaramo St.		.110			.110	
Managuelod St.		.130			.130	
Pereda St.		8.150		.350	8.500	
Vinarao St.		.600			.600	
Villa Pereda-Aga		1.000			1.000	
		10.110		.350	10.460	
26.VISITACION					H	VH

Pintucan St.			.069	.069		
Ramos St.	.088		.200	.288		
Sanchez St.			.158	.158		
	.088		.427	.515		
27.DELFIN ALBANO						VH
San Antonio-Mallig Road	22.500		2.000	24.500		
San Antonio-Sto. Tomas Road	2.600		8.500	8.500		
San Antonio-Ilagan Road	25.100		2.400	5.00		
			12.900	38.00		

3 .Transportation Terminal

There are identified public utility terminal in Ragan Sur and San Antonio but unfortunately not fully operational. The designated areas are mostly along the side of the road or vacant spaces.

4. Public Transportation Vehicles by Type of Routes

The modes of land transportation in the municipality are buses, vans, tricycles and privately owned vehicles. The Public utility buses have a service route from Delfin Albano to Manila and to Laoag City, Ilocos Norte. The service routes of public utility vans are Ilagan City, Tugugarao City, Mallig Isabela and Quezon, Isabela..

Except for the pedestrian crossing signs, particularly in front of schools, there are no other road ancillary facilities in the locality.

Table -11. Land Transportation Terminals by Location and Condition, Year 2016

Terminal	Location	Condition
Zone 1	San Antonio	Not fully operational
Zone 2	Ragan Sur	Not fully operational

Table 0-12. Inventory of Public Land Transportation Vehicles by Type and Service Routes, Year 2016

Type of Vehicle	Service Route
Bus	Delfin Albano-Manila Delfin Albano-Laog
Van	Delfin Albano-Ilagan City Delfin Albano-Tuguegarao City Delfin Albano-Mallig Delfin Albano-Quezon
Tricycle	Delfin Albano-Tumauini Entire Delfin Albano

7. Road Accidents

Records of the local police office show an increase of road accidents for the last two (2) years. There are only 53 cases of accidents recorded in 2016 but it jumped to 113 in 2017. Most of these road accidents are caused by stray animals and human errors. Mostly, the accidents occurred in the barangays along the national road where vehicles tend to have greater speed due to the smooth and almost straight configuration of the highway.

Table -13. Other Modes of Transport and Facilities

Type of Transportation	Location
Boat	Cagayan River

Table -14. Road Accidents by Nature, Location and Frequency Year 2016-2017

Year	Location	No. of Accidents	Cause of Accident
2016	Delfin Albano National Road	53	Stray Animals, Self-Accident, and Human Errors

2017	Delfin Albano National Road	113	Stray Animals, Self-Accident, and Human Errors
------	-----------------------------	-----	--

Table -15. Transport Related Projects, Approved/ Funded for Implementation, Year 2016

Transport Services
>Delfin Albano
Farm - to - Market Road
>Maui – Aneg
>San Macario - Villa Pereda
>AndarayanTramo – Concepcion
>Bayabo- Santor- Capitol
>Andarayan (P7)- Sto. Rosario
>San Nicolas – Aga
>Calinaoan Sur
>Andarayan - Calinaoan Sur
>Bayabo
Access Road
>Carmjencita, Maui, San Isidro, Andarayan, Sto Rosario, Capitol, Santor, bayabo and Calinaoan Sur
>Concepcion, San Isidro – Aneg
>Villaluz- Andarayan
>Aga- Villa Pereda
>San Nicolas- Villa Pereda
>Ragan Sur- Rizal (Gimong St.)
>San Antonio- San Juan & Ragan Sur
>San Macario- Villa TJ Road
>Concepcion- San Antonio- San Juan
>San Antonio- Concepcion

>Aneg- Sto. Rosario
>Calaocan
Road Concreting
>Delfin Albano - Sto. Tomas
>Delfin Albano – Ilagan
>Ragan Sur
>Rizal
>Sto. Rosario – Capitol
>Santor
>San Isidro
>Aneg
>Maui
>Carmencita
>San Antonio
>DACS Center Road
>San Juan
>Villaluz – Andarayan
>San Roque
>29 Different Barangays
>D. Albano Public Market Road
Road Maintenaces
>29 Barangays
>Delfin Albano- Mallig
>Delfin Albano- Ilagan
>Delfin Albano- Sto. Tomas
Farm -to- Market Bridges
>Bayabo- Calaocan Bridges
>San Roque
>Gumiran Bridges Concepcion

>Aneg- Sto. Rosario Bridge
>Purok 7, Andarayan
>Balauini Bridge, Maui
>Culimpapa Bridge, Aga
Rehabilitation of Bridges
>Calinaoan Sur Bridge 1 & Bridge 2
Road Conversion
>Rizal- Calinaoan Sur, Delfin Albano
>San Antonio- Tumauni

Map -1. Road Map Network of Delfin Albano

Map IV-1 shows the visual representation of the roads located in Delfin Albano. It can be seen in the map that there is a presence of road network on every barangay except in the Barangay of Caloocan.

B.Current and Future Needs

The standard for the road provision is 2.4 kilometers urban roads for every 1000 urban population and 1.5 kilometers rural roads for every 100 hectares arable land. With the present urban population of 6,576 as of 2015, the urban road requirement should be 15.78 kilometers. The existing total road length of municipal roads is only 5.1 kms or a defficiency of 10.68 kms. On the other hand, with an agricultural land of 11,011 hectares, the required rural road length should be 165.16 kilometers. The total existing barangay road is 194.57 kilometers. This indicates that the existing rural road network within the municipality is already sufficient. For year 2027, considering that some portion of the existing open grasslands will be converted to agriculture, the total arable area is expected to reach 13,000 hectares. The total barangay road requirement for 2027 is 195 kilometers, which is still adequate. The total urban road requirement for 2026 is 21.6 kms.

Construction of additional urban and rural roads is needed to improve mobility within the urban and rural areas. Concreting of unpaved roads and proper maintenance of paved roads should also be undertaken to facilitate movement of goods and people.

INFRASTRUCTURE AND UTILITIES SECTOR ANALYSIS MATRIX

Sub Sector	Technical Findings/ Observations	Implications (Effects)	Policy Options/Interventions
TRANSPORTATION	Unpaved farm-to-market and access roads Inadequate urban roads as per planning standard requirement	Mobility of farm products and equipments is delayed resulting in decrease of market value of farm produce especially during rainy season. Mobility of goods, services and products is slower	Upgrading or concreting of identified farm-to-market roads and bridges. Construction of additional urban roads,

5.2 POWER

A. Situational Analysis



1. Power Supply and Distribution

The power service of Delfin Albano is being supplied by the National Power Corporation through the facilities of the Isabela Electric Cooperative II based at Ilagan, Isabela and with a power facility at Ragan Sur.

As of 2016, of the total 6,923 households, there are 5,563 household or 80.36 percent served and 1,363 household or 19.64 percent unserved.

Table -16. Households Served and Un-served by Electricity, Year 2016

	Number of Household		Percentage	
	Rural	Urban	Rural	Urban
Served	1,360	4,109	19.64	59.35
Unserved	0	1,454	0	21
Total	1,360	5,563	19.64	80.35

Source:

Table IV-10 shows the number of households served and unserved by electricity in the year 2016. It can be seen in the table that there are no unserved households in the rural barangays while there are 1,454, or 21% unserved households in urban barangays.

Table -17. Number of Connections by Type of Users and Average Consumption (KwH/Mo)

Type of Connection	Number of Connections	Average Consumption (KWH/mo.)
Domestic	4,483	276,930
Industrial	47	84,630
Commercial	41	26,551
Public Building	77	22,142
Streetlights (Public)	24	5,235
Others		
Total		

Table 0-18. Projected Power Requirements by Type of Connections (KWH)

Connection/User	Projected Power Requirement					
	2017	2018	2019	2020	2021	2026
Domestic	311,158	329,828	349,617	370,594	392,830	525,695
Industrial	95,090	100,795	106,643	113,254	120,049	160,653
Commercial	29,832	31,622	33,520	35,531	37,663	50,401
Institutional	24,878	26,371	27,953	29,630	31,408	42,032
Agricultural						
Streetlights (Public)	5,882	6,234	6,609	7,005	7,425	9,937
Total						788,118

Map IV-2 displays the power supply map of Delfin Albano. It can be seen in the map that the main power supply facility, which is ISELCO-II, is located in Barangay Ragan Sur. The network of ISELCO is then distributed all over the barangays in Delfin Albano.

Those unserved households are located in the rural barangays. Only Ragan Sur, San Juan and San Antonio (urban barangays) recorded a 100 percent household served or have electrical connections.

Power Consumption and Rate

Power rate per kilowatt /hour varies depending on the type of consumers such as residential, commercial, industrial and public buildings. The consumption of each type of user is not truly dependable as this depends on individual consumption. According to records, residential connections consumed 66 percent of the total power consumption of 4, 15,488 kW /month. Residential connections also accounted to 95 percent of all the total electrical connections. The average electrical consumption of residential connections is 61.77 kw/month.

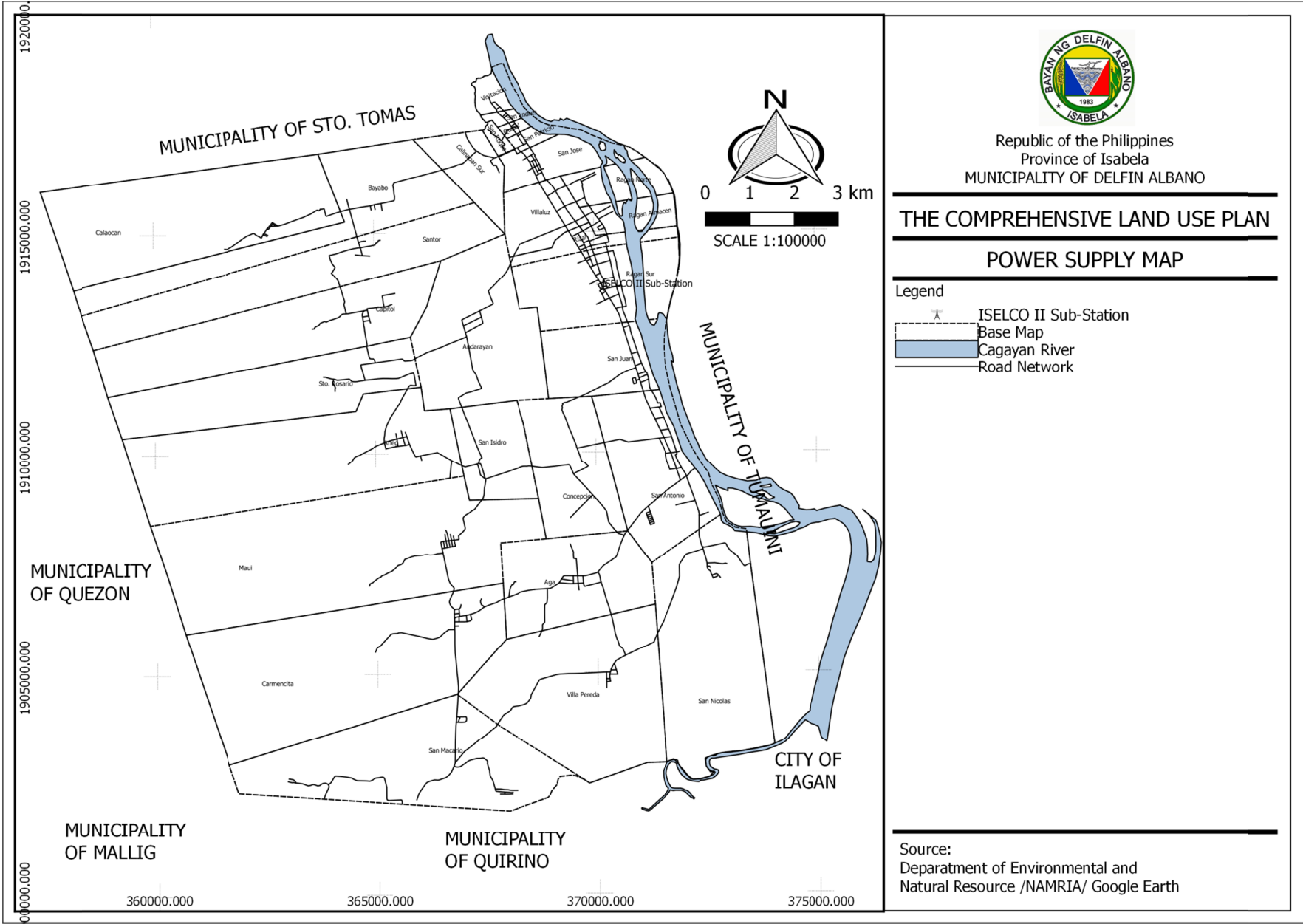
B. Development Needs

There is a need to provide ready funding for the extension of electrical services in the barangays. Rural barangays recorded a 19.74 percent figure of household without electrical connections. Rehabilitation of old and defective post and lines as well as the replacement of destroyed/damaged lines during typhoons and other calamities should also be given priority.

Map 0-2. Power Supply Map of Delfin Albano

Technically, the needs of this sector are primarily the concern of the electric cooperative distributing power in the municipality. The LGU however, as member consumer, can make representations with the National Power Corporation and the Isabela Electric Cooperative regarding power issues and related problems.

For year 2027 the power requirement of the municipality is at least 788,118 kWh.



INFRASTRUCTURE AND UTILITIES SECTOR ANALYSIS MATRIX

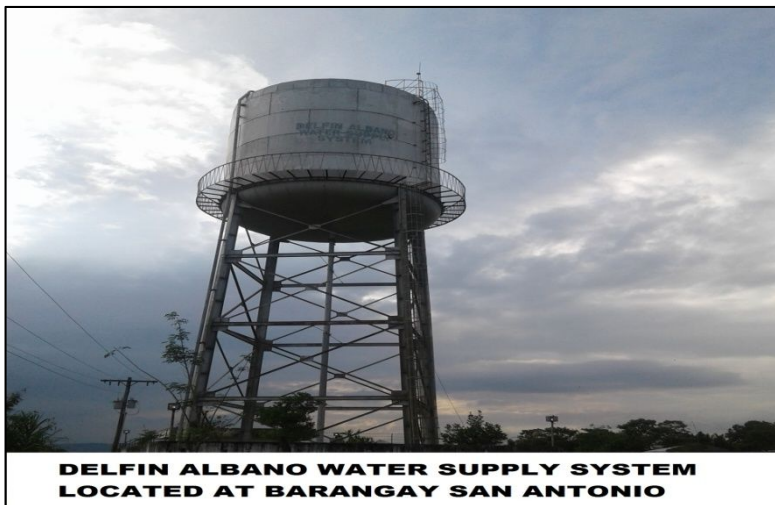
Sub Sector	Technical Findings/ Observations	Implications (Effects)	Policy Options/Interventions
POWER	<p>Some households (19.64 %) in the rural areas have no connections to electricity</p> <p>Non clearing of the right of way of some existing power lines</p>	<p>Deprivation on the use of modern facilities and appliances</p> <p>Unnecessary power outages</p>	<p>Representation of the LGU with the electric cooperative for the expansion of their connections and services in the rural areas. Regular maintenance, clearing of right of way and replacements of damaged poles, crown arms and corroded transformers.</p>

5.3 WATER

A.Situational Analysis

Most of the domestic water needs of the residents of the municipality are provided by Level I, Level II and Level III water systems.

1. Level III Waterworks System:



The water needs in the eastern barangays are provided by a Level III waterworks system. The Delfin Albano Water Supply System located at San Antonio and Villaluz provide potable and domestic water needs to 2,310 households. The Andarayan Potable Water Supply, on the other hand, is servicing 2,310 households. Both water systems are catering 13 barangays and have a combined average consumption of 58.34 cubic meters per hour..

A Level II Potable Water System is likewise under construction stage located in Carmencita that is expected to serve the southwestern barangays. Around 1,482 households may be served by this water system and can handle an average consumption of 5.06 cubic meters per hour.

All other barangays are have shallow wells and deep wells (Level III) as their source of domestic and potable water.

Table -19. Level 2 Water Supply System by Type and Number of Population Served, Year 2016

Name	Location	Expected No. of Consumers	Expected Average Water Consumption/Hour
Carmencita Potable Water Supply-Level II(under construction)	Carmencita	1,482	5.06 cu.m.

Table -20. Level 3 Local Waterworks System by Type and Number of Consumers and Average Water Consumption, Year 2016

Name	Location	No. of Consumers	Average Water Consumption/Hour
Andarayan Potable Water Supply-Level III	Andarayan	2,310	7.21 cu.m.
Delfin Albnao Water Supply System	San Antonio and Villaluz	2,141	51.13 cu.m.

Table -21. Other Water sources, Year 2016

Open Source Water
Free Flow Water
Cylindrical Pumps

Table -22. Existing Surface Water Resources by Type and Classification, Year 2016

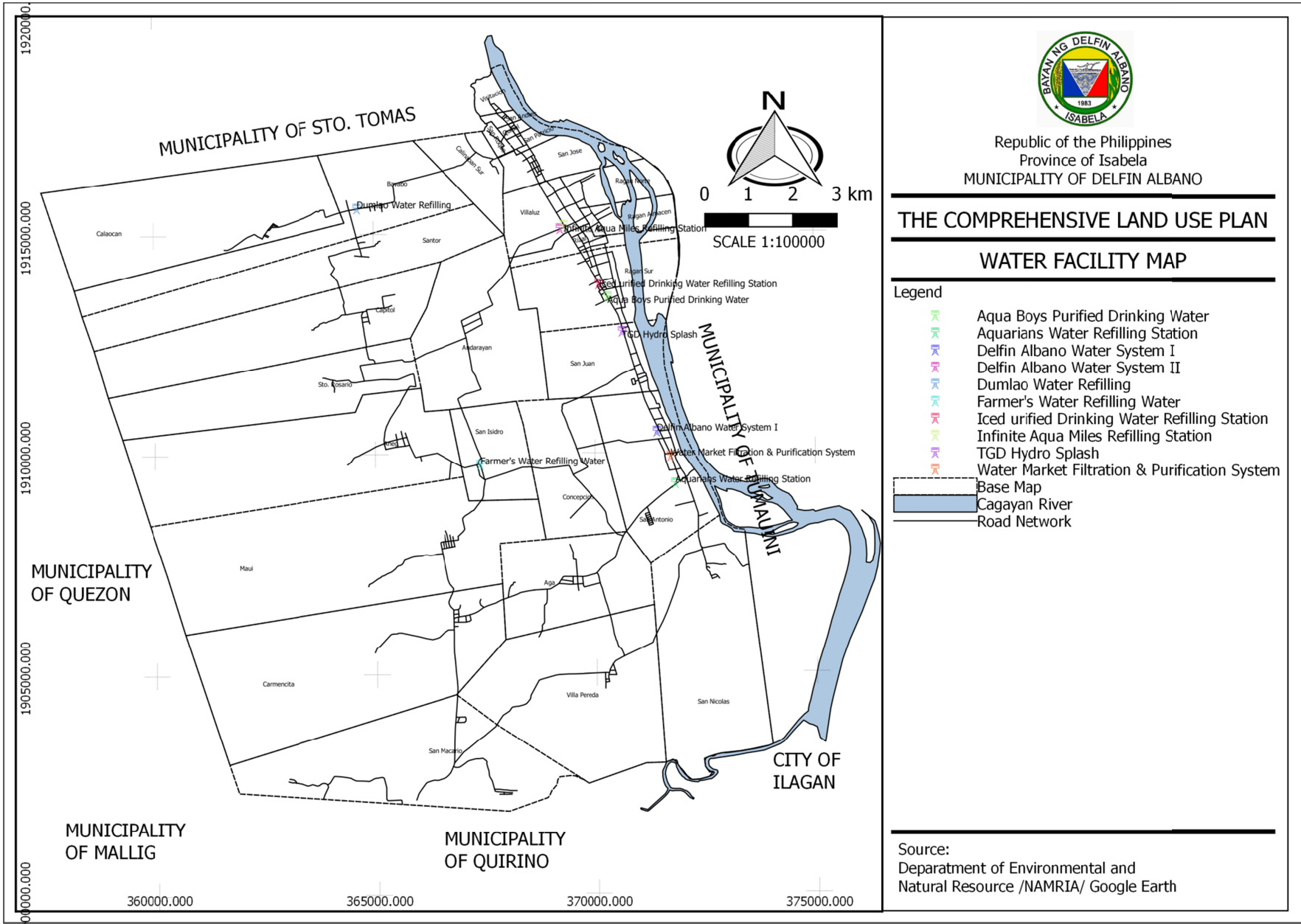
LAKES
CREEKS
RIVERS

5. Current and Projected Needs

While the barangays on the eastern and southwestern part of the municipality are already served by a water system, there is still a need to upgrade and expand these existing water system facilities. Most households in the western and northwestern barangays have to rely on shallow and deep wells. The population of Delfin Albano as of 2015 is 26,614 and needs 1.59 million liters per day. The municipality is expected to reach more than 29,000 population in 2027, hence there is a need of 1.74 million cubic liters per day in order to meet the standard requirement of 60 cubic liters per day per individual for potable water and domestic needs.

INFRASTRUCTURE AND UTILITIES SECTOR ANALYSIS MATRIX

Sub Sector	Technical Findings/ Observations	Implications (Effects)	Policy Options/Interventions
WATER	Western and northwestern barangays have access only to level I source of water for potable water and domestic needs.	Health risk to the population.	upgrading and expansion of water systems and facilities



5.4 COMMUNICATION

A. Situational Analysis

The growth of advanced information technology in the municipality has been increasing. There is a growing trend in the use of mobile and internet for communication. Since the mobile phone market and internet expanded, the use of postal services in the municipality has also decreased.

Internet and Mobile Technology Providers

The decrease in postal services is mainly attributed to the expansion of communication facilities provided by GLOBE Telecommunications and SMART Telecommunications in mobile phones and internet services. However, the increase usage of cellular phones and internet also resulted in the slowdown of their services especially on the speed of internet service.

There are three (3) cell site networks in the municipality owned by Globe Telecom and Smart Telecom and Sun cellular Telecom. There are two (2) cell site towers of Globe Telecom located at barangay San Juan and barangay Rizal, while the Smart tower is located in barangay Ragan Sur.



Table -23. Communication Services Facilities, Year 2016

Type	No. of services available
Postal	1
Telegraph	1
Telephone	1
Radio Station	0
Cell Sites	3
Cable	1

Access to Media Coverage

The municipality receives regular broadcasting from radio stations from Tuguegarao City, Ilagan City, Cauayan City, Santiago City and even from Manila such as Bombo Radyo, DWPE, DZRH, etc. On visual media, television channels such as GMA Network and ABS-CBN have clear receptions in the municipality. For the print media, Delfin Albano have also access to national newspapers and weekly magazines mostly coming from the outlets in Tumauni, Ilagan City and Tuguegarao City.

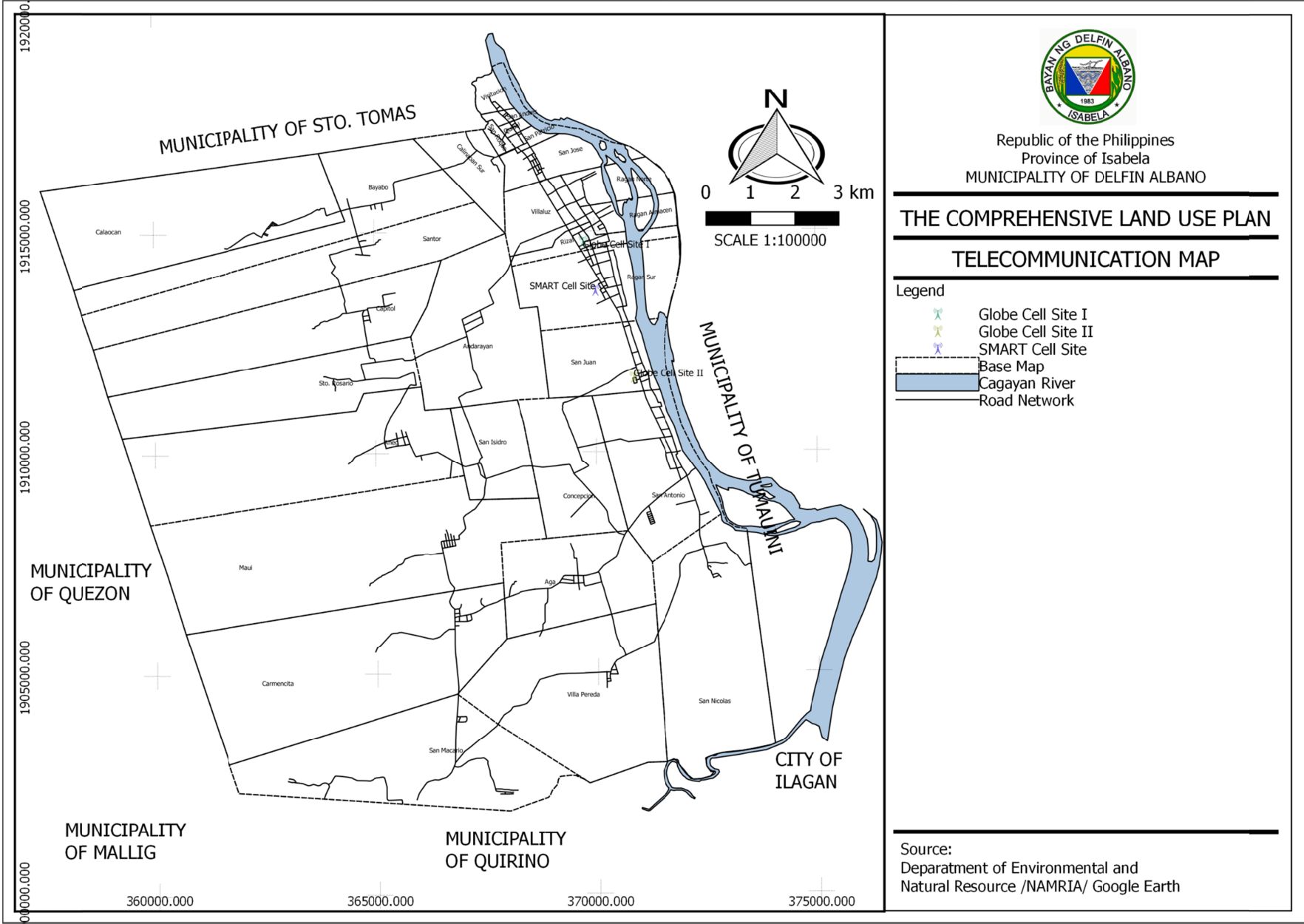
Information Technology Equipments

The Local Government and other private establishments are already equipped with computers, some with internet access. At the municipal hall every department have been provided with computers with internet service.

ap IV-2 shows the location of the three (3) telecommunication towers in Delfin Albano. These three towers are distributed among Barangay Rizal, Ragan Sur, and San Juan.

B. Development Needs

The internet speed in the area is very slow compared to global standards hence, the need to improve this kind of service .Upgrading of communication services by the service providers is also necessary to expand the coverage even to the remotest barangays. At the LGU, the continuous upgrading of information technology equipment is seen as a need for modern and efficient communication in order to provide better services to the constituents.



INFRASTRUCTURE AND UTILITIES SECTOR ANALYSIS MATRIX

Sub Sector	Technical Findings/ Observations	Implications (Effects)	Policy Options/Interventions
COMMUNICATION	Inadequate access of communication services in the remote barangays Slow internet service	Rural areas are deprived of fast and modern communication. Longer time for the delivery of basic services.	Representation with service providers for expansion of their services and upgrading of existing facilities Upgrading and purchase of additional IT equipments at the LGU. Establish linkages with other IT facilities with other departments and offices and upgrade internet services

INTEGRATED INFRASTRUCTURE SECTOR ANALYSIS

Infrastructure and utilities will help assess the intra and inter linkages of the municipality with the rest of the world, in and out of the country such as within the province, region, country and abroad. The location, capacity and condition of existing facilities is important in determining the adequacy and efficiency in servicing the constituency.

Population size and growth determine the demand for power, water supply and communication facilities for the flow of commodities from production to consumption areas.

For the transportation sector, the total road network of the municipality is 236.472 kilometers. This is composed of 24.42 kms national road or 10.32% of the total road length; 12.36 kms, provincial road or 5.24 % share, 5.1 kms municipal roads or 2.16 % and 194.57 kms, barangay roads and access roads comprising 82.30 % of the total road length.

The standard for the road provision is 2.4 kilometers urban roads for every 1000 urban population and 1.5 kilometers rural roads for every 100 hectares arable land. With the present urban population of 6,576 as of 2015, the urban road requirement should be 15.78 kilometers. The existing total road length of municipal roads is 5.1 kms or a need of 10.68 kms. On the other hand, with an agricultural land of 11,011 hectares, rural road length should be 165.16 kilometers. The total existing barangay road is 194.57 kilometers. This indicates that the existing rural road network within the municipality is already sufficient for the next 10 years. For year 2026, the total urban road should be 21.68 kms.

For the power sector, out of the 6,923 households, 5,563 that are connected with electricity comprising 80.35 % of the total households. The remaining 1,360 households or 19.64 % have no connections for electricity.

For the water sector, there are 13 barangays served by level III waterworks water system The Delfin Albano Water System supplies 2,141 households while the Andarayan Water System supplies 2,310 households. The Carmencita Potable Water System is a communal water system (Level II) and under construction and can serve 1,482 households. The rest of the households use shallow wells and deep wells for their potable water and domestic water needs.

For telecommunication sector, there are three (3) cell site networks in the municipality owned by Globe Telecom and, Smart Telecom. There are two (2) cell site towers of Globe located at San Juan and Rizal, while one Smart cell site tower is located at Ragan Sur. Cell phone signals are efficient, however internet signal is very slow.

INTEGRATED INFRASTRUCTURE SECTOR ANALYSIS MATRIX

Technical Findings/ Observations	Implications/ Effects	Policy/Options/Interventions
<p>Inadequate urban and rural roads viz a viz planning standard</p> <p>About 19.2 % of total households have no connection to electricity</p> <p>Inadequate water system coverage</p> <p>Inadequate service of telecom facilities</p>	<p>Mobility is hampered</p> <p>Deprivation of the convenience of modern living</p> <p>Risk of diarrheal diseases</p> <p>Deprivation of modern and fast communication</p>	<p>Construction of additional roads and upgrading of existing roads</p> <p>Expansion of the service coverage of ISELCO</p> <p>Expansion of the service coverage of the existing waterworks system</p> <p>Upgrading and expansion of the service of telecom companies</p>