



G. Infrastructure

1. Transportation

1.1 External Linkages

Transportation provides mobility and a means of access for goods and people. Movement of people, services, goods and information requires an efficient transportation system. The means of transportation in the municipality is by land. There is no existing air transportation whether international or domestic in Teresa and in all city/municipalities in Rizal province for that matter, mainly because of the proximity of the province to Metro Manila where there are international and domestic airports. Teresa can be reached through the Marcos Highway-Sumulong road, Ortigas Avenue Extension-Tikling route, both passing Antipolo City. It is also accessible through the Baras, Tanay, Pililla road network coming from Laguna province. Antipolo City and Morong are the immediate external linkages connecting the municipality to other areas (Figure 25). These roads are serviced by passenger utility vehicles like jeepneys, buses, and fx taxis which made the municipality accessible from Metro Manila and the provinces of Laguna and Quezon.

The municipality has no transport terminals as it is the usual route being taken by jeeps, buses, fx/taxis coming from the eastern part of the province going to Antipolo and Metro Manila. All the public utility vehicles are either plying the Teresa-Antipolo route and the Morong-Taytay route going to Edsa Crossing, Mega Mall, Robinson's Galleria and StarMall in Mandaluyong City and to Sta. Lucia East Grandmall in Cainta, LRT-Santolan and in Araneta Center in Cubao, Quezon City. The Marikina-Infanta Road which is touted to be a major conduit of development in the province designed as a corridor that will facilitate the development of Lungsod Silangan Project east of Metro Manila is also linked to the municipality through the Marcos Highway via Pantay-Pinugay Road and Foremost Road. It was also intended to open up the development of eastern Luzon and connect to a major port in Infanta, Quezon. However, the Pantay-Pinugay Road and the Foremost Road are still in woeful condition.

1.2 Internal Linkages

The E. Rodriguez Avenue, M.L. Quezon Avenue, Magsaysay Avenue and Sumulong Avenue are the interconnected national roads that provide the main transport framework of the municipality (Figure 26). The E. Rodriguez Avenue on the northern side connects Teresa to Antipolo City and is directly linked to three (3) inter-barangay roads, namely Teresa-Pinugay Road on the northern side which provides access to the eastern side of the municipality, the MLQuezon Avenue which is the primary access to the urban center and Filipinas Avenue where prime agricultural lands can be reached located on the southern portion of the municipality. Magsaysay Avenue and Sumulong Avenue on the western side links Teresa to Morong. Local roads are connected to these major avenues leading to the different areas in the municipality that redirects growth and development outside the urban core.



1.3 Roads & Bridges

The existing road infrastructure network of the Municipality of Teresa can be categorized under four (4) administrative jurisdictions, namely: national, provincial, municipal, and barangay. The national and provincial roads function as arterial roads and make up the main thoroughfares of the municipality's road network. On the other hand, municipal and barangay roads function as collector roads and provide access to the arterial roads.

As of 2012, there are 4.51 km of national road in the municipality, of which 3.2 km is concrete and 1.31 asphalt. For the 12.40 km provincial road, 7.2 km is concrete and 5.2 km gravel. There are 6.465 km municipal road of which 5.665 km are made of concrete and 0.800 km asphalt. For the barangay roads, 1.865 km is concrete, 0.050 km gravel and 0.300 km asphalt (Table 90).

Supplementing the national and local roads are seven (7) bridges in the community with a total length of 132.4 meters of which five (5) are located in Brgy. May-iba. The rest are located in Brgy. Bagumbayan and Brgy. San Roque (Table 91 and Figure 27).

Table 90. Local Road Classification by Surface Pavement (Kms)

Type	National	Provincial	Municipal	Barangay
Concrete	3.2	7.2	5.665	1.865
Gravel	-	5.2		0.050
Asphalt	1.31	-	0.800	0.300
Total	4.51	12.40	6.465	2.215

Source: Office of the Municipal Engineer

Table 91. Bridge Name, Location, Type, Road Capacity & Physical Condition

Bridge Name	Location (Barangay)	Type	Road Capacity (Tons)	Physical Condition	Total lengths (mts)
1.Uno Bridge	May-iba	Steel/Wood		Under renovation	36.80
2.Dos Bridge	May-iba	Concrete		Good	5.0
3.Tres Bridge	May-iba	Steel		Good	9.5
4. Cuatro Bridge	May-iba	Steel/Concrete	25 tons	Good	30.9
5.Bulak Bridge	Bagumbayan	Concrete		Good	5.5
6. San Jose Bridge	May-iba	Concrete		Good	5.7
7. Teresa Bridge	San Roque	Concrete	15 tons	Good	42.0

Source: Office of the Municipal Engineer



There is no airport and major terminals in the municipality. Tricycle terminals are distributed in the different strategic areas in the municipality. There are waiting sheds, street lightings and road signages within the community.

The Department of Public Works & Highways-Second District, has proposed the rehabilitation/improvement of Roman Roxas Farm to Market Road amounting P 62.21M (concreting of 2.86 km, construction of slope protection and chb lined canal) and PantayBuhangin Farm to Market Road amounting P45.0M (concreting of 2.45 km, construction of chb lined canal and installation of RCCP).

The construction of the farm to market road linking Barangay San Gabriel to Calumpang/Sto.Cristo and Dulumbayan Dulumbayan was already started. Riprapping of the slope protection for this road is being proposed. One third or 1.246 km of the arterial road linking the ISWMF to the Pantay-Buhangin Road was already constructed. Funding is still being sought for its completion.

Development Needs, Key Issues and Concerns

The standard road to population ratio is 2.4 km length per 1,000 population. The population of Teresa for 2010 is 47,163. The road density of Teresa per 1,000 population is 0.54 km which is much shorter than the ideal required length of 2.4 km. This means that to have an ideal road to population ratio, there is a need to construct new roads or open up roads access in other areas in the municipality. For 2010, Teresa's current road requirement is 87.65 km which will increase more with the increase in population and no additional roads being constructed. For 2023, the projected population of 108,369 will require 113.19 kms.

This lack of roads is evident in the traffic situation being experienced in the urban center of the municipality, specifically along the public market during Thursday or the "tiangge" day, and the area going in and out of the Catholic Church on Sundays. It can also be observed that traffic also builds up during working days after five pm. To prevent congestion in the urban center, inter barangay road links should be constructed. Loading and unloading areas should be observed by passenger vehicles and traffic enforcers should strictly implement traffic laws.

Inter municipal roads should be established to promote easy access of Teresa to neighboring municipalities. The Antipolo Zigzag Road is the most convenient road going to Antipolo from Teresa. However, this road is accident prone and incidences of landslides were recorded after heavy rains. There is a need to construct or establish other roads which will promote easy access to Teresa especially in case of disaster. A road linking Teresa to Angono and Binangonan should also be given attention. The link from Teresa to Marcos Highway should be improved/rehabilitated. When the envisioned development of the Infanta Port in Quezon becomes a reality, this link will play a vital role for the municipality.

To prevent congestion in the urban center, inter barangay road links should be constructed. The implementation of the long delayed road construction project



linking Barangay San Gabriel to Calumpang/Sto.Cristo and Dulumbayan needs to be fast tracked.

There is a need to construct and improve/rehabilitate the existing farm to market roads in the municipality since agriculture is a major driver of its economy.

Rehabilitating/upgrading and retrofitting existing bridges should also be given consideration in view of the fact that most bridges in the municipality were constructed decades ago and also as a preparation to mitigate disaster.

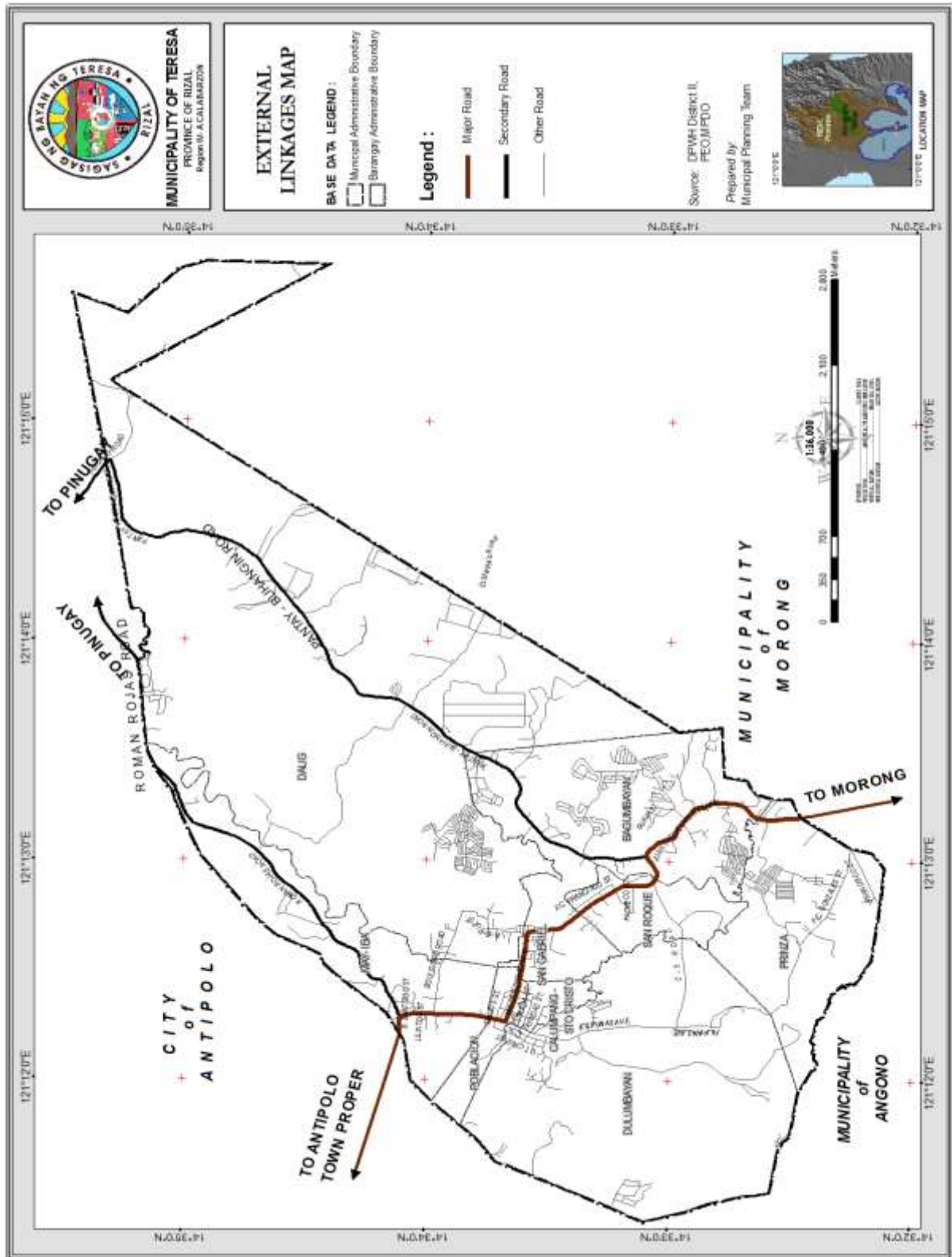


Figure 25. External Linkages Map

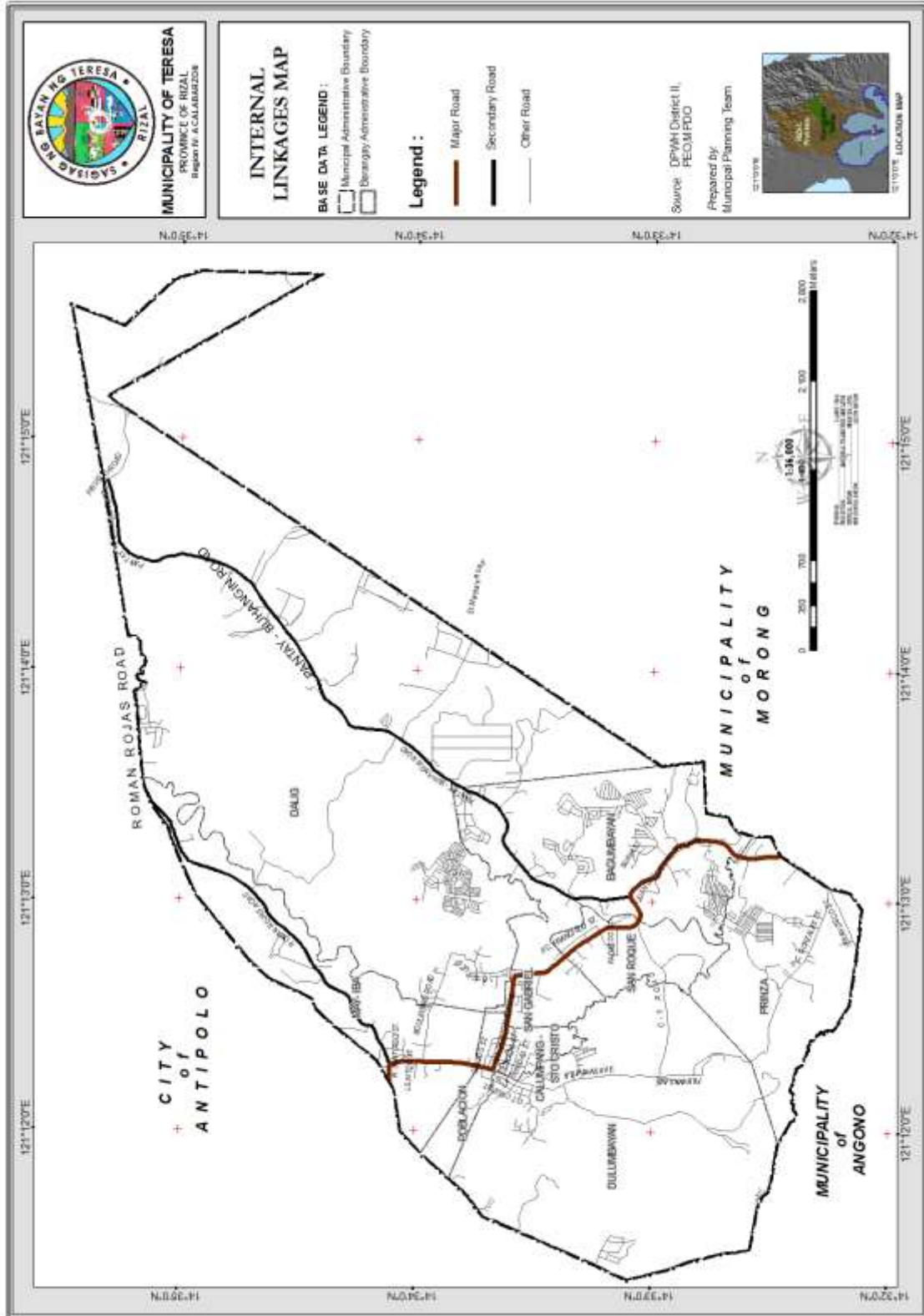


Figure 26. Internal Linkages Map

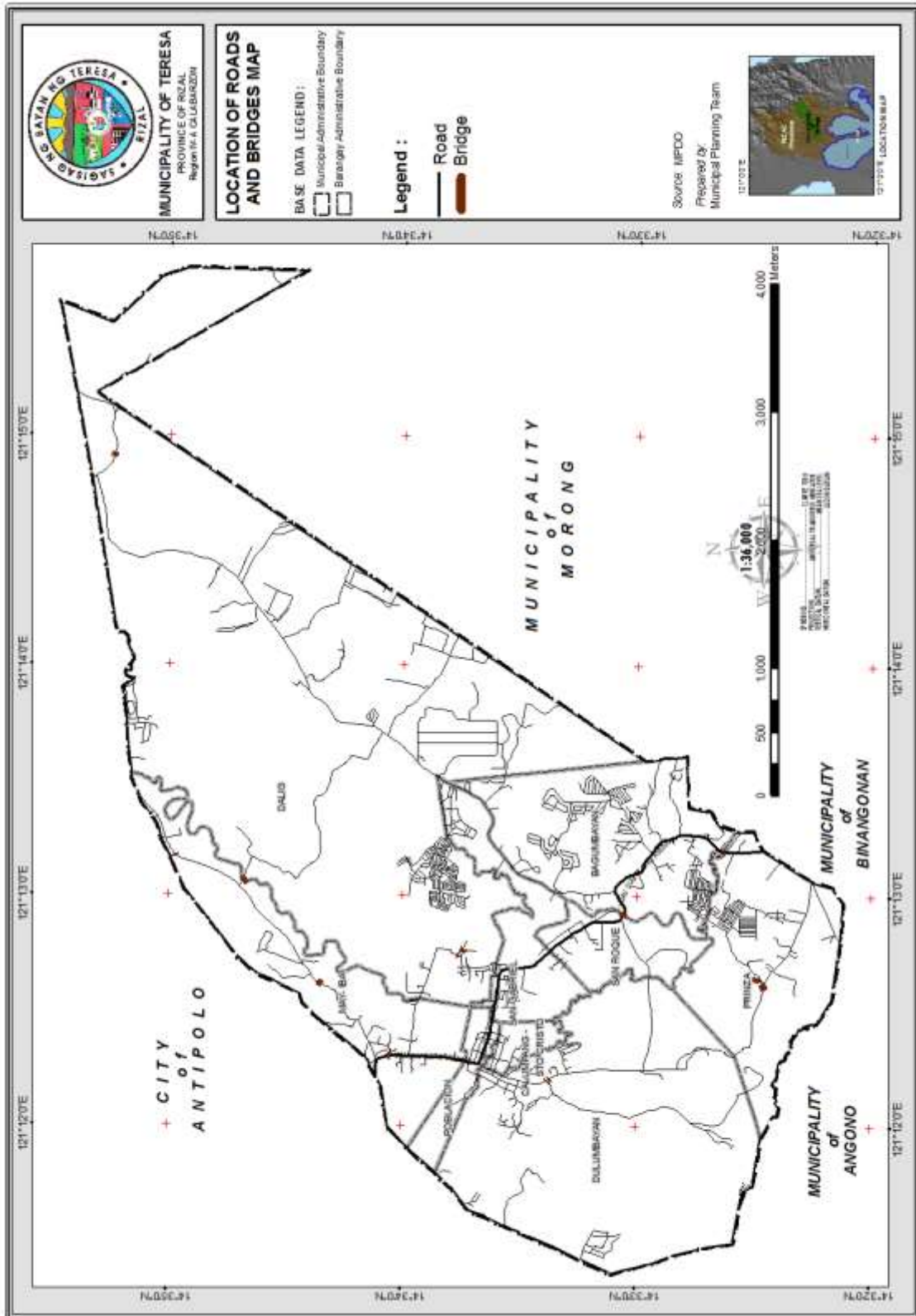


Figure 27. Location of Roads and Bridges



2. Water

2.1 Water Supply

Sukol Spring used to be the main source of water supply in the municipality. Through the years, alternative water sources were put up to cope with the growing demand of the increasing population. Water shortages and deteriorating water quality were then the threats encountered by the municipality. Water extraction and distribution used to be a lucrative business enterprise.

With the establishment of the Teresa Water District (TERWAD) in 2000, the water supply system has greatly improved in the municipality in the past years. Most of the households in the municipality are served by a Level III water system under TERWAD. There are 5,342 connections for domestic consumers and 252 connections for commercial consumers (Table 92). The average water consumption for domestic consumers is 22 cu.m. and 30 cu.m. for commercial consumers.

Table 92. Type and Number of Connections and Average Water Consumption By Barangay As of June 2013

Barangay	Type of Connection			
	Domestic		Commercial	
	No. of Connections	Average Water Consumption (cu.m.)	No. of Connections	Average Water Consumption (cu.m.)
Bagumbayan	909	23	41	21
San Roque	633	26	16	72
San Gabriel	534	22	88	19
Dalig	808	22	11	68
Poblacion	326	27	38	28
Calumpang	281	28	12	37
May iba	1,016	24	36	33
Prinza	305	19	1	19
Dulumbayan	930	22	9	30
Total	5,342	24	252	36

Source: Teresa Water District



2.2 Sources of Water

Several water sources were being tapped by TERWAD. These include Manila Water, Morong Water District and the deepwell, pumping station and reservoir located in Dulumbayan, Dalig, San Roque, San Gabriel and Bagumbayan (2). The six (6) water sources were being maintained by TERWAD and arrangement with Manila Water and Morong Water District is being implemented. The agency is also looking for other water sources for further improvement of the water supply in the municipality. Table 93 showed the existing pumping stations and capacity,

Table 93. Inventory of Pumping Stations and Capacity, 2013

Pumping Stations	Pump Capacity
GMC - Bagumbayan	6 lps
Canlibot - Bagumbayan	12 lps
San Roque	10 lps
Dalig	7.5 lps
San Gabriel	4 lps
Dulumbayan	8 lps
Boy Scout Camp	3.5 lps

Source: Teresa Water District

Water sourced from deepwell / pumping Stations covered six (6) barangays namely Bagumbayan, San Roque, San Gabriel, Dalig, Dulumbayan and Calumpang/Sto. Cristo (Table 94). The rest of the water located in the portion of San Gabriel, Poblacion, May-iba, Sitio Ibabaw (Dulumbayan) and Prinza are served by water service providers or purchased water.

Table 94. Source of Water and Barangay Covered, 2013

Source of Water	Barangays Covered
Deepwell / Pumping Stations	Bagumbayan, San Roque, San Gabriel, Dalig, Dulumbayan, Calumpang/Sto. Cristo
Other Water Service Providers/ Purchased Water	Portion of San Gabriel, Poblacion, May-iba, Sitio Ibabaw (Dulumbayan), Prinza

Source:TERWAD



2.3 Number of Households being Served by Level 1, II,III Water System

Other households in the different barangays which were not served by Teresa Water District are still using Level I water system. There are 317 households using Level I water system and they are found in Barangays Dalig, Bagumbayan, Dulumbayan and May-iba (Table 95). Seventy two households in Dalig are being served by level II water system). Eighty three to 85% of the households in Barangays San Gabriel, San Roque, Prinza, Poblacion and Calumpang/Sto.Cristo are served by Level III water system. There are 1,354 families still to be served by any of the mentioned level of water system.

Table 95. Number of Households Being Served by Level I,II, & III Water System, 2012

Barangay	No. of Households	Level I (No. of Households served)	Level II (No. of Households Served)	Level III (No. of Households Served)	Total Households served	% to total	Number of Households still to be served
Dalig	1769	102	72	1369	1543	87.22	226
Bagumbayan	1569	94	0	1217	1311	83.56	258
Dulumbayan	1403	41	0	1161	1202	85.67	201
May-iba	1245	80	0	970	1050	84.33	195
San Gabriel	823	0	0	697	697	84.69	126
San Roque	700	0	0	597	597	85.29	103
Prinza	649	0	0	550	550	84.75	99
Poblacion	500	0	0	425	425	85.00	75
Cal/Sto.Cristo	426	0	0	355	355	83.33	71
Total	9084	317	72	7341	7730	85.09	1354

Source: MHO

Development Needs, Key Issues and Concerns

There is still a significant number of households still to be served by a Level I, II and III water system. These households resort to “kabit” system, and fetching water wherever there is available source. Those households still using Level I water system is exposed to possible water contamination which is a health risk.



With the increasing population, there is a need to tap more water sources to augment existing supply and for future development. There is also a need to upgrade existing water supply infrastructure, distribution system facilities, and services, rates, water quality and regulate water supply extraction. It is also very urgent that environmental conservation measures such as massive reforestation be implemented to recharge water tables or aquifer.

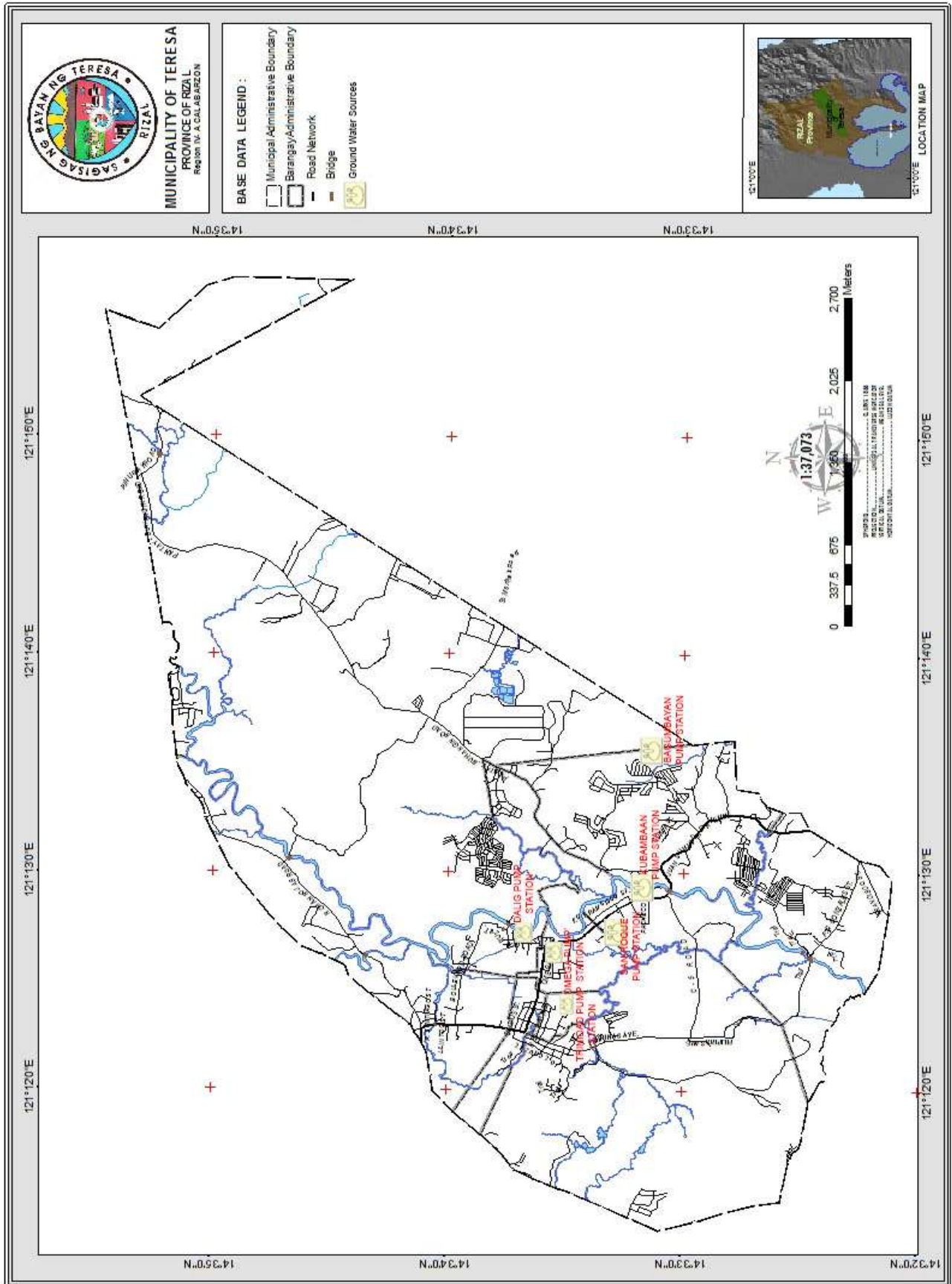


Figure 28. Location of Groundwater Sources



3. Power

Most households in the municipality as well as other users (commercial, industrial, etc.) are served by MERALCO for their electricity needs. As of 2012, there are 8,156 residential connections, 464 commercial, 13 industrial and 5 streetlights (Table 96). Residential connections has the biggest power consumption with 8,895,146 kwh followed by commercial connections with 5,827,520 kwh (Table 97).

Table 96. Type of Consumer & No. of Connections, 2009-2012

Type of Consumer	No. of Connection			
	2009	2010	2011	2012
Residential	7,503	7,785	8,133	8,156
Commercial	432	441	466	464
Industrial	13	13	13	13
Streetlights	6	5	5	5

Source: MERALCO

Table 97. Power Consumption By Type of Consumer, 2009-2012

Type of Consumer	Power Consumption (KWH)			
	2009	2010	2011	2012
Residential	8,184,309	8,730,012	8,605,137	8,895,146
Commercial	5,295,879	5,889,608	5,429,034	5,827,520
Industrial	32,593	21,507	19,597	23,422
Streetlights	81,585	82,080	80,712	76,608

Source: MERALCO

There are areas in the municipality with no electricity. These are mostly informal settlers living in far flung sitios , near the waterways and mountainous areas.

Development Needs, Key Issues and Concerns

The municipality enjoys a 24/7 power supply. However, there are still areas in the municipality without electricity. These are mostly informal settlers in the different barangays. These households were deprived access to modern conveniences. These areas are also low on economic opportunities.

Overall, power is not a major problem in the municipality because most of the households have electricity except for some for informal settlers living in the community.

With the increasing population and the number of applicants for installation of power connections, there is a need for continuous upgrading/expansion of power distribution system. There should be close coordination between MERALCO and the local government with regards to the provision of power service to the still unserved areas in the municipality.



4.Information and Communication Services

Communication is a very vital service needed by the residents. There is postal and telephone services, internet providers, and cell sites in the municipality (Table 98).

Table 98. Communication Services Facilities, 2013

Type	Barangay	Ownership	
		Public	Private
Postal Services	Municipal Hall	/	
Internet providers	Cable network		/
Telephone service provider			/
Cell sites network	Bagumbayan (4), San Roque (1), San Gabriel (1), Poblacion (1)		/
Public calling stations	-		
Broadcast and television network	-		

Source: MPDO

4.1Postal Service

There is one (1) post office serving the postal needs of the community. Generally speaking, the nature of transaction (incoming and outgoing mail) is decreasing for 2010-2012 (Table 99). This may be attributed to the use of modern technology such as land lines, cellphones, skypes and the use of social media sites in the internet in facilitating the communication needs of the populace. Snail mail though is still widely used. There are four (4) letter carriers serving the population. At a standard of 1 letter carrier per 5,000 population, the municipality still needs additional six (6) letter carriers.

Table99. Incoming and Outgoing Mail for 2010-2012

Nature of Transaction	2010	2011	2012
Incoming	85,857 pcs.	108,296 pcs.	66.333 pcs.
Outgoing	32,908	9,361	5,205
TOTAL	118,495	117,657	71,538

Source: Teresa Post Office

4.2 Telephone Service

Telephone service is provided by PLDT. However, a small percentage of the population has telephone connection.



4.3 Cell Sites

There are seven (7) cell sites located in the different barangays in the municipality, four (4) in Bagumbayan, one (1) in San Roque, one (1) in San Gabriel and one (1) in Poblacion (Figure 29). There is also one (1) broadband tower in Dalig for cable, internet and wifi purposes.

4.4 Internet Connectivity

The municipal government has an available website at www.teresarizal.gov.ph, where information about the municipality can be readily obtained. These include information on the socioeconomic profile, directory of local officials and departments in the municipal government, announcement on upcoming events, full disclosure data, etc. It also features an interactive component where visitors can post comments and questions regarding various topics about the municipality which can be answered by the host. There is a local paper published by the municipal government at least once a year highlighting the activities and accomplishments of the local government. The municipal government also has a facebook account.

There are 47 registered internet shops in the different barangays. There are two (2) cable television providers in the municipality, the other one (1) providing internet connection to an average of 64 households.

Development Needs, Key Issues & Concerns

Information Communication Technology is one of the fastest growing industry in the country. The Business Process Outsourcing (BPO) industry is considered a sunshine industry where a lot of employment opportunities can be tapped. Information can be obtained at one click of a finger.

With the growing economic activities of the municipality, there is a need for an efficient communication system. There is a need to put up one telephone station in the municipality. There are four (4) letter carriers serving the population. At a standard of 1 letter carrier per 5,000 population, the municipality still needs additional six (6) letter carriers. Its telegraph service should also be improved.

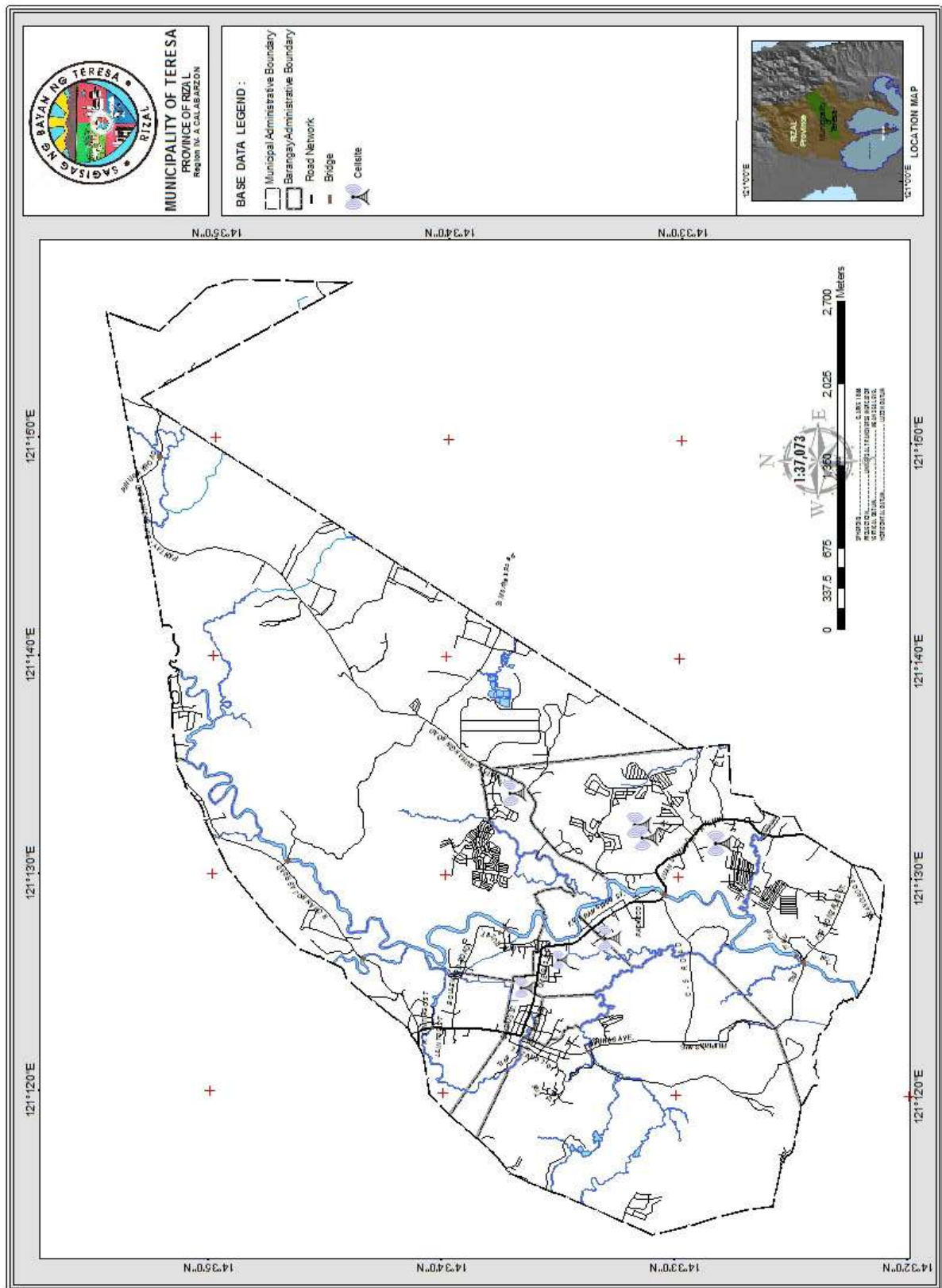


Figure 29 . Location of Cell Sites