



COMPREHENSIVE LAND AND WATER USE PLAN CY 2018-2028





VOLUME II

ECOSYSTEM ANALYSIS

SECTORAL STUDIES

SPECIAL STUDY AREAS





Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union

OFFICE OF THE SANGGUNIAN BAYAN

Excerpts from the Minutes of the Weekly Regular Session of the Sangguniang Bayan held on October 18, 2019 at the SB Session Hall.

Present: HON. CARLO CASTOR U. CONCEPCION - Vice-Mayor/Presiding Officer
HON. JOANNA KATRINA L. LEDDA - Sangguniang Bayan Member
HON. ROGELIO O. CONCEPCION - Sangguniang Bayan Member
HON. ROGELIO E. OPINALDO - Sangguniang Bayan Member
HON. MICHAEL D. MARRON - Sangguniang Bayan Member
HON. ROSIE M. IS-ISA - Sangguniang Bayan Member
HON. HERMINIA M. ORDINARIO - Sangguniang Bayan Member
HON. EMILIANA P. PORTACIO - Sangguniang Bayan Member
HON. MARIFE C. HERMOSURA - Sangguniang Bayan Member
HON. AMIEL JOHN U. CONCEPCION - ABC President
HON. ZHOREN ELRICK R. ORDINARIO - SKMF President

RESOLUTION NO. 185 S. 2019

RESOLUTION ADOPTING THE 2018-2028 COMPREHENSIVE LAND AND WATER USE PLAN (CLWUP) AND ZONING ORDINANCES OF THE MUNICIPALITY OF BALAOAN, LA UNION.

WHEREAS, submitted to this Body for adoption is the 2018-2028 Comprehensive Land and Water Use Plan (CLWUP) of the Municipality of Balaoan, La Union;

WHEREAS, Section 20 (c) of the Local Government Code of 1991 mandates all Local Government Units to prepare its Comprehensive Land Use Plan;

WHEREAS, Republic Act No. 7279 otherwise known as the Urban Development Housing Act also mandates LGUs to adopt Land Use Plan;

WHEREAS, the submitted Comprehensive Land and Water Use Plan is aimed to guide and set direction and pace of development of the Municipality of Balaoan, La Union in the future;

WHEREAS, copies of the 2018-2028 Comprehensive Land and Water Use Plan were distributed to the members of the Provincial Land Use Committee for their technical review;

WHEREAS, the Local Zoning Review Committee has integrated all the comments and recommendations of the reviewing agencies;

WHEREAS, said Local Water and Land Use Plan have been found to be in accordance with the existing policies of the national government;

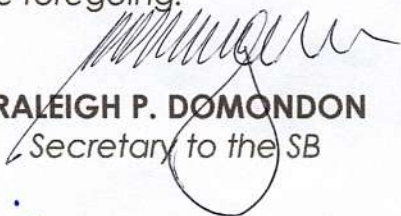
NOW THEREFORE, on motion duly seconded, Be it:

RESOLVED, as it is resolved to adopt the 2018-2028 Comprehensive Land and Water Use Plan (CLWUP) of the Municipality of Balaoan, La Union.


RESOLVED FURTHER, to furnish copies of this Resolution to the offices concerned for their information and appropriate considerations.


"UNANIMOUSLY APPROVED."

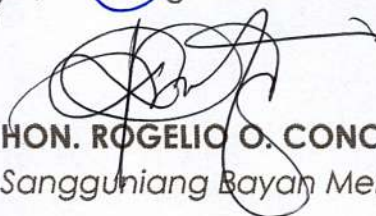
I hereby certify to the correctness of the foregoing.

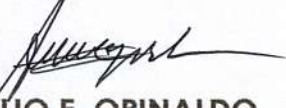

RALEIGH P. DOMONDON
Secretary to the SB


ATTESTED:



HON. CARLO CASTOR U. CONCEPCION
Municipal Vice Mayor/Presiding Officer

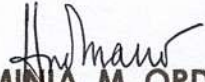

HON. JOANNA KATRINA L. LEDDA
Sangguniang Bayan Member



HON. ROGELIO O. CONCEPCION
Sangguniang Bayan Member



HON. ROGELIO E. OPINALDO
Sangguniang Bayan Member


HON. MICHAEL D. MARRON
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Sangguniang Bayan Member


HON. MARIFE C. HERMOSURA
Sangguniang Bayan Member


HON. AMIEL JOHN U. CONCEPCION
ABC President


HON. ZHOREN ELRICK R. ORDINARIO
SKMF President

APPROVED:


ATTY. ALELI U. CONCEPCION
Municipal Mayor



COMPREHENSIVE LAND AND WATER USE PLAN



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union

Office of the Mayor

RECEIVED

OFFICE OF THE SANGGUNIANG
PANLALAWIGAN

Date: 5/11/20 Time: 2:00 PM

May 04, 2020

HON. MARIO EDUARDO C. ORTEGA

Provincial Vice Governor
Province of La Union

Dear Vice Governor Ortega:

We are respectfully furnishing your good office the final copy of our Comprehensive Land and Water Use Plan (CLWUP) for review and approval by the Sangguniang Panlalawigan.

Thank you and I trust that you will find everything in order.

Very truly yours,

Alceli U. Concepcion
ATTY. ALELI U. CONCEPCION
Municipal Mayor

Telefax No. [072] 607-0069



Email Address : balaoan_2517@yahoo.com.ph



Website : www.balaoanlaunion.gov.ph

Tuloy Ang Akryon!

Akryon Nan... Balaoan!



Agenda of the Day

The review of the Comprehensive Land and Water Use Plan (CLUP) for the Municipality of Balaoan, La Union, was held on October 11, 2019, at the Provincial Capitol, San Fernando City, La Union.

COMMITTEE MEMBERS

Office of the Provincial Engineer

City of San Fernando

Highlights of the Provincial Land Use Committee Technical Review for the Comprehensive Land and Water Use Plan 2018-2028, held at Diego Silang Hall, Provincial Capitol, San Fernando City, La Union on October 11, 2019.

Present:

1. Michaela Louise T. Delfinado, Provincial Planning and Development Coordinator, PLUC Chairperson;
2. Darius Leo A. Cargamento, Assistant Provincial Planning and Development Coordinator, PLUC Head Secretariat;
3. Engr. Prudencio M. Oliva, Jr., MPDC, Municipality of Balaoan;
4. Engr. Prudencio O. Octavo, Jr., MDRMO, Municipality of Balaoan;
5. Cristino O. Valdez, JR., Municipality of Balaoan;
6. Felicidad L. Ledda, Municipality of Balaoan;
7. Analiza P. Julaton, Municipality of Balaoan;
8. Lourence O. Cleber, Municipality of Balaoan;
9. Cecilia M. Castillo, Municipality of Balaoan;
10. Gerardo O. Opinaldo, Municipality of Balaoan;
11. Mae Graciele Oblero, Municipality of Balaoan;
12. Maximo Marron, Municipality of Balaoan;
13. Medelita R. Ducusin, DTI-LU
14. Martin S. Valera, Regional Director, DOT Region 1
15. Mary Rose R. Ancheta, DILG Provincial Office La Union
16. Vincent U. Barrozo, DAR Regional Office 1;
17. Josephine T. Ople, PENRO La Union,
18. Jenny D. Carino, HLURB;
19. Ike F. Sanglay, DPWH La Union District Office 1;
20. Shereal M. Catbagan, OPG-ENRU;
21. Joy Ann L. Gurtiza, PIO
22. Arnulfo A. Cacho, Provincial Assessor;
23. Engr. Arsenio Roy C. Villalon, PEO

Secretariat:

1. Roshelle A. Mamaril, OPPDC
2. Melda L. Pocsidio, OPPDC
3. Mariel faye M. Mina, OPPDC
4. Hanzel D. Guerrero, Jr., OPPDC

I. Call to Order

The review commenced at 1:30 in the afternoon and was presided over by the PLUC Chairperson Michaela Louise T. Delfinado.

II. Acknowledgement of Participants

The PLUC Secretariat acknowledged the presence of the committee members and ascertained the existence of quorum.



III. Business of the Day

The Municipality of Balaoan presented their CLWUP through Audio-Visual Presentation showing therein the salient points/highlights of the plan.

COMMENTS/RECOMMENDATIONS/SUGGESTIONS:

Office of the Provincial Planning and Development Coordinator

- Existing Coastal Boundary Dispute between Bacnotan and Balaoan might affect the implementation of the Provincial Foreshore Development Management Plan;
- The stated programs, projects and activities in the plan should be consistent with those identified in their Local Development Investment Plan;
- The Tourism Development Strategy and Thrust is only focused in Immuki Island;
- Although already indicated in their zoning ordinance, the Provincial Foreshore Development Plan should still need to be integrated in the Ecosystem Analysis, in the Climate and Disaster Risk Assessment, and in the Policy Interventions of the CLUP;
- Although tourism is included as part in the Development Thrusts and Strategies, there are no programs, projects or activities identified in the LDIP to support the strategy and this is very important since this is one of the bases for alignment in the Agri-Tourism Vision-Mission of the Province and to their own Vision-Mission as well;

Volume I

- The late Alfred O. Concepcion is still indicated as the Municipal Vice Mayor in the Introductory part of the CLWUP at page 5 in contrast to the incumbent Municipal Vice Mayor Carlo Castor U. Concepcion, who is also one of the signatories on the said Plan;
- Inconsistent Vision-Mission: *"Balaoan shall be a major agri-tourism destination in La Union sustained by a progressive economy, steered by dedicated leaders with an empowered and resilient community in an ecologically-balanced and safe environment"* is the declared Mission in Volume I while it is declared as their Vision in Special Studies Area, Volume II.
- Demographic Profile on Population is still based on 2010 NSO Data while the population on Existing Land Uses (pg 61) is based on 2015 NSO Data;
- Land and Water Use Policies at Page 100: Revise Provincial Physical Framework Plan (PPFP) to Provincial Development and Physical Framework Plan (PDPFP)
- Land and Water Use Policies at Page 100: PD 1096 for Building Code of the Philippines, PD 1067 for Water Code Philippines, and RA 8749 for Clean Air Act
- Priority Development Programs and Projects (p 107-112) do not cover most or are not aligned to Development Strategies (p 83-89).
- Agricultural Development not aligned in Development Thrust Spatial Map (p 82) and Development concept and Structure Map (p 90).
- Is the Tourism Development Strategy and thrust only focused in Immuki Island?

Volume II

- Ecosystem Analysis: Possible integration of the Provincial Foreshore Development Plan of the Provincial Environment and Natural Resources



- Office (PENRO) in partnership with coastal LGUs especially under the Implementation Scheme at page 26.
- Integration of strict compliance to the legal mandates on land reclassification in Table 63: Sector Matrix (Agriculture) at page 134.
- Integration of the existence of Tourism Development Plan of the Municipality of Balaoan as one of its Policy Intervention in the Tourism component under the Sectoral Studies.
- The Tourism Development Plan can also be one of the bases for alignment to the Vision and Mission of the Province of La Union
- Tourism Policy Options (p 152) and Interventions can still be improved, is there a need for access roads? Tourism safety measures? Environmental fee regulation?
- Incomplete Inventory of Public Land Transportation Vehicles by Type and Service Routes Table 82 at page 160.
- Integration of strict compliance to the legal mandates on land reclassification in the Economic Sector Analysis under the Special Study Area at page 190.
- For agriculture, sea urchin is known as one of the products of Balaoan, are there any plans or developments along this commodity?

Volume IV

- Climate and Disaster Risk Assessment: Integration of the Provincial Foreshore Development Plan of the PENRU as one of its Policy Interventions in Table No. C-134: Disaster Risk Assessment Summary Matrix at page 236.

Provincial Environment and Natural Resources Office

- The existence of land disputes between the Municipalities of Balaoan and Bacnotan may affect the implementation of the Provincial Foreshore Development Management Plan;
- Correction on the cadastral survey of the Municipality of Balaoan being not updated: The DENR has already conducted cadastral survey thereat;
- The DENR and the municipality can have a Memorandum of Partnership to lessen the problem/issues on titling of lands in the municipality;
- Aside from agriculture lands previously surveyed, Public Land Survey is also being conducted on residential lands;
- Executive Order No. 533 "Adopting Integrated National Strategy to ensure the Sustainable Development of the Country's Coastal and Marine Environment and Resources and Establishing Supporting Mechanisms for its implementation" to be included as one of the Plan's Policy Interventions.

Housing Land Use Regulatory Board

- The plan is substantially and formally complete.

Department of Trade and Industry Provincial Office

- If there are programs or projects pertaining to any industry under the jurisdiction of the Department of Trade and Industry, the same is willing to provide support in terms of industry-related activities.

Department of Tourism Region 1

- Diversify the tourism industry and not to focus the development of limited tourism areas particularly on Immuki Island;



- Elaborate the impact of tourism in the municipality;
- Provide more information or discussion on how the tourism areas are to be developed;
- Effect of infrastructure projects on tourism;
- Promote Human Circulation in tourism;
- Parks and Open spaces can be used to promote tourism.

Department of Interior and Local Government Provincial Office

- The Plan is already DRR-CCA Mainstreamed as the results of the Climate and Disaster Risk Assessment have already been incorporated;
- Sectoral Studies are complete.

Department of Agrarian Reform

- Strict compliance on reclassification and conversion as mandated under Republic Act 6657 otherwise known as Comprehensive Agrarian Reform Law, DAR Administrative Order No. 01, series of 1999, and Memorandum Circular 54, series of 1993;
- There should be a strict differentiation of land reclassification from land conversion, the former being under the power of the local government unit concerned and the latter being under the exclusive jurisdiction of DAR;
- Penalty for all those involved in illegal land conversion is imprisonment.

Office of the Provincial Assessor

- There is already an approved Cadastral Survey based on the DENR Records therefore the actual area of Balaoan is actually identified.
- Untitled properties do not affect the collection of real property tax from property owners.

OPG-Environment and Natural Resources Unit

- Although there is solid waste management and waste water management in the plan, there is no biodiversity conservation discussed;
- Possible inclusion of data on their identified forest/timberland;
- Indication of tree planting activities in the plan but not reflected in the LDIP;
- Indication of issues on potable water but not reflected in the LDIP or
- any actions to be taken to address the issue.

Provincial Information Office

- Indication of how much employment is generated from the tourism establishments/facilities;
- Indication of how much revenue is generated in the tourism industry;
- Identify the tourism establishments operating in the municipality.

The body moved for the approval of the plan and duly seconded subject to the condition that the comments/suggestions of the committee members be integrated in the plan prior to the approval of the plan by the Sangguniang Panlalawigan.



Other Matters:

The PLUC Members are advised to submit their comments/suggestion to Office of the Provincial Planning and Development Coordinator within a week from the date of this activity.

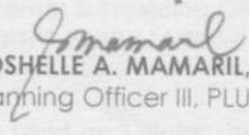
IV. Adjournment

The Provincial Land Use Committee Technical Review for the Comprehensive Land and Water Use Plan 2018-2028 was adjourned at 4:00 in the afternoon.

Prepared by:


HANZEL D. GUERRERO, JR.
Planning Officer II, PLUC Secretariat

Reviewed by:


ROSHELLE A. MAMARIL, EnP
Planning Officer III, PLUC Secretariat

Approved:


MICHAELA LOUISE T. DELFINADO, EnP
Provincial Planning and Development Coordinator/
PLUC Chairperson



COMPREHENSIVE LAND AND WATER USE PLAN

Republic of the Philippines
PROVINCE OF LA UNION
City of San Fernando



REGIONAL OFFICE OF THE PLANNING AND DEVELOPMENT COORDINATOR
PROVINCE OF LA UNION

"The Heart of Agri-Tourism in Northern Luzon by 2025"

OFFICE OF THE PROVINCIAL PLANNING AND
DEVELOPMENT COORDINATOR

RECEIVED

BY: *[Signature]*

February 26, 2020

HON. MARIO EDUARDO C. ORTEGA, Vice-Governor & Presiding Officer and
THE HONORABLE MEMBERS OF THE SANGGUNIANG PANLALAWIGAN
Province of La Union

SUBJECT: Endorsement of the Comprehensive Land and Water Use Plan (CLWUP),
2018-2028 of the Municipality of Balaoan

Sirs/Mesdames:

May we respectfully endorse the attached Comprehensive Land and Water Use
Plan (CLWUP) 2018-2028 of the Municipality of Balaoan, as reviewed by the
Provincial Land Use Committee (PLUC) on October 11, 2019, for the Honorable
body's consideration and approval.

Thank you very much.

Very truly yours,

[Signature]
MICHAELA LOUISE T. DELFINADO, EnP
Provincial Planning and Development Coordinator/
PLUC Chairperson

Encl.: as stated

PPDC-001A-0

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Office of the Provincial Planning and Development Coordinator
Regional Office of the Planning and Development Coordinator
Province of La Union
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Seal of
Good
Local
Governance

PGS

ISO

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COMPREHENSIVE LAND AND WATER USE PLAN

Republic of the Philippines
PROVINCE OF LA UNION
City of San Fernando

TANGGAPAN NG SANGGUNIAN NG PANLALAWIGAN

EXCERPT FROM THE JOURNAL OF THE 46th REGULAR SESSION OF THE 22nd SANGGUNIAN NG PANLALAWIGAN OF LA UNION THROUGH ELECTRONIC GOVERNANCE (E-GOV) PLATFORM HELD AT THE SPEAKER PRO-TEMPORE FRANCISCO I. ORTEGA PROVINCIAL LEGISLATIVE BUILDING AND SESSION HALL, PROVINCIAL CAPITOL, CITY OF SAN FERNANDO, PROVINCE OF LA UNION ON MAY 12, 2020

Hon. Mario Eduardo C. Ortega Vice-Governor / Presiding Officer

PRESENT:

Hon. Francisco Paolo P. Ortega V	Member
Hon. Jonathan Justo A. Orros	Member
Hon. Gary N. Pinzon	Member
Hon. Jennifer C. Mosuela	Member
Hon. Gerard G. Ostrea	Member
Hon. Nancy Corazon M. Bacunay	Member
Hon. Maria Annabelle S. de Guzman	Member
Hon. Christian I. Rivera	Member
Hon. Frank O. Sibuma	Member
Hon. Abraham P. Rimando	Member
Hon. Ruperto A. Rillera, Jr.	Member
Hon. Geraldine R. Ortega	Member
Hon. Alyssa Kristine B. Sibuma	Member

ABSENT:

NONE

RESOLUTION NO. 519-2020

On motion of Hon. Frank O. Sibuma, unanimously seconded, be it;

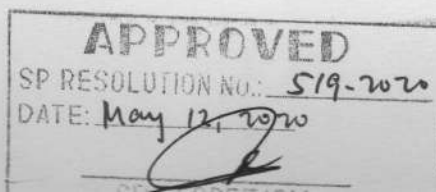
RESOLVED, as it is hereby resolved, to approve, for purposes of review, the Comprehensive Land and Water Use Plan (CLWUP) 2018-2028 of the Municipality of Balaoan, La Union and hereby enjoined the strict compliance of the herein cited law, resolution and executive order pertaining to the review procedure, to wit:

- Resolution 908, Series of 2013 of the Board of Commissioners of the Housing and Land Use Regulatory Board, entitled: "Approving the 2013 Enhanced Comprehensive Land Use Plan Guidebook Volume I," which provides among others under its Annex 10-1 - The Plan Review, Adoption and Approval process for Comprehensive Land Use Plans of Component Cities and Municipalities (CCMs), Highly Urbanized Cities (HUCs) and Independent Component Cities (ICCs), the following as its first step:

Mayor transmits to Sangguniang Panlalawigan, one (1) set of presentation maps and at least three (3) copies of final draft of Comprehensive Land Use Plan (CLUP) and Zoning Ordinance (ZO) together with the following documents:

- Executive Summary of the CLUP*;
- Sangguniang Bayan(SB)/Sangguniang Panlungsod (SP) Secretary's Certificate of Public Hearing conducted;
- Minutes of Public Hearing;
- List of Invitees and sector represented;
- Copy of Issued Invitation letter/Notice of Public Hearing; and
- Copy of Attendance Sheet.

- Section 2 (b) of Executive Order No. 72-1993, which provides among others that "There shall be established in every province a Provincial Land Use Committee





MESSAGE OF THE MUNICIPAL MAYOR

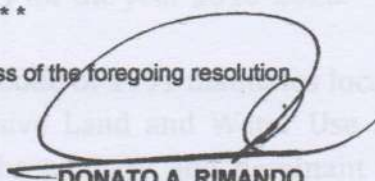
Resolution No. 519-2020, Page 2

(PLUC) to assist the Sangguniang Panlalawigan in reviewing the comprehensive land use plans of component cities and municipalities...."

3. Section 468 (2) (vii) of the Local Government Code of 1991 or RA 7160 provides that the Sangguniang Panlalawigan is mandated to 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.

APPROVED.

I HEREBY CERTIFY to the correctness of the foregoing resolution.


DONATO A. RIMANDO

Secretary to the Sangguniang Panlalawigan

ATTESTED:


MARIO EDUARDO C. ORTEGA

Vice-Governor
Presiding Officer



MESSAGE OF THE MUNICIPAL MAYOR

First, let me take this opportunity to thank the Housing and Land Use Regulatory Board (HLURB) for their invaluable support and guidance in the preparation of this plan. To the CLWUP Planning Team, local officials, and to everyone who contributed in the formulation of the plan, thank you and congratulations!

I am deeply honored to present to the people of Balaoan this Comprehensive Land and Water Use Plan (CLWUP) of the Municipality for the year 2018-2028.

Section 20 (c) of the Local Government Code of 1991 mandates local government units to prepare their respective Comprehensive Land and Water Use Plans enacted through a zoning ordinance which shall be the primary and dominant bases for the future use of land and water resources. The Comprehensive Land and Water Use Plan is a long-term management plan that serves as the skeletal framework of the territory's physical development. It identifies areas where development can and cannot be located and directs public and private investments accordingly. Generally, this document defines goals, objectives, and strategies of the municipality to rationalize the allocation and proper use of our land resources under a ten-year planning period.

Blessed with rich natural resources and tourism potentials, good road networks and other advantages, our town abounds with development opportunities. Hence the completion of the plan is very timely and important for the municipality to attain development to its fullest potential.

However, as the famous painter Pablo Picasso once said, "Our goals can only be reached through a vehicle of a plan, in which we must fervently believe and upon which we must vigorously act. There is no other route to success."

This plan is just the first step on our road to development. Bigger challenges still lie ahead as we implement this plan. I therefore encourage and call on everyone to rally behind the implementation of this Plan, keeping in mind our vision to make the Municipality of Balaoan a model for development and progress.

Tuloy ang Aksyon...
Aksyon Itan Balaoan!
Aksyon Latta Balaoan!


ATTY. ALELI U. CONCEPCION
Municipal Mayor



MESSAGE OF THE MUNICIPAL VICE MAYOR

The Municipality of Balaoan is at the wheel of its development especially on the Infrastructure and Economic sector. Leaders, lawmakers, employees and constituents join hands to face the challenges in achieving the mission and vision of the municipality.

Being the head of the lawmakers, it pushed me to be proactive in initiating drastic measures in the Sangguniang Bayan Office such as the formulation of Mandatory Codes namely: The Code of General Ordinances, The Environment Code, The Investment and Incentives Code, The Revised Revenue Code, The Tourism Code, The Market Code, The Sanitation Code, The Traffic and Transportation Code and The Public Private Partnership Code and also the enacting of various Ordinances beneficial to the public.

Another milestone in my political career as a public servant is the adoption of the Comprehensive Land and Water Use Plan 2018-2028 of the municipality. It will serve as a guidepost in addressing pressing issues and concerns on zoning and land use development of the municipality. It embraces the entire territorial jurisdiction of the municipality as it addresses the multi-faceted concerns of the various sectors. It is comprehensive as it translates the proper development goals, objectives and policies into a spatial plan indicating the proper allocation of land and water resources taking into account sustainable development without risk to the environment.

As a public servant, I strongly believe that having this CLWUP as a guide will positively divert the municipality into a more vibrant socio-economic and geophysical environment as well as addresses the challenges which the future governance of our municipality will encounter.

HON. CARLO CASTOR U. CONCEPCION

Municipal Vice Mayor



FOREWORD

The Local Government Code of 1991 otherwise known as the Republic Act No. 7160 serves as the basis for land use planning for local government units. The policy embodies the “genuine and meaningful autonomy” to the Local Government Units to enable them to attain the fullest development as a self-reliant community with the utilization of limited resources as they become more productive partners in nation building.

To comply with the requirement of Article 41 of the Implementing Rules and Regulations of the Local Government Code of 1991 (Sec. 20. RA 7160) the Municipality of Balaoan, La Union prepared its Comprehensive Land and Water Use Plan and enacted through a Zoning Ordinance.

The CLUP was prepared by the Municipal Planning Team with the technical assistance of the Housing and Land Use Regulatory Board, Region 1 in accordance with the updated planning guidelines which requires the mainstreaming of climate change adaption and disaster risk reduction and the standards based on reports, data, plans and recommendation of different concerned departments in their assigned sectoral developments.

The CLWUP of Balaoan shall be the primary and dominant guidepost or blueprint for the appropriate use of the natural resources, preserving special natural features of environmentally critical areas, allocation of land for settlements, industries and other urban uses on land least suitable for agricultural uses, and serve as a basis for reclassifying and converting lands. Second, CLWUP serves as a guide for the orderly development of Balaoan to promote the health, safety, welfare and convenience of the population. Third, it translates socio-economic policies to physical policies and plans to promote sustainable development without risk to the environment.



ACKNOWLEDGEMENT

The Municipality of Balaoan, La Union, thru the efforts of the Municipal Planning and Development Office would like to express its heartfelt appreciation for the invaluable support and cooperation of the following:

Housing and Land Use Regulatory Board, Region 1

Provincial Planning and Development Office

Philippine Statistics Authority

Department of Education

Department of Environment and Natural Resource

CLUP Technical Working Group (TWG)

NGOs, CSOs, and other various stakeholders

Likewise, the Municipal Government of Balaoan would like to extend its profound thanks and gratitude to the HLRUB Regional Staff, and the Members of the Provincial Land Use Committee (PLUC) for their support and participation in the successful completion of the Balaoan Comprehensive Land and Water Use Plan.



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ECOSYSTEM ANALYSIS



ECOSYSTEM ANALYSIS

RESOURCE MAPPING

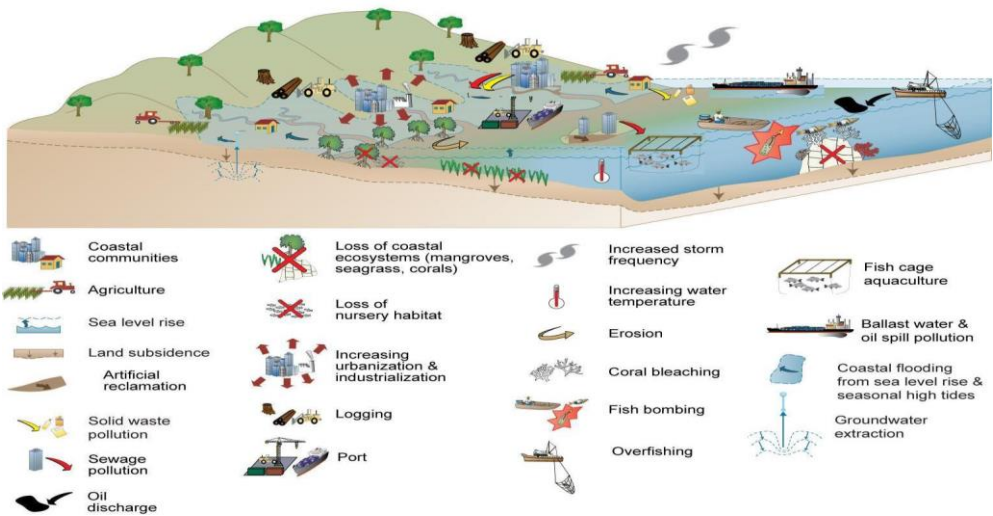
These studies will focus on a better understanding of the dynamic interrelationships and interconnectedness of ecosystems from the mountains (landscape – ridge) to the seas (seascape – reef). It will help the municipality to plan for their entire land and water area, including public land and the 15km extent of city/ municipal waters. The studies include analysis of the resources, the forest and coastal areas, the biodiversity, as well as the potential impact of climate change and various natural hazards. It will also expand on aspects of the environment which were previously embedded in the Sectoral Studies, and looks at the city/ municipality within a more integrated ridge-to-reef approach.



Mapping is a very useful tool in resource management as the community can easily visualize where the resources are as well as their condition. Such maps may also be used to identify issues, problems and conflicts and eventually aid in the zoning of various uses. They can also reveal the socio-economic conditions through the eyes of the community.

Problems, issues and conflicts

Map showing issues affecting coastal resources





Because of the present structures along the coastal barangays and non-strict implementation of existing laws in the municipality, there are a lot of problems/issues encountered by the locality. With this scenario, the town of Balaoan implements policies that hinges the engagement of the stakeholders and concerned agencies in order to prevent this problem. A preventive measure by this consequence is the CLUP Updating of the municipality wherein it allows analysis on where to extend the development and regulates land use policies. Existing industries/commercial establishments at the coast and up the watershed area should be studied by the MENRO, MAO, DRMM Officer, the Municipal CRM Officer or LGU-accredited NGOs engaged in marine/coastal related work for protection and conservation of coastal resources and the environment. The local government unit maintains cleanliness along the coastal area to preserve its set-up.

Coastal Area

One highlighted strength of the town is the presence of coast lines along the western part of Balaoan seemed to be their tourist destination and source of living in the locality. The shores of Balaoan stretch to about 7.2 kilometers and are suitable for fishing, boating, swimming, snorkeling and diving. The coastal areas in Balaoan covering Barangays Almeida and Paraoir is the fishing ground of the municipality. Fisher folks usually yield barangan, malaga, lapu-lapu, layalay, ilek, barracuda, panggit, angrat, kabasi, tamban, sukaw, dalagang-bukid, sungayan, bugsi, balaki, bebeb, dingas, ampig, mammudo, baying-bayang, purong, orilles, salay-salay, hasa-hasa, billit, caballas, mataan, talakitok, talang-talang, barasot, igat, pagi, sword fish, baraungan, kapiged, galunggong, labahita, alumahan, kanduli, pugot, bisugo, busluga, tanguigui, susay, posit and kurita.

The town is also rich in sea urchins and sea cucumber, the Maratangtang or Sea Urchin as the town's One Town, One Product (OTOP). Aside from this, coastal areas of Balaoan is also abundant with seagrasses, mangroves and coral reefs.

Immuki Island got popularized as tourist destination in Balaoan and bunch of beaches along the shoreline.

Almeida Watch Tower

In Brgy. Almeida, a remains of century old Spanish Tower could be seen and a Man Made forest is a head turner to travelers heading the Balaoan-Luna Road. They are mesmerized by the beauty and solitude of the place.



San Nicolas Parish Church

The San Nicolas Parish Church also attracts tourists, not only because of its beautiful structural design or view but also because of the sanctity of the place, located in front of the municipal plaza and along the National Road.

Ar-arampang Handicrafts

The Ar-arampang Handicrafts and the finest Virginia Tobacco as products of Balaoan drew also the attention of tourist.

Man Made Forest

This man made forest is found in barangay Almeida along provincial road going to Luna town proper, planted with mahogany and other trees usually a good site for pre-nup videos and pictorials. Like the famous Bohol man-made forest, Almeida's Man Made forest is a head turner to travelers heading the Balaoan-Luna Road. They are mesmerize by the beauty and solitude of the place.

Apaleng Park and Lagoon

The place is a good venue for picnic, sight-seeing and boating. Picnic shades are available for rent.

Dalisungsung Falls

It is located at Brgy. Bungol, Balaoan, La Union (8 kilometers from town proper). Old folks called it Dalisungsung because the falls serves as funnel. The falls is not only a tourist attraction but also a source of water for agricultural lands in the barangay.





COASTAL RESOURCES

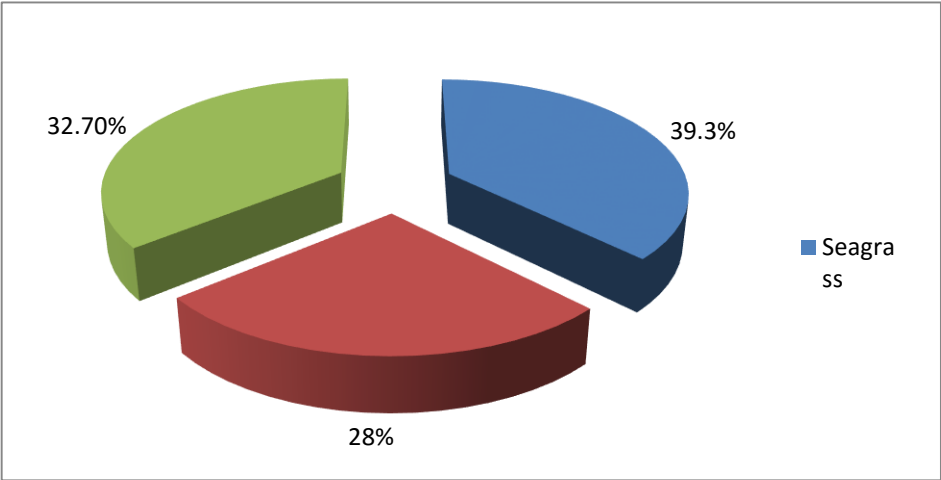
Coastal Resources

The shores of Balaoan stretch to about 7.2 kilometers and are suitable for fishing, boating, swimming, snorkeling and diving. However, there are also sea grass beds, coral reefs, and mangrove resources which support fishery in the area.

Sea grass. Sea grass meadows of the municipality are confined to the relatively shallow intertidal and subtidal areas in both Barangays Paraoir and Almeida. Six sea grass species are found namely *Thalassia himprichii*, *Enhalus acoroides*, *Syringodium isoetifolium*, *Cymodocea rotunda*, *Halodule universis* and *Halophila decipiens*. Both barangays are dominated by *Thalassia himprichii*. The seagrasses are in patches due to rocky and sandy substrates.

Barangay Paraoir has sea grass status of fair with 39.3 cover. However, in Barangay Almeida, sea grass status is definitely higher as revealed by 72.05% cover equivalent to good coral cover.

Associated seaweeds found in the area include different species of laplapayag (Padina), kulot (Hypnea), swelsweldo (Glacilaria), ar-arosep (Caulerpa), pokpoklo (Codium), lumot (Moss)



and aragan (sargassum). Species of starfish and black sea urchin were also observed in the area.

Figure 1. Seagrass status in Barangay Paraoir

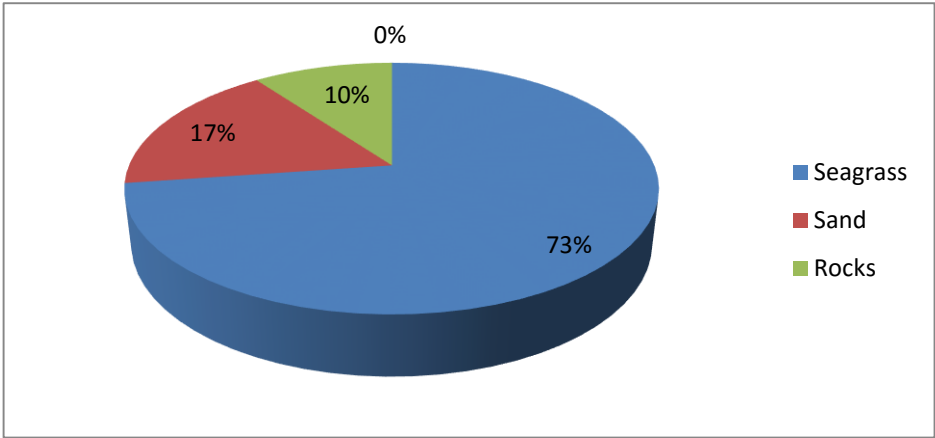


Figure 2. Sea grass status in Barangay Almeida

Mangroves. Patches of *Bantigui* (*Pemphis acidula*) are found in the coralline areas of Paraoir. Mangroves are found sporadically and in very small patches in Almeida near the bridge after Paraoir going to Luna. Other mangrove species found in the area include Saging-saging (*Aegiceras corniculatum*), Bungalon (*Avicennia marina*) and Bakauan (*Rhizophora*).

Coral Reefs. An aggregate coastline length of approximately 20 km in northern La Union is fringed by coral reefs. Thus, some of the shorelines have an associated beach comprised predominantly of carbonate materials, as in the case of Nalvo Norte and Sur. The entire Balaoan coast is generally composed of reef-derived sediments such as foraminera, and coral fragments; black magnetite sands are limited in finer grains. The magnetite sands are river-derived and reworked mainly from the folded Miocene to Pleistocene sedimentary rocks. The widest reef flat, about 500 meters, occurs along Almeida in Balaoan. The largest continuous reef platform from Quirino (north of Maragayap River) to Almeida (south of Darigayos River) covers an area of approximately a square kilometer. Coral species include porites, acropora, montipora, goniopora, pavona, favia, favites, lobopylla, symphyllia and few soft coral. Generally, the coral cover was poor at 15%.

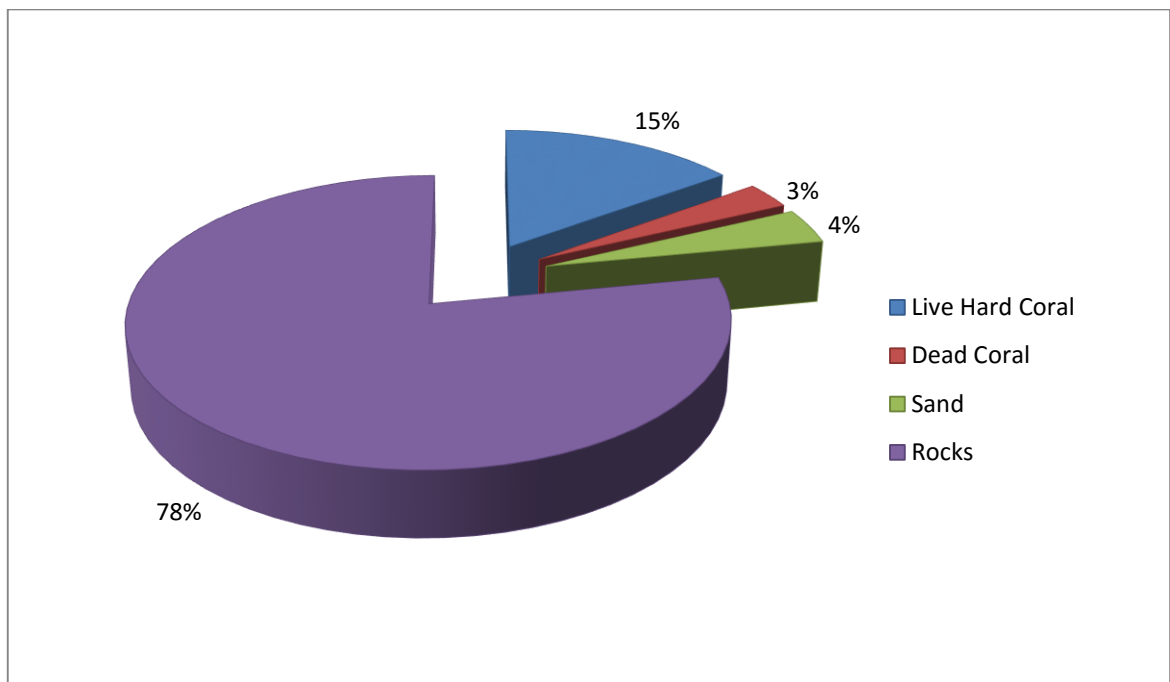


Figure 3. Coral Status in Balaoan, La Union

Fish Profile. The coastal areas in Balaoan covering Barangays Almeida and Paraoir is the fishing ground of the municipality. Fisheries yield from the municipal and commercial fishing areas include *barangan, malaga, lapu-lapu, layalay, ilek, barracuda, panggit, angrat, kabasi, tamban, sukaw, dalagang-bukid, sungayan, bugsi, balaki, bebeb, dingas, ampig, mammudo, baying-bayang, purong, orilles, salay-salay, hasa-hasa, billit, caballas, mataan, talakitok, talang-talang, barasot, igat, pagi, sword fish, baraungan, kapiged, galunggong, labahita, alumahan, kanduli, pugot, bisugo, buslugan, tanguigui, susay, posit and kurita.*

Other Marine Fauna. Other economically important species found in the area include shrimps, lobsters, crabs, shellfishes, *maritangtang* or sea urchin and *balat* or sea cucumber.

Existing Government Fisheries Facilities. The DMMMSU-North La Union Campus-Fisheries Research and Training Institute (DMMMSU-NLUC-FRTI) is located in Barangay Paraoir, Balaoan, La Union. Its mandate is on mariculture research and development and beach-ecotourism. Fisheries technology researches that are responsive to the immediate needs of its clientele are being conducted by the Institute. There is also about 5.1 hectares of fish farm/hatchery located at the Institute that is purely used for raising bangus and tilapia.

The Institute has also 0.05 hectares laboratory used for research and development of seaweeds and sea urchin. Several seaweed- and sea urchin-related technologies are developed by the Institute and these include: the 2 in 1 *Plus* mariculture system technology and processing for seaweed-based products technology such as processing of seaweed candies; seaweed bathsoap; seaweed pickles; and seaweed flakes.



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Fishery and Aquatic Resources. Balaoan is also known for its fishing industry. Located along the West Philippine Sea, there are about 340 registered fisherfolks in the area. Most of these fisherfolks are engaged in municipal fishing and resides mainly in barangays Paraoir and Almeida where fish landing areas are located.

Other than marine fishing, an area of 10.89 hectares in Balaoan is devoted to aquaculture. Around 9 hectares are communal fishponds while the rest are brackish and freshwater. These areas are located mostly in the coastal and agricultural clusters, particularly in Paraoir and Almeida. Production registered 32.7 MT for an average productivity of 3 MT per hectare.

Issues and concerns in the fishery sector of Balaoan include climate change, pollution, environmental degradation, limited alternative livelihoods and low fish catch.

Table 1. Number of Fishpond Operators and Fishermen		
Category	Number of Fishpond Operators	Number of Fishermen
1. Aquaculture -Freshwater -Brackish water -Communal -Tilapia Fish Cage -Brackish water Fish Cage	69	
2. Municipal Fishing -Motorized -Non-motorized		32 18
Total	69	40
Source – MAO Balaoan		

ENVIRONMENTAL THREATS AND STRESSES

Environmental threats and stresses in Balaoan are attributed not only to natural and bio-physical factors but also to aggravating anthropogenic factors. Economic and other human activities are often seen as directly impacting the integrity of the coastal resources. But the more critical yet subtle anthropogenic factor that bears upon the integrity of the environment and natural resources is the governance framework for the management of these resources.

1. Weak enforcement of ordinances and policies for fisheries and lack of logistical support of enforcement bodies leads to marine resources degradation

Balaoan is endowed with rich coastal resources that include mangroves, seagrasses, seaweeds and corals. These support important wild stocks of marine fishes that provide livelihoods to the coastal community. The protection of these resources has been described in



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Balaoan's Municipal Fishery Ordinance (MFO) and in the Marine Protected Area (MPA)/Fish Sanctuary Ordinance for Almeida and Paraoir. However, the implementation of these ordinances has yet to be seriously pursued and weak enforcement has been a cause for concern.

The local government of Balaoan has been mobilizing Bantay Dagat along with the community for the protection, conservation and management of coastal and marine resources. But this body admits to be very lax in enforcing coastal policies due to limited pertinent knowhow on coastal law enforcement and lack of floating assets or paraphernalia to carry out functions devolved to them. This condition tolerates illegal fishing activities in the municipality such that illegal fishers include those from within the municipality and those who come from adjacent and distant municipalities whose entry may be permitted but uses destructive fishing methods like gill nets.

At present, the average catch per fisher in the coastal areas of Balaoan is declining. Several fish species are believed to have gone due to over fishing and pollution. Strict enforcement of fishery law is really needed to sustain the marine resource of the municipality.

2. Very low community awareness on CRM programs affects the implementation of said programs and projects

Generally, there is inadequate awareness about coastal resource management programs. The laxity in the implementation of several local government policies on coastal environmental issues was also linked to the inadequate information campaigns in the communities.

The participants attested the lack of information and awareness on fishery laws. The lack of knowledge on the reasons behind the Do's and Don'ts in fishing had greatly diminished the people's appreciation of the values of their resources. Active fishing gears are still used due to lack of information on how it affects the coastal resources and habitats.

The issue on the negative acceptance of the community about the MPA was also attributed to the lack of IEC and advocacy campaign. During the focus group discussion, the fishermen showed misconception about the MPA. There are still antagonists who oppose the establishment of MPA.

3. Poverty results to increase in number of informal settlers

Inevitable growth of population especially those in the coastal areas plus the inadequate capability to cope with the housing/shelter requirements of people have contributed



to the development of informal settlements. Living in these settlements often poses significant health risks. Sanitation, food storage facilities and drinking water quality are often poor, with the result that inhabitants are exposed to a wide range of pathogens. Poor sanitation encourages breeding grounds for insect vectors.

Congestion of informal settlers may also become a symptom of a larger problem of different facets. Informal settlers especially those located in a disaster risk zones or flood-prone areas along the waterways are exposed to natural hazards that may include typhoons, storm surges, tidal waves, tsunamis and even earthquakes. Tourism industry which is just booming in Balaoan can also be affected if informal settlements flourished within the coastal areas.

4. Flooding in coastal areas due to small size culvert and shallowing of river system

Flooding is the most common environmental hazard worldwide. This is due to the vast geographical distribution of river flood plains and low-lying coastal areas. While flooding is not unique to Balaoan, it is envisaged as a critical hazard to the community.

Potential flooding is identified in areas adjacent to Holcim site due to small sized culvert particularly used in the irrigation process. When heavy rains pour out, it is feared to cause over flowing of rainwater, thus causing inundation within the surrounding area. Other areas, in close proximity to Maragayap River like Bungol may also become more prone to flooding due to sediment build-up now observed within the river. If sedimentation continues, the capacity of the river to hold water will be reduced, flooding the said areas during heavy rainfall.

Unmitigated flooding normally carries large amount of debris, sediments and wastes to the coastal areas. The impact of such flood-borne waste streams to the ecological and aesthetic quality of seawater is across-the-board and affects many components of the coastal environment. Biodiversity is invariably altered and some fishes may become unproductive. Though flooding was not yet experienced in Balaoan, mitigation measures must be carefully planned and implemented to minimize its effects.

5. Limited ground water supply that causes salt water intrusion and limited irrigation water that affects livelihood opportunities such as agriculture and rice production

Most of the coastal areas regions rely on groundwater as their main source of fresh water for domestic, industrial and agricultural purposes. As the world's population continues to grow at an alarming rate, freshwater supplies are constantly being depleted, bringing with it issues such as saltwater intrusion and dwindling irrigation supply.

Incidents of saltwater intrusion have been detected in Barangay Paraoir especially during summer. Intrusion is an emerging issue as influenced by the growing population of the



municipality which is largely concentrated within this Barangay. Based from NSO (2010), Barangay Paraoir is the most populated barangay in Balaoan with a total of 1,995 or 5.26%. Coastal developments and increased use of ground water has caused the salt-water interface to move inland and closer to the ground surface along much of Paraoir coastal area.

Water availability for irrigation in the agricultural areas of Balaoan is also declining, thus, affecting the municipality's production of agricultural crops. Combined with water transfers from agriculture to municipal and industrial uses and increasing recreational and environmental demands for water, the relevance of irrigation management with limited water supplies has greatly increased.

6. Improper waste disposal from the household contributes to pollution and threatens tourism and fishery industry.

The problem of waste management has become a worldwide phenomenon. In Balaoan coastal areas, the lack of area dedicated to garbage disposal and the non-collection of wastes in areas far from the town have caused land-based pollution which, as observed, eventually leads pollution of coastal waters and danger to wildlife and fisheries.

In Republic Act 9003, open burning of solid wastes, dumping and burying of wastes especially in flood-prone areas are strictly prohibited. However, local residents claimed that they resort to burning and burying and some other just dump their garbage anywhere because they have no other options. Problems on wastes include human feces discharged within the river system. Alongside industrial by-products coming from the cement factory, all these trashes end up in the ocean. These practices, if left unabated, cause major health problems and environmental degradation.

7. Lack of monitoring system for the livelihood programs implemented leads to mismanagement resulting to unsustainability of livelihood programs.

Monitoring and evaluation of any projects implemented is very crucial to evaluate the extent to which the project is achieving its objectives. It is done to assess program results, comparing outcomes with the identified program/project goals and making adjustments to improve performance.

Livelihood programs implemented in Balaoan are often time mismanaged by the beneficiaries. No projects have been sustained as the community have negative acceptance with their responsibilities to the project. Other contributory factors to failures in livelihood project implementation include the lack of sustained monitoring and evaluation scheme especially after the project duration on the part of the local government unit.

As the local government unit is aware on the benefits the community can get from livelihood projects, these are pursued for the community to have other means to earn living.



However, the community-beneficiaries must cooperate to achieve sustainability of the projects being implemented.

8. Lack of empowerment of women in coastal environmental management programs.

Another underlying issue in the implementation of coastal management endeavors of the municipality is the lack of empowerment of women as seen in their relatively low participation in programs initiated by the LGU and other partner agencies and sectors. Participation in project planning meeting often falls on the shoulders of the men and women generally attend when the man of the house is out fishing. Reproductive roles of women are evident even when they attend meetings as indicated by the presence of young children they bring along when attending meetings.

MANAGEMENT STRENGTHS AND OPPORTUNITIES

The Municipality of Balaoan is endowed with rich coastal resources to include mangroves, seagrasses and corals that house fishery and other aquatic resources. The very popular sea urchins as well as seaweeds are cultured within the coastal areas of the town. To continuously protect and manage these coastal resources and to help maintain the integrity of coral reefs in the area, a 2-ha Marine Protected Area (MPA) is established covering Barangays of Almeida and Paraoir. The protection was legally established through Ordinance No. 05 series of 2004. The presence of DMMMSU-Fishery Research Training Institute in Barangay Paraoir further helps in the enhancement of fishery resources in the municipality.

The coastal environmental governance is strengthened by the assistance of organizations like MFARMC, Bantay Dagat and Fisherfolk Associations. Balaoan is also strong in networking with partner agencies particularly on livelihood and skills trainings. There are various partnerships with NGAs like the TESDA, DA, DILG and BFAR, to name some. Various livelihood programs being implemented to increase rural productivity and food security include seaweed, sea urchin and sea cucumber production and processing, and establishment of payao. These contribute to the growth of fishery sector and improvement of livelihood opportunities of many fisherfolks.

The municipality is also endowed with rich agricultural resources. Approximately 91.38% of its entire land area is agricultural land with 45.94% planted with tobacco and rice. Agricultural modernization is being pursued by providing support services in the form of crop production and protection, animal production, soil and water management, fish production and protection, cooperative development, institutional development and environmental conservation and management.

Active participation of the academe is also noted particularly on IEC and coastal resource assessments.



Initiatives on environmental management are also in place. These, however, are stand alone, piece meal programs and projects which means that they were not integrated into a single comprehensive strategy for the sustainable development of the coastal and marine resources of the Municipality. Current initiatives include regular coastal clean-up, mangrove planting, sea urchin livelihood to include sea garden and payao project.

Balaoan still needs to reinforce and integrate its environmental programs relating to management of coastal and marine resources to enhance the economic as well as ecological benefits derived from these resources. The municipality, its stakeholders and citizenry still have to be empowered through information and education. More importantly, it should develop more and enhance good governance through institutional development and sound utilization of resources.

MANAGEMENT PROGRAM, STRATEGIES AND ACTION PLANS

The core of the ICM Programs, strategies and actions is anchored on stakeholders consensus on the issues and concerns identified and prioritized during participatory workshops and consultation meetings. Issues, problems and concerns were generally classified according to two categories: 1) governance problems, issues and concerns and, 2) resource issues, concerns and problems.

GOVERNANCE COMPONENT

Governance issues are those that have to do with policies, strategies and plans; legislation; institutional arrangements; IEC and public awareness; sustainable financing; and, capacity building. The management programs, strategies and actions arising from the identified priority issues, problems and concerns on coastal resources governance are summarized below

I. Policy, Strategies and Plans

With a view of addressing issues from ridge to reef, initial focus of the ICM program is to develop and establish necessary mechanisms to back up the existing programs on protection and management of environmental resources. Initially, the focus is on revisiting the existing policies and make amendments if needed and formulation of new policies and strategies to guide the implementers in the sustainable management of the coastal and upland resources. Prioritized policies and plans for review and development include the following:



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- a. Marine Protected Area
- b. Municipal Fishery ordinance
- c. Environment Code
- d. Sanitation Code
- e. Fishing Banca Registration
- f. Coastal hazard mitigating policies
- g. Coastal zoning
- h. Water conservation and management
- i. Licensing beach sheds operation

Objectives	Strategies	Activities
To fully implement the existing Municipal Ordinances of Balaoan	Amendments and inclusion of other policies in the ordinance	<div>1. Policy review to check level of compliance on the following Ordinances:<ul style="list-style-type: none">Marine Protected AreaFishery OrdinanceOrdinance on Solid Waste ManagementSanitation CodeFishing banca registration fee</div> <div>2. Allocation of budget and personnel for the implementation of Ordinances</div> <div>3. Monitoring and evaluation of the implementation of Ordinances</div> <div>4. Continuous capacity building for the program implementers</div> <div>5. Continuous IEC and information dissemination</div>
To properly zone the Municipal MPA	Review municipal water boundaries and resource use maps	<div>1.Community consultation and FGD on MPA zones</div> <div>2.Zoning and demarcation of the MPA</div> <div>3. Validation of MPA boundaries or geographical coordinates</div>
To develop policies that will guide actions on environmental conservation and protection	Community consultations on policy development and formulation	<div>1. Conduct of multi-stakeholder consultations and women group FGDs to formulate policies on:<ul style="list-style-type: none">Coastal hazard mitigating policiesCoastal zoningWater conservation and managementLicensing beach sheds operations</div>



II. Legislation

Key local environmental legislations that will enable the LGU to allocate resources and respond to the various coastal environmental issues and concerns will be passed and approved by the Municipality. This includes the following:

- a. Disaster response system
- b. Water conservation and management
- c. Licensing beach sheds operation
- d. Coastal zoning
- e. Integrated Coastal Management Program

Objectives	Strategies	Activities
To enact Ordinances for all environmental policies and programs of the municipality	Legislation of new policies and programs Consultations with sectors/stakeholder groups vulnerable to climate change like the women and children sector	1. Drafting of Ordinances on: <ul style="list-style-type: none">Disaster response systemWater conservation and managementLicensing beach sheds operationCoastal zoningIntegrated Coastal Management Program 2. Conduct of public hearing and IEC 3. Legislation and implementation of Ordinances

III. Institutional Arrangements

The importance of veering away from the usual sectoral approach is recognized in ICM program. Therefore, an inter-agency and multi-sectoral coordinating mechanism for integrated coastal management shall be established to improve synergy among the different stakeholder institutions and groups. It shall attempt to involve all major stakeholders, namely: the government and its agencies; the private sector; local communities; scientific and educational institutions; as well as ordinary citizens.

Objectives	Strategies	Activities
To improve institutional arrangement mechanisms on environmental program implementation	Partnership development for ICM program implementation	1. Mobilization of POs in ICM Program implementation <ul style="list-style-type: none">Reorganization/strengthening of Fisherfolk Association and registration with DOLE: PFA ®, AFA, Gad-RIC-Paraoir ®,



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		WAPA-Quirino, Paraoir, Almeida, Darigayos) 2. Identification of participation spaces for stakeholders and partners in the implementation of ICM program 3. Regular coordination with provincial government regarding ICM
To strengthen the implementation of ICM program	Institutionalization of ICM at the LGU level	1. Designation of ICM Officer at the LGU level <ul style="list-style-type: none">• Formation of Multisectoral Technical Working Group for ICM• Conduct of seminars, trainings and workshops to capacitate the TWG

IV. Information and Public Awareness

The municipality recognized the far-reaching effects of involving the public in the implementation of various ICM programs. Strong public clamor is considered to be influential in the conduct and promotion of environmental projects. Hence, several activities shall be organized to increase public awareness. These include development of environmental IEC program, observance of special environmental events, film-showings and lectures and production and distribution of printed materials as well as installation of signages and billboards.

Objectives	Strategies	Activities
To increase community awareness on environmental issues for the enhancement of informed stakeholder participation in the environmental management program implementation	Intensive IEC campaigns to communicate environmental programs	1. Development of issue-focused and community-based Environmental IEC Program of the municipality supported by the following activities: <ul style="list-style-type: none">-Installation of environmental streamers/signages/billboards in strategic locations-Film showing and lectures on environmental programs during Barangays’ assemblies, in schools, and other public places-IEC on Fishery Laws (RA 8550), MPA as well as on sargassum 2. Identification of stakeholder groups as target social mobilization partners for : <ul style="list-style-type: none">-Observance of special environmental events



		<ul style="list-style-type: none">-Solid Waste Management and Coastal Resource Protection-MPA support <p>3. Production and distribution of IEC materials such as pamphlets, handouts, signages and multi-media IEC materials on the following:</p> <ul style="list-style-type: none">a. Integrated Coastal Managementb. Coastal Zoningc. Solid Waste managemente. Illegal Fishing Activitiesf. Coastal law Enforcement
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V. Financing Mechanism

Limited financing and lack of institutional capacity are challenges for local coastal governance. One way of surmounting this hurdle is to strengthen public-private partnerships that will assist in the establishment of sustainable financing mechanism for ICM program implementation and to create revenue generation programs through user fees as a source of funds to implement various ICM-related activities.

Objectives	Strategies	Activities
To create access to financial institutions for environmental project investments	Strengthening of public-private partnership for sustainable financing	<ul style="list-style-type: none">1. Matching local environmental programs with flagship programs of NGAs, academe, and other partners2. Submission of environmental investment project proposal to LGUs and other funding Institutions.
To increase funding support for environmental programs and projects	To establish sustainable financing mechanisms for ICM program implementation and environmental infrastructure projects	<ul style="list-style-type: none">1. Development of user fee schemes for environmental services2. Allocation of funds for ICM and other environmental programs/projects3. Conduct fund raising activities such as beauty contest, Adopt-a-mangrove tree project, sea urchin festival and solicitation.



VI. Capacity Building

Enhancing institutional capacity involves providing several avenues for directly improving the technical knowledge and skills of the LGU implementers and stakeholder-cooperators of ICM Programs. The following will be promoted and supported:

- a. Coastal Law Enforcement and Fish Warden Training
- b. Water Management and Monitoring
- c. Solid Waste Management Training
- d. GIS mapping and zoning
- e. Mammal Stranding Response Training
- f. Ecotourism Training

Objectives	Strategies	Activities
To enhance the technical and governance capacity of local ICM managers and LGU ICM program implementers	Conduct or access ICM-related trainings and seminar workshops for key stakeholders.	<div>1. Identification of stakeholders in ICM Planning and environmental management training needs assessment.</div> <div>2. Identification and coordination with concerned agencies/sectors for resource-sharing in the provision of capability-building activities for identified stakeholders.</div> <div>3. Conduct of specialized skills trainings, seminars and hands-on exercises:<div>a. Coastal Law Enforcement and Fish Warden Training</div><div>b. Water Management and Monitoring</div><div>c. Solid Waste Management</div><div>d. GIS mapping and zoning</div><div>e. Mammal Stranding Response Training</div><div>f. Ecotourism Training</div></div>

STRATEGIC ACTION PROGRAMS



Resource issues considered in the Plan are those that have to do with problems on coastal habitats; water use and supply; sustainable livelihoods; natural and man-made hazards; and, pollution and waste reduction.

ICM, as an intervention, consists of the broad-based approaches that support sustainable development through the following strategic actions:

I. Natural and Man-made Hazard Prevention and Management

To effectively respond to the forecasted impacts of climate change and other natural hazards, the municipality has to make some measures to alleviate damage it can probably cause both to life and properties. Some recommended measures include the following:

- a. Creation of drainage master plan
- b. Tree planting activities
- c. Implementation of coastal zoning program
- d. Public education and dry runs or drills

Objectives	Strategies	Activities
To lessen if not prevent flooding hazards to the community	Develop municipal drainage master plan	1. Review geohazard map of the municipality 2. Identify critical areas (flooding) and inspection of flood prone areas 4. Consultation with the barangay concerned 5. Create drainage master plan as well as contingency/preparedness plan
To enable the municipality to effectively respond to natural and man-made hazards and disasters	Improvement of resilience and natural defenses of the municipality	1. Conduct of tree planting activities 2. Establishment of coastal greenbelt (beach-type and mangroves) in selected areas 3. Informal Settlers inspection and dialogue with barangays and eventual IS relocation 4. Implementation of Coastal Zoning Program 5. Continuous IEC on Coastal Hazard Management 6. Public education and dry runs/drills



II. Habitat Protection, Restoration and Management

The municipality envisages a healthy and sustainable coastal environment. Addressing the issues in the coastal area would require the following investment on the part of LGU:

- a. Strengthening the implementation of MPA Ordinance
- b. Enforcement and implementation of fishery laws
- c. Protection of watershed resources
- d. Implementation of ICM Plan

Objectives	Strategies	Activities
To maintain and protect the coastal habitats	Strengthening the implementation of MPA Ordinance	<div>1. Re-assessment of the coastal and marine resources and proposed MPA</div> <div>2. IEC and community consultation to enhance MPA understanding and social acceptability</div> <div>3. Enforcement of laws stipulated in the MPA Ordinance</div> <div>4. Procurement of equipment needed by Bantay Dagat</div> <div>5. Establishment of Guard House</div> <div>6. Drafting of MPA Management Plan</div>
To protect the sustainability of coastal resources	Enforcement and implementation of fishery laws	<div>1. Implementation of open and close seasons for certain species like <i>padas</i>, and <i>sea cucumber</i> (<i>juveniles</i>).</div> <div>2. Re-organization and strengthening of Bantay Dagat</div> <div>3. Regular Patrolling Activities</div> <div>4. Strict implementation of fishery laws</div>



To regulate activities in the upland areas that would affect condition of the shore.	Protection of watershed resources	<ol style="list-style-type: none">1. Watershed rehabilitation to mitigate siltation and sedimentation.2. Tree planting in PUROK 5,6 and 7 (PLANT 5, CUT 1PROGRAM)3. Drafting of ordinance on kaingin and charcoal-making
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III. Water Use and Supply Management

The municipality has been experiencing competing demands for water from farms and households. There is also the concern on unsafe drinking water as salt water intrusion that affects groundwater supply is already experienced. Considering these issues, the Municipality plans to allocate water on an equitable basis to satisfy all uses and demands. This can be done through:

- a. Construction of water system
- b. Formulation of policy on water use and conservation, allocation and distribution
- c. Forest and watershed protection
- d. Construction of SWIP and irrigation system

Objectives	Strategies	Activities
To access adequate source of potable water for the community	Provide alternative water system	<ol style="list-style-type: none">1. Assessment of possible site of alternative water source2. Construction of water system<ul style="list-style-type: none">• Procurement of water pipes and electric pumps to connect with the main tank of PAWASA3. Formulation of policy on water use and conservation, allocation and distribution.4. Regular water quality monitoring of the municipality



To enhance groundwater retention/storage of watershed areas	Forest and watershed protection	1. Tree planting activities PUROK 5,6 and 7 2. Establishment of municipal forest nursery involving POs. 3. IEC on forest protection and water conservation
To establish irrigation water to increase farmer’s harvest	Construction of SWIP and irrigation system	1. Provide technical assistance to farmers regarding rice production 2. Exploring modern technology on improved rice production 3. Renovation of SWIP and construction of irrigation system in Paraoir 4. Construction of SWIP in Almeida

IV. Food Security and Livelihood Management

With the persistent problem on fishery resource depletion, more livelihood trainings and income generating programs which will be helpful to the community shall be developed. However, the sustainability of these programs will depend on the availability of the resources supporting the livelihood project and the capacity of the community to implement and sustain the livelihood. Thus, fishery production will be improved and community will be organized well to support these programs. The following are the identified alternative livelihood projects:

- a. Fish processing
- b. Seaweed production
- c. Sea urchin and sea cucumber culture and processing
- d. Salt production

Objectives	Strategies	Activities
To develop alternative livelihood programs for the community	Provision of alternative livelihood projects	1. Development of alternative, value-adding sources of livelihood for technologies developed by DMMMSU-FRTI on: <ul style="list-style-type: none">• Seaweed production and



		<p>processing (pickles, soap, candies, gulaman, noodles, chips, pie, bread, pandesal, spread, handwash and dishwashing liquid, shampoo, lotion, siomai, vinegar, fertilizer etc.)</p> <ul style="list-style-type: none">• Sea urchin culture and processing• Sea cucumber culture and processing <p>Also included are salt production and fish processing (bangus deboning, tinapa, bagoong, fish drying)</p> <p>2. Maintenance of sea garden</p>
To protect the sustainability of fishery resources	Improvement of fishery production	<ol style="list-style-type: none">1. Establishment of additional payao units and artificial reefs2. Stock enhancement for sea urchins and sea cucumber3. Provision of sustainable modern fishing technology4. Mariculture projects5. Legitimization of MPA
To improve capacity of the community to implement and sustain livelihood programs	Community Organizing	<ol style="list-style-type: none">1. Conduct of livelihood needs assessment2. Strengthening of POs and community organization through seminars and workshops3. Upscaling of community association into cooperative4. Community visits to successful livelihood program sites



V. Pollution Reduction and Waste Management

Unregulated land- and water-based pollution entails strengthening of the Solid Waste Management Program of the Municipality. This will be done through intensified IEC activities and institutionalization of solid waste management at barangay level.

Objectives	Strategies	Activities
To promote and maintain a healthy and balance environment	IEC and advocacy campaign on SWM	<ol style="list-style-type: none">1. Conduct of seminar, training and symposium on solid waste management (SWM)2. Conduct of regular IEC and monitoring of status of SWM programs during barangay assembly3. Reproduction and distribution of IEC materials
To improve compliance to solid waste policies, laws and regulations	Institutionalization of Solid Waste Management in barangays	<ol style="list-style-type: none">1. Creation of Barangay Ordinance adopting RA 90032. Establishment of MRF3. Request HOLCIM for the use of their dumpsite4. Segregation of wastes at source5. Establishment of backyard compost pit.6. Provision of garbage truck7. “Search for the Cleanest and Greenest Barangay”
To minimize/ reduce water pollution	Coastal water protection	<ol style="list-style-type: none">1. Regular water quality monitoring2. Policy development on septage management systems3. Mobilize various sectors and groups for regular coastal, estero and river clean-up activities4. “Search for the Cleanest and Bluest Coastal Barangay”



IMPLEMENTATION SCHEME

Implementation of ICM Plan for the Municipality of Balaoan shall be guided by the principles of sustainable coastal resources management and elements consistent with Executive Order 533, s.2006:

- a. an inter-agency, multi-sectoral mechanism to coordinate the efforts of different agencies, sectors and administrative levels;
- b. coastal strategies and action plans that provide a long-term vision and strategy for sustainable development of the coastal area, and a fixed-term program of actions for addressing priority issues and concerns;
- c. public awareness programs to increase the level of understanding of, and appreciation for, the coastal and marine resources of the area and to promote a shared responsibility among stakeholders in the planning and implementation of the ICM programme;
- d. mainstreaming ICM program into the national and local governments' planning and socio-economic development program and allocating adequate financial and human resource for implementation;
- e. capacity building program to enhance required human resource skills, scientific input to policy and planning processes, and enforcement mechanisms to ensure compliance with adopted rules and regulations;
- f. integrated environmental monitoring for the purpose of measuring the status, progress and impacts of management programmes against sustainable development indicators, as may be established, and for use in decision-making, public awareness, and performance evaluation; and
- g. investment opportunities and sustainable financing mechanisms for environmental protection and improvement and resource conservation.
- h. implementation of Provincial Foreshore Development Plan of the Provincial Environment and Natural Resources (PENRO in partnership with other coastal LGUs.

ICM programs shall promote the application of best practices, such as, but not limited to:

- a. Coastal and marine use zonation as a management tool;
- b. Sustainable fisheries and conservation of living resources;



- c. Protection and rehabilitation of coral reef, mangroves, seagrasses, estuaries and other habitats, particularly through implementation of marine protected areas, nature reserves and sanctuaries;
- d. Development of upland, watershed, catchment areas and basin-wide management approaches;
- e. Integrated waste management including sewage and solid, hazardous, toxic and other wastes by major sources;
- f. Integrated management of port safety, health, security and environmental protection; and
- g. Involvement of the private sector/business sector as a partner in ICM.

LGU RESPONSIBILITIES FOR THE ICM PLAN

Consistent with the provision of EO 533, RA 7160 and the national sustainable development policies and strategies, the Municipality of Balaoan shall act as the frontline agency in the formulation, planning and implementation of ICM programs in its coastal and marine areas. The ICM programmes for the Municipality shall be in line with the National ICM Programme and prepared in consultation with the relevant stakeholders. The Municipality shall update its ICM program to reflect changing social, economic and environmental conditions and emerging issues and shall furnish DENR, within one month from adoption, with copies of their ICM programmes and all its subsequent amendments, modifications and revisions. It shall mobilize and allocate necessary personnel, resources and logistics to effectively implement its ICM program.

Barangays affected shall be directly involved in prioritizing coastal issues and identifying and implementing solutions. The Municipal government shall consider ICM as one of its regular programs. The Provincial government shall provide technical assistance, enforcement and information management in support of the ICM program. Inter-LGU collaboration shall be maximized in the conduct of activities related in sustaining their respective coastal and marine resources.



ROLES OF THE CIVIL SOCIETY AND THE CORPORATE AND PRIVATE SECTORS

In the development and implementation of ICM Plan, the NGOs, civic organizations, academe, people's organization, the private sectors and other concerned stakeholders shall be engaged in activities such as planning, community organizing, research, technology transfer, information sharing, investment, and training programs.

SUPPORT MECHANISMS AND ACTIVITIES

Consistent with the National Integrated Coastal Management Policy, the following activities, where applicable, shall be undertaken in support of the implementation of the ICM Plan of the Municipality:

- a. ICM Education.** The local government shall encourage the Department of Education (DepEd) through a MOA to integrate ICM into the primary and secondary education curricula and /or subjects (i.e. Science, Biology, Sibika, History, among others), including textbooks, primers and other educational materials, basic principles and concepts of conservation, protection and management of the country's coastal and marine resources;
- b. ICM Training Program for LGU.** To be undertaken by DENR, BFAR, academe and DILG personnel, through the Local Government Academy, if possible;
- c. Environment and Natural Resources Accounting for Valuation for ICM Planning.** The academe and NEDA shall be tapped in the conduct of coastal and marine resources valuation.
- d. Coastal and Marine Environmental Information Management System.** DENR shall oversee the establishment and maintenance of a coastal and marine environmental information management system and network, in collaboration with the other concerned national government agencies, academe, other institutions and LGUs.



BUDGETARY REQUIREMENTS

The implementation of the Municipal Integrated Coastal Management Plan shall be initially funded by the municipal government, the Province of La Union, with the Regional DENR Office, BFAR and the academe providing technical assistance. The Municipality shall tap the funding support from other national government agencies concerned in ICM as listed in Executive Order 533 and other agencies concerned with coastal management. Funding support shall also be sourced out from international funding institutions, the academe and the private and business sectors particularly on priority actions on research and information database development and special projects; and Peoples Credit and Finance Corporation and other relevant financial institution which are mandated to formulate and identify loan financing mechanism consistent with the above-stated executive order.

OTHER FUNDING OPTIONS:

Innovative economic tools can be used to generate funds for the implementation of the ICM Program. Under relevant laws, the Local Government Unit of Balaoan can also generate revenues and secure fund for the Program through:

- Enactment of Tax Ordinance as appropriate user's fee; fishing/gatherer's permits from outside municipalities; exclusive use of coastal water areas for commercial and leisure purposes and other environmental activities;
- Allocation of funds from Internal Revenue Allotment subject to approval of their legislative councils;
- Utilization of shares in the development of national wealth;
- Secure loans, grants and donations as may be applicable ;
- Privatization of local government-owned enterprises;
- Public-Private Partnership Schemes under the Build-Operate Transfer Law (Republic Act 6957 as amended by RA 7718) and other relevant laws;
- Arranged financing schemes;
- Raise income thru inter LGU cooperation; and
- Other fund sourcing activities allowable by law



IMPLEMENTING STRUCTURE

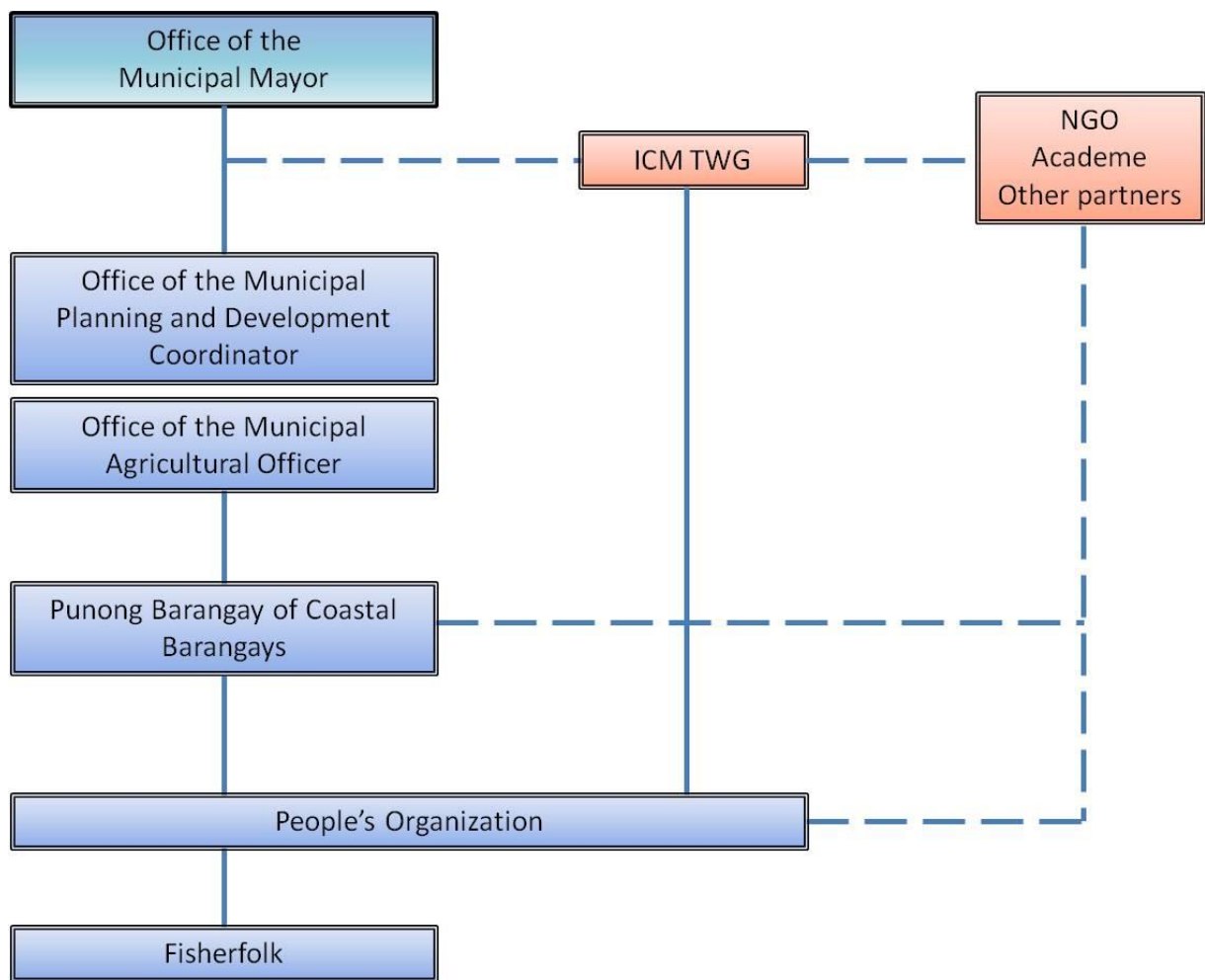




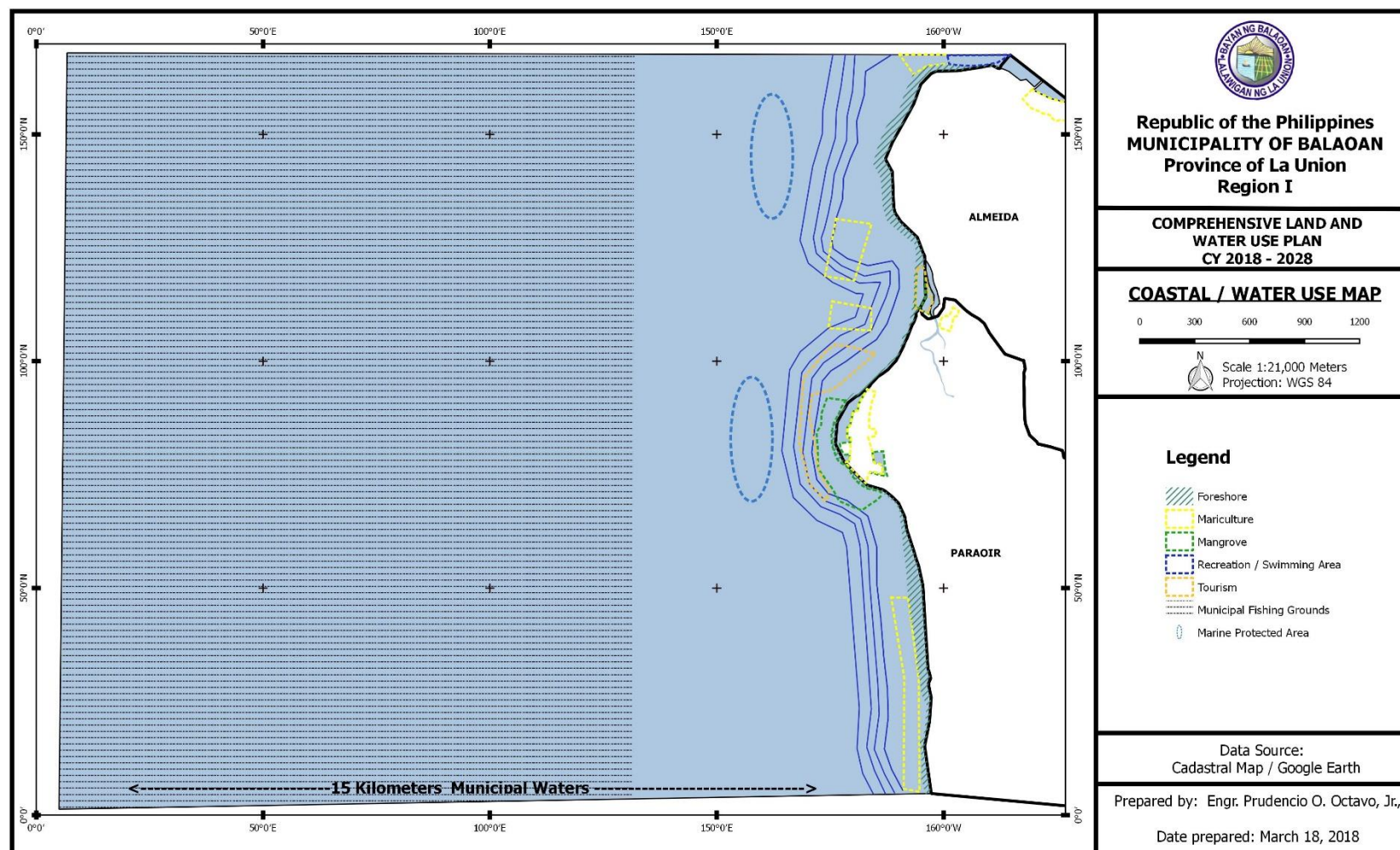
Table 2: THE MUNICIPAL WATER USES CY 2018-2028

Water Use Category	Area (Has)	Percent to Total
Marine Protected Area	4.0	0.037
Mangrove	3.5	0.032
Mariculture	15.0	0.139
Coral Reefs	25.0	0.231
Fishing Area	10,727.3	99.327
Swimming/Recreational	3.00	0.028
Sea Grass	0.20	0.002
Foreshore	16.0	0.148
• Tourism	6.0	0.056
Total	10,800.00	100.00



COMPREHENSIVE LAND AND WATER USE PLAN

Ecosystem Analysis



MUNICIPALITY OF BALAOAN, LA UNION

CY 2018 - 2028



SECTORAL STUDIES



DEMOGRAPHY



DEMOGRAPHY

Demography means description of the people. It is the study of the human population primarily with respect to size, structure and development.

The demographic profile provides planners and users of the Comprehensive Land Use Plan (CLUP) a backgrounder and general information on the population composition and distribution of the municipality. The changes in population brought about by its components such as birth, death, and migration relate to the historical and projected growth of the population.

The study of population is required in planning so as to determine the size of human resources in a locality; ascertain their various needs and consider their interest and traits for the economic growth of the community at the local level. Human resources and their needs could be specifically identified by studying the population size, growth, structure, distribution, density, composition and changes due to births, deaths, in-migration, out-migration, transfer of category in the same population such as marriages, separation, divorce and other socio-economic characteristics and the causes and consequences of these factors. Likewise, the age structure of the population determines the potential labor force and identifies the areas with considerable unemployment rates. These data guide the planners in redirecting development towards the concerned area and create job opportunities for existing and projected population.

Needless to say, the population size, its growth, spatial and age distribution affect the demand for economic goods and services such as food, clothing and other manufactured products, and the need to generate employment opportunities. An increasing population connotes an increasing demand for housing ‘with necessary amenities. As consumers, the size and growth of population determine the demand for water and power supply of households, drainage system and other community utilities such as transportation.

POPULATION COMPOSITION

Population composition includes the characteristics of the population in terms of age groupings and sex ratios. It provides the basis for social and economic planning considerations. The data from the table below have been computed using interpolation method.

School Going Age Population. Based on the NSO Data 2007, the school going-age population of the municipality for both sexes reached 14,495 which 7,618 are males and 6,877 are females with a percentage of 53% and 47% respectively. Elementary



level has the highest recorded number of school-going age population of 4,677 of the total school-going population.

Working Age Population. Ages 15-64 which belong to the productive age or the working age has a total of 27,437 of which 42% are males and 41% represents the female working group.

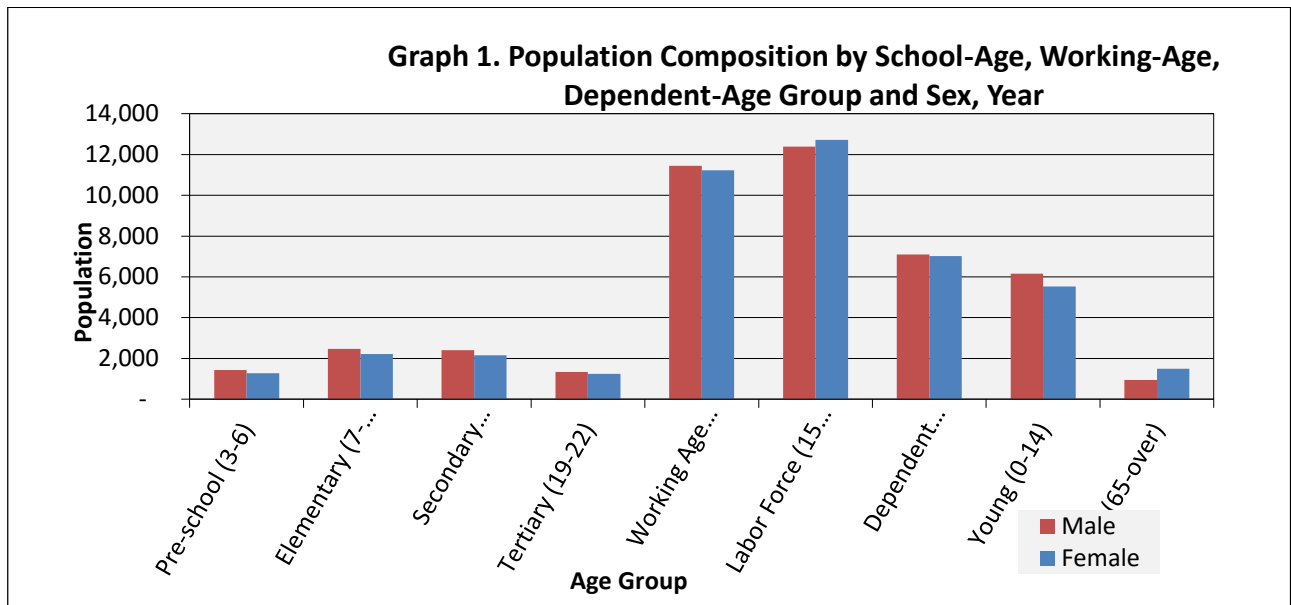
Labor Force. Ages 15 and over representing labor force has a total of 25, 111 wherein females dominate males though a minimal percentage only.

Dependent Population. Of the two dependent population age bracket, young population covers 53% which is more than the old population age bracket covering only 39% of the total dependent population age bracket.

Table 3:
Population Composition by School-Age, Working-Age, Dependent-Age Group and Sex, Year 2007

Age Group	Both Sexes	Male		Female		Sex Ratio
		No.	%	No.	%	
School going population	14,495	7,618	53%	6,877	47%	1.11
Pre-school (3-6)	2,695	1,424	53%	1,271	47%	1.12
Elementary (7-12)	4,677	2,462	53%	2,215	47%	1.11
Secondary (13-18)	4,554	2,403	53%	2,151	47%	1.12
Tertiary (19-22)	2,569	1,329	52%	1,240	48%	1.07
Working Age (15-64)	27,437	11,444	42%	11,226	41%	1.02
Labor Force (15 and over)	25,111	12,395	49%	12,716	51%	0.97
Dependent Population	14,118	7,100	50%	7,018	50%	1.01
Young (0-14)	11,677	6,149	53%	5,528	47%	1.11
Old (65-over)	2,441	951	39%	1,490	61%	0.64

Source: Computed based on latest NSO/PSA data on household population by age group



Source: National Statistics Office/Philippine Statistics Authority/Municipal Records

POPULATION DISTRIBUTION

The population distribution of the municipality is concentrated to the working age (15-64) which contributes to the 74% of the total age group population. There is an increase of 20,695 population from year 2000 to 2007 or a total age-group population of 36,788.

Population under the age bracket of 10-14, signifies highest composition of the total age group population of Balaoan.

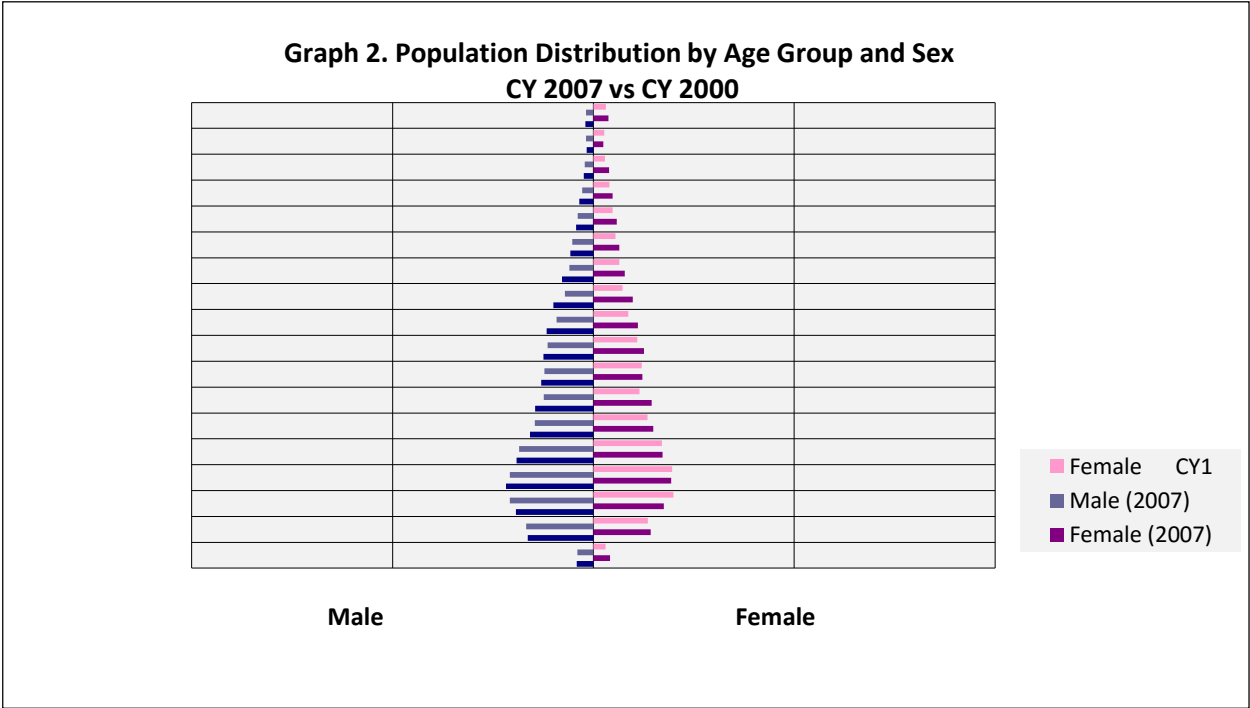
Table 4: Population Distribution by Age Group and Sex, CY 2000 and 2007

Age Group	2007			2000		
	Male	Female	Total	Male	Female	Total
Under 1	413	412	825	397	300	697
1 - 4	1,633	1,425	3,058	1,673	1,354	3,027
5 - 9	1,927	1,753	3,680	2,084	1,989	4,073
10 - 14	2,176	1,938	4,114	2,081	1,960	4,041
15 - 19	1,916	1,720	3,636	1,852	1,703	3,555
20 - 24	1,577	1,493	3,070	1,463	1,344	2,807
25 - 29	1,453	1,446	2,899	1,237	1,143	2,380
30 - 34	1,300	1,218	2,518	1,222	1,206	2,428
35 - 39	1,242	1,259	2,501	1,138	1,090	2,228
40 - 44	1,165	1,106	2,271	919	865	1,784
45 - 49	996	976	1,972	711	724	1,435
50 - 54	783	781	1,564	596	646	1,242
55 - 59	577	644	1,221	527	552	1,079
60 - 64	435	583	1,018	393	480	873
65 - 69	349	480	829	278	400	678
70 - 74	238	393	631	216	289	505
75 - 79	166	247	413	186	272	458
80 and over	198	370	568	188	308	496



Total	18,544	18,244	36,788	17,161	16,625	33,786
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Source: National Statistics Office/Philippine Statistics Authority/Municipal Records



Source: National Statistics Office/Municipal Records

HOUSEHOLD POPULATION BY BARANGAY

The municipality is composed of thirty six (36) barangays. Barangays Antonino, Cabuaan Oeste, Dr. Camilo Osias and Nalasin are considered as urban barangays while the remaining thirty two (32) barangays are considered rural. Presently, the contiguous built-up portions of the urban barangays are the center of urban activities in the municipality.

Per NSO Data 2015, the urban barangays have 5,360 population comprising 14 % of the total municipal population and an average household size of about four (4) persons.

A total population of 33,828 comprises the rural barangays or 86% of the total population, and an average household size of four (4). The most populated barangays are Paraoir, which is a rural barangay with 2,022 population, and seconded by an urban barangay, Dr. Camilo Osias. The average household size of the municipality is four (4).



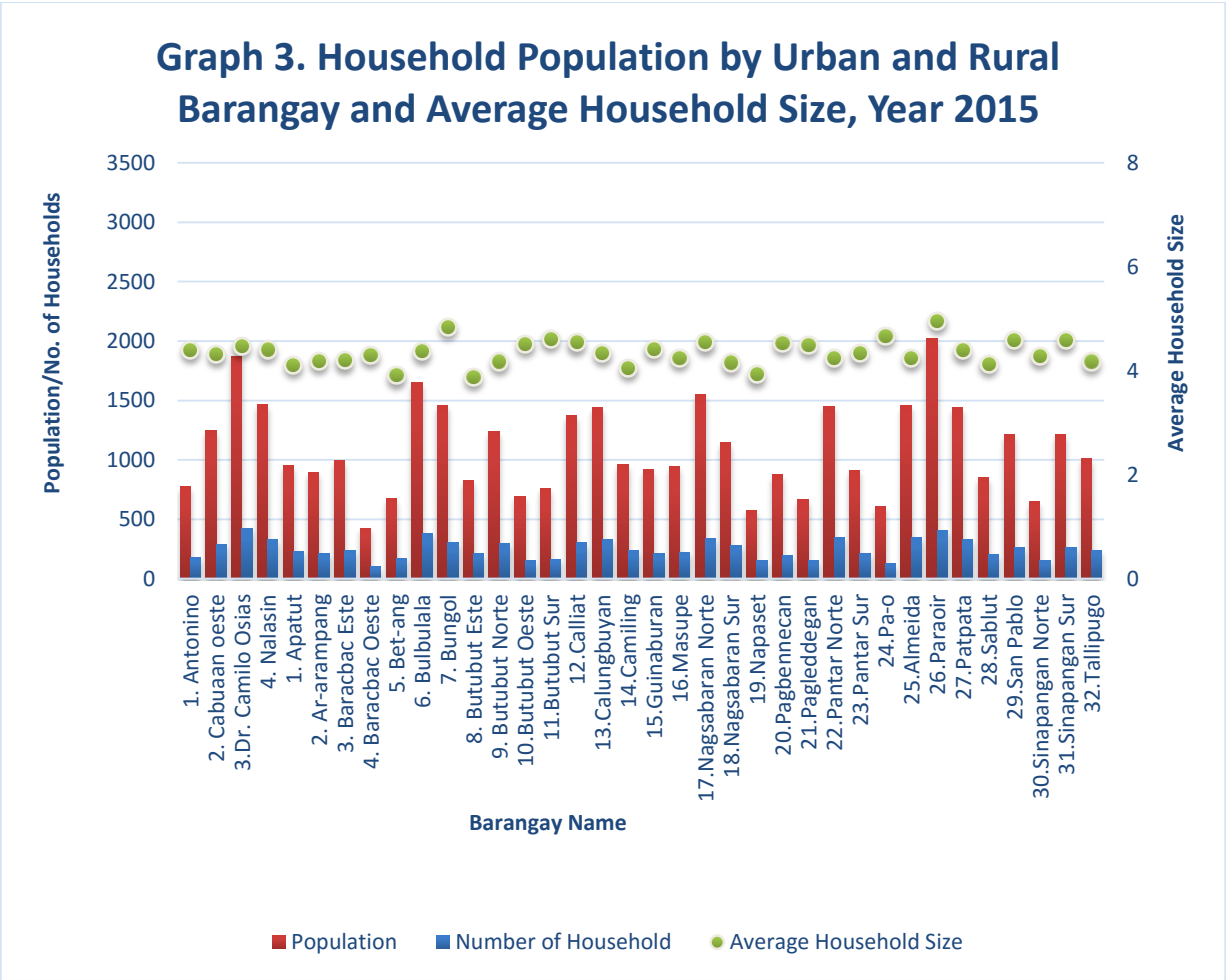
**Table 5: Household Population by Urban and Rural Barangay and
Average Household Size, Year 2015**

Barangay	Population	Number of Household	Average Household Size
Urban			
1. Antonino	774	176	4.40
2. Cabuaan oeste	1,248	289	4.32
3. Dr. Camilo Osias	1,873	419	4.47
4. Nalasin	1,465	332	4.41
Sub-Total	5,360	1,216	4.40
Rural			
1. Apatut	955	232	4.12
2. Ar-arampang	891	213	4.18
3. Baracbac Este	992	236	4.20
4. Baracbac Oeste	426	99	4.30
5. Bet-ang	677	173	3.91
6. Bulbulala	1,653	378	4.37
7. Bungol	1,457	301	4.84
8. Butubut Este	822	212	3.88
9. Butubut Norte	1,237	296	4.18
10. Butubut Oeste	687	152	4.52
11. Butubut Sur	757	164	4.62
12. Calliat	1,369	301	4.55
13. Calungbuyan	1,438	331	4.34
14. Camiling	957	236	4.06
15. Guinaburan	919	208	4.42
16. Masupe	947	223	4.25
17. Nagsabaran Norte	1,546	340	4.55
18. Nagsabaran Sur	1,144	275	4.16
20. Napaset	578	147	3.93
21. Pagbennecan	880	194	4.54
22. Pagleddegan	666	148	4.50
23. Pantar Norte	1,452	342	4.25
24. Pantar Sur	915	211	4.34
25. Pa-o	607	130	4.67
26. Almeida	1,457	343	4.25
27. Paraoir	2,022	407	4.97
28. Patpata	1,441	328	4.39
29. Sablut	851	206	4.13
30. San Pablo	1,214	264	4.60
31. Sinapangan Norte	647	151	4.28
32. Sinapangan Sur	1,217	265	4.59
33. Tallipugo	1,007	241	4.18



Sub-Total	33,828	7,747	4.34
Total	39,188	8,963	4.37

Source: National Statistical Coordination Board



URBANIZATION LEVEL

In the year 2000, there is a decrease in urbanization level of the municipality with - 5.03% from the year 1990, however, there’s an increase from 2000 to 2010. The urbanization level of the municipality of Balaoan increased by 12.02% or 2,803 populace. Moreover, in the year 2015, there is an increase of 0.88%.

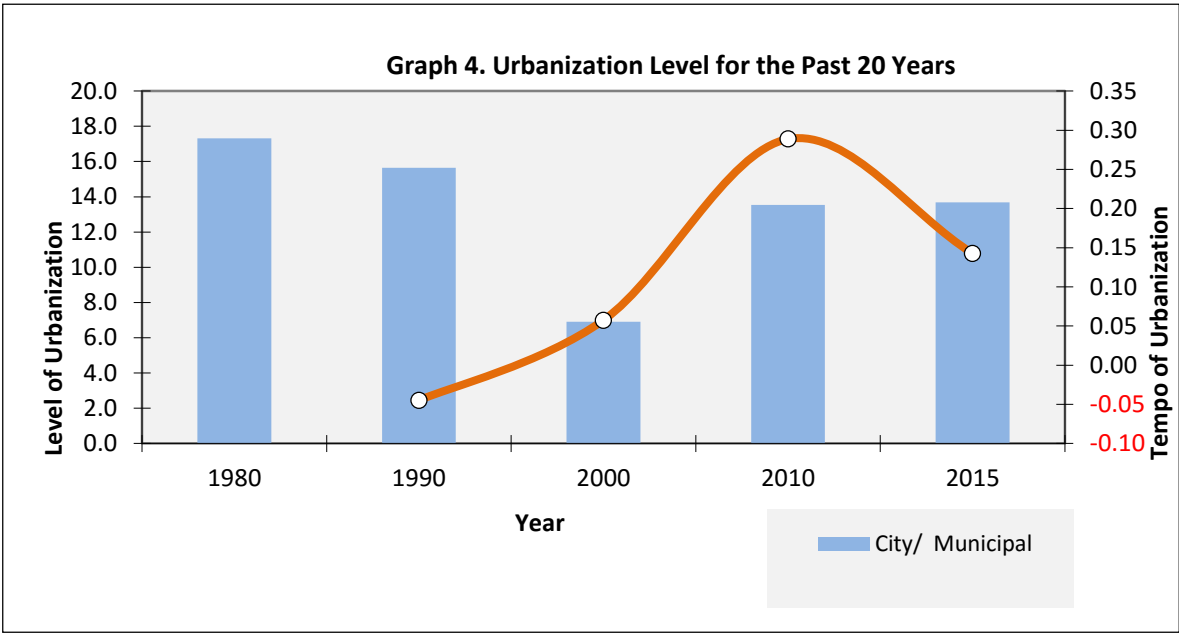
Likely, there’s also an increase in rural barangays of 0.64% or a total of 3,577 population.



Table 6: Urbanization Level for the Past 20 Years

Year	Municipal Population			Average Yearly Population Growth Rate (%)		Average 5-Year Tempo of Urbanization (%)	Level of Urbanization (%)	
	Urban	Rural	Total	Urban	Rural		Municipal	Provincial
1980	4,364	20,832	25,196				17.3	45.5
1990	4,686	25,256	29,942	0.74	2.12	-0.05	15.7	44.8
2000	2,331	31,455	33,786	-5.03	2.45	0.06	6.9	44.0
2010	5,134	32,776	37,910	12.02	0.42	0.29	13.5	45.2
2015	5,360	33,828	39,188	0.88	0.64	0.14	13.7	47.0
next censal year	-	-						

Source: National Statistical Coordination Board/PSA



POPULATION DENSITY

The municipality’s population density is recorded at 6 persons per hectare while the urban and rural densities are recorded at 17 and 5 persons per hectare respectively. Barangay Nalasin gathered the highest density of about 44 persons per hectare and seconded by barangay Antonino and Pantar Norte of about 26 persons per hectare.



Table 7: Population Density by Barangay, Year 2015

Barangay	Population	Gross Area (ha)	Population Density (Gross Barangay Area)
Urban			
Antonino	774	29.4100	26
Cabuaan oeste	1,248	174.4800	7
Dr. Camilo Osias	1,873	79.7700	23
Nalasin	1,465	33.0500	44
Subtotal	5,360	316.700	17
Rural			
Almeida	1,457	496.25	3
Apatut	955	193.1100	5
Ar-arampang	891	190.1400	5
Baracbac Este	992	86.6500	11
Baracbac Oeste	426	39.8000	11
Bet-ang	677	62.0100	11
Bulbulala	1,653	131.7500	13
Bungol	1,457	455.3700	3
Butubut Este	822	107.2500	8
Butubut Norte	1,237	151.5500	8
Butubut Oeste	687	69.2300	10
Butubut Sur	757	65.5000	12
Calliat	1,369	92.5300	15
Calungbuyan	1,438	291.5800	5
Camiling	957	213.1100	4
Guinaburan	919	284.9800	3
Masupe		138.7000	7



	947		
Nagsabaran Norte	1,546	209.7000	7
Nagsabaran Sur	1,144	1253.9200	1
Napaset	578	63.2700	9
Pagbennecan	880	202.9800	4
Pagleddegan	666	109.0200	6
Pantar Norte	1,452	54.8800	26
Pantar Sur	915	197.4500	5
Pa-o	607	100.6400	6
Paraoir	2,022	582.1000	3
Patpata	1,441	128.9800	11
Sablut	851	86.0900	10
San Pablo	1,214	128.4600	9
Sinapangan Norte	647	183.6300	4
Sinapangan Sur	1,217	100.8600	12
Tallipugo	1,007	125.5500	8
Subtotal	33,828	6,597.54	5
Total	39,188.00	6,913.75	6

Source: Municipal Planning Development Office

HISTORICAL GROWTH

Balaoan has been continuously growing from 1970 to present with a total increase of 14,457 for the past forty years. In 2010, the total annual growth rate of the municipality was 1.01% and 1.27% on the provincial level.



Table 8: Historical Growth of Population

Year	City/Municipal						Annual Growth Rate (%)			
	Population ¹			Increase/Decrease ²						
	Male	Female	Total	Male	Female	Total	Municipal ³	Provincial ¹	Regional ¹	National ¹
1960			17,401							
1970			22,331							
1980			25,197							
1990			30,042	0	0	4,845	1.77			
1995			31,420	0	0	1,378	0.90			
2000	17,161	16,625	33,786	17,161	16,625	2,366	1.46			
2007	18,544	18,244	36,788	1,383	1,619	3,002	1.22	2.09	2.15	2.36
2010	19,147	18,763	37,910	603	519	1,122	1.01	1.27	1.1	2.04

Source: NSO/PSA

CRUDE BIRTH RATE AND DEATH RATE

With the awareness of the populace, the crude birth rate in the locality decreases to 14.13% in the year 2016 from its high rate of 18.51% in 2013. Same with the Crude Death Rate, it decreases to 4.87% from the year 2012 which noted to be the highest death rate for the past recorded years.

Table 9: Crude Birth Rate (CBR) and Crude Death Rate (CDR) for the Past Five Years/Planning Period (2006- 2010)

Period	CBR	% Increase/Decrease from Previous Year	CDR	% Increase/ Decrease from Previous Year
2012	17.69		6.25	
2013	18.51	1.05	5.02	0.80
2014	15.85	0.86	5.75	1.15
2015	15.85	1.00	4.95	0.86
2016	14.13	0.89	4.87	0.98

Data Source: MHO



HOUSEHOLD POPULATION BY MOTHER TONGUE

Majority of households in the municipality belongs to Ilocano of about 38,330 households or 98% and seconded by Tagalog.

Table 10: Household Population by Mother Tongue, Year 2015

Mother Tongue	Household No.	% of Total Households
Bicolano	28	0.1
Cebuano	17	0.04
Ilocano	38,330	98
Pangasinan	38	0.1
Tagalog	355	1
Others	420	1
Total	39,188	100

RELIGIOUS AFFILIATION

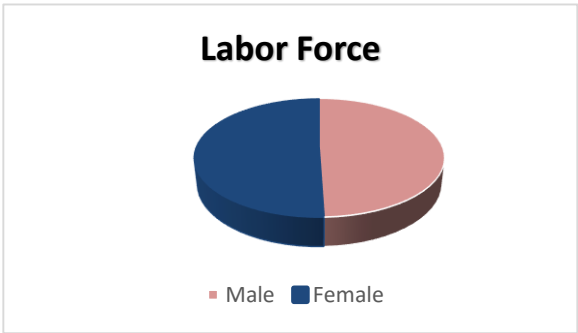
Table 11: Population by Religious Affiliation, Year 2018

Religious Affiliation	No. of People	% of Total Population
Catholics	36,173	92%
Iglesia ni Cristo	1,506	4%
Bible Baptist	133	0%
Muslims	20	0%
Other	1356	3%
Total	39,188	100%

Data Source: Computed based on PSA 2000 Data

LABOR FORCE

As to labor force population, female dominates male with 1.02% only. Male covers 13, 290 or 49.49% and female with 13, 562 or 50.51% from 2010 NSO data of labor force.





POPULATION AND HOUSEHOLD PROJECTIONS

The projected population of the municipality is computed based on Geometric Formula as per CLUP Guidebook of the HLURB.

By the year 2028, the populace of the locality will be 43,348 population or a total increase of 4,160 from the base year 2015. Moreover, the household’s drives along with the population increased from 8,963 to 11,220 population by the end of planning period.

Table 12: Projected Population and Households

YEAR	POJECTED POPULATION	PROJECTED HOUSEHOLDS
2007	36,829	7,806
2015	39,188	8,963
2016	39,493	9,119
2017	39,801	9,278
2018	40,111	9,440
2019	40,424	9,604
2020	40,739	9,772
2021	41,056	9,942
2022	41,376	10,115
2023	41,698	10,291
2024	42,023	10,471
2025	42,350	10,653
2026	42,680	10,839
2027	43,013	11,028
2028	43,348	11,220

Source: Computed based on the NSO Data and using Geometric Method



POPULATION PROJECTION BY BARANGAY

Table 13: Population Projection by Barangay

BARANGAYS	POPULATION 2015	PR	PROJECTED POPULATION								
			2018	2020	2021	2023	2024	2025	2026	2027	2028
Urban											
Antonino	774	0.019751	792	805	811	824	830	836	843	850	856
Cabuaan oeste	1,248	0.031846	1,277	1,297	1,307	1,328	1,338	1,349	1,359	1,370	1,380
Dr. Camilo Osias	1,873	0.047795	1,917	1,947	1,962	1,993	2,008	2,024	2,040	2,056	2,072
Nalasin	1,465	0.037384	1,500	1,523	1,535	1,559	1,571	1,583	1,596	1,608	1,621
Subtotal	5,360		5,486	5,572	5,615	5,703	5,748	5,792	5,838	5,883	5,929
Rural											
Apatut	955	0.02437	977	993	1,001	1,016	1,024	1,032	1,040	1,048	1,056
Ar-arampang	891	0.022737	912	926	933	948	955	963	970	978	986
Baracbac Este	992	0.025314	1,015	1,031	1,039	1,056	1,064	1,072	1,080	1,089	1,097
Baracbac Oeste	426	0.010871	436	443	446	453	457	460	464	468	471
Bet-ang	677	0.017276	693	704	709	720	726	732	737	743	749
Bulbulala	1,653	0.042181	1,692	1,718	1,732	1,759	1,773	1,786	1,800	1,814	1,828
Bungol	1,457	0.03718	1,491	1,515	1,526	1,550	1,562	1,575	1,587	1,599	1,612
Butubut Este	822	0.020976	841	855	861	875	881	888	895	902	909
Butubut Norte	1,237	0.031566	1,266	1,286	1,296	1,316	1,326	1,337	1,347	1,358	1,368
Butubut Oeste	687	0.017531	703	714	720	731	737	742	748	754	760
Butubut Sur	757	0.019317	775	787	793	805	812	818	824	831	837
Calliat	1,369	0.034934	1,401	1,423	1,434	1,457	1,468	1,479	1,491	1,503	1,514
Calungbuyan	1,438	0.036695	1,472	1,495	1,507	1,530	1,542	1,554	1,566	1,578	1,591
Camiling	957	0.024421	980	995	1,003	1,018	1,026	1,034	1,042	1,050	1,059
Guinaburan	919	0.023451	941	955	963	978	985	993	1,001	1,009	1,017
Masupe	947	0.024166	969	984	992	1,008	1,016	1,023	1,031	1,039	1,048
Nagsabaran Norte	1,546	0.039451	1,582	1,607	1,620	1,645	1,658	1,671	1,684	1,697	1,710
Nagsabaran Sur	1,144	0.029193	1,171	1,189	1,199	1,217	1,227	1,236	1,246	1,256	1,265
Napaset	578	0.014749	592	601	606	615	620	625	630	634	639
Pagbennecan	880	0.022456	901	915	922	936	944	951	958	966	973
Pagleddegan	666	0.016995	682	692	698	709	714	720	725	731	737
Pantar Norte	1,452	0.037052	1,486	1,509	1,521	1,545	1,557	1,569	1,581	1,594	1,606
Pantar Sur	915	0.023349	937	951	959	974	981	989	997	1,004	1,012
Pa-o	607	0.015489	621	631	636	646	651	656	661	666	671
Almeida	1,457	0.03718	1,491	1,515	1,526	1,550	1,562	1,575	1,587	1,599	1,612



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Paraoir	2,022	0.051597	2,070	2,102	2,118	2,152	2,168	2,185	2,202	2,219	2,237
Patpata	1,441	0.036771	1,475	1,498	1,510	1,533	1,545	1,557	1,569	1,582	1,594
Sablut	851	0.021716	871	885	892	906	913	920	927	934	941
San Pablo	1,214	0.030979	1,243	1,262	1,272	1,292	1,302	1,312	1,322	1,332	1,343
Sinapangan Norte	647	0.01651	662	673	678	688	694	699	705	710	716
Sinapangan Sur	1,217	0.031055	1,246	1,265	1,275	1,295	1,305	1,315	1,325	1,336	1,346
Tallipugo	1,007	0.025697	1,031	1,047	1,055	1,071	1,080	1,088	1,097	1,105	1,114
Subtotal	33828		34,625	35,167	35,441	35,995	36,275	36,558	36,842	37,130	37,419
Total	39,188.00		40,111	40,739	41,056	41,698	42,023	42,350	42,680	43,013	43,348

POPULATION PROJECTION BY SCHOOL-AGE, WORKING-AGE AND
DEPENDENT GROUP

Table 14: Population Projection by School-Age, Working-Age and Dependent Group

Age Group	2010	PR	PROJECTED POPULATION (SCHOOL-AGE, WORKING AGE AND DEPENDENT POPULATION)									
			2018	2019	2020	2022	2023	2024	2025	2026	2027	2028
School going population	14,759		15,479	15,572	15,665	15,853	15,947	16,042	16,138	16,235	16,332	16,429
Pre-school (3-6)	2,954	0.200	3,098	3,117	3,135	3,173	3,192	3,211	3,230	3,249	3,269	3,288
Elementary (7-12)	4,401	0.298	4,616	4,643	4,671	4,727	4,755	4,784	4,812	4,841	4,870	4,899
Secondary (13-18)	4,631	0.314	4,857	4,886	4,915	4,974	5,004	5,034	5,064	5,094	5,125	5,155
Tertiary (19-22)	2,773	0.188	2,908	2,926	2,943	2,979	2,996	3,014	3,032	3,050	3,069	3,087
Working Age (15-64)	24,289	0.641	25,699	25,900	26,102	26,510	26,716	26,924	27,134	27,345	27,559	27,773
Labor Force (15 and over)	26,852	0.708	28,411	28,633	28,856	29,307	29,535	29,765	29,997	30,231	30,467	30,704
Dependent Population	13,598	0.359	14,387	14,500	14,613	14,841	14,957	15,073	15,191	15,309	15,428	15,549
Young (0-14)	11035	0.811	11,676	11,767	11,858	12,044	12,138	12,232	12,327	12,423	12,520	12,618
Old (65 and over)	2,563	0.188	2,712	2,733	2,754	2,797	2,819	2,841	2,863	2,885	2,908	2,931

Source; Computed based on the NSO Data



SOCIAL SECTOR STUDY



SOCIAL SECTOR STUDY

EDUCATION

Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits. Educational methods include storytelling, discussion, teaching, training, and directed research. Education frequently takes place under the guidance of educators, but learners may also educate themselves.

Education gives us a knowledge of the world around us and changes it into something better. It develops in us a perspective of looking at life. It helps us build opinions and have points of view on things in life.

I. SITUATIONAL ANALYSIS

Educational Facilities and Services

Balaoan, La Union has eighteen (18) public and three (3) private elementary schools. In the high school level, five (5) public high schools and two (2) private as listed below the table. There is only one schools offering college courses which is a private school namely Osias Educational Foundation (OEF). Of the total elementary schools, they occupy a total lot area of 10.24 hectares and 4 hectares for the secondary schools.



All the schools are provided with various facilities and implemented the K-to-12 educational System. Public elementary schools have Home Economics buildings and livelihood buildings. Among the enumerated elementary schools, Balaoan Central School seemed to be the widest and populated school, located in Barangay Antonino.



Among the enumerated primary schools, Patpata, Almeida, Paraoir and Pantar Sur elementary school appeared to be susceptible to tsunami, storm surge and flood since it lies near the beaches and rivers of the municipality.

Inventory of Construction of Materials Used and Condition

The educational facilities and classrooms of the elementary schools as shown on table below are made of wood and concrete for outer walls and (li-I aluminum sheets for roofing. Some of these are in good condition, although several need repair or replacement.

Most of the public elementary schools were used as evacuation center in times of calamities.



Table 15: Schools by Level, Type, Facilities and Condition, SY 2017

School	Barangay	Area Occupied (ha)	Ownership	Facilities And Condition						Used as Evacuation Center (Y/N)	Hazard Susceptibility (H/M/L)				
				Lab.	Shop	Library	Clinic	Comfort Room	Playground		FI	Ln	Ts	S S	Ground Shaking
Elementary (Public)															
1. Almeida Elem. School	Almeida	0.879	Public	X	X	√	√	√	X	Yes	M		H	H	L
2. Apatut Elem. School	Apatut	0.303	Public	X	X	√	√	√	X	Yes	L				L
3. Ar-arampang Elem. School	Ar-arampang	0.12	Public	X	X	X	X	X	X	Yes	M	L			L
4. Balaoan Central School	Antonino & Cabua-an	2.164	Public	X	X	√	√	X	X	Yes	M				L
5. Bulbulala Elem. School	Bulbulala	0.332	Public	X	X	√	X	X	√	Yes					L
6. Bungol Elem. School	Bungol	0.457	Public	X	X	√	√	√	X	Yes		H			L



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7. Butubut Elem. School	Butubut	0.505	Public	X	X	√	√	√	√	Yes	M				L
8. Butubut Norte Elem. School.	Butubut Norte	0.016	Public	X	X	√	√	√	X	Yes					L
9. Calliat Elem. School	Calliat	0.494	Public	X	X	X	X	X	X	Yes	L				L
10. Guinaburan Elem. School	Guinaburan	0.291	Public							Yes	M				L
11. Masupe Elem. School	Masupe	0.716	Public	X	X	√	√	X	√	Yes	M				L
12. Nagsabaran Sur Elem. School	Nagsabaran Sur	0.788	Public	X	X	X	√	X	X	Yes	M				L
13. Pantar Elem. School	Pantar Norte	0.888	Public	X	X	√	√	X	√	Yes	M				L
14. Pantar Sur Elem. School	Pantar Sur	0.25	Public	X	X	√	√	X	√	Yes	H				L
15. Patpata Elem. School	Patpata	0.182	Public	X	X	√	√	X	X	Yes	M				L
16. Paraoir Elem. School	Paraoir	0.272	Public	X	X	√	√	X	√	Yes	M		H	H	L



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17.Sinapangan Norte Elem.	Sinapangan Norte	0.32	Public	X	X	√	√	X	√	Yes	M				L
18.Sinapangan Sur Elem. School	Sinapangan Sur	0.590	Public	X	X	√	√	X	√	Yes	M				L
Elementary (Private)															
1.Balaoan Christian Foundation	Nalasin	0.192	Private	X	√	√	√	√	X	No	M				L
2.Osias Educational Foundation	Dr. Camilo Osias	0.209	Private	X	X	√	√	√	√	No	M				L
3.San Nicolas Academy	Dr. Camilo Osias/Nalasin	0.264	Private	√	X	√	√	√	√	No	M				L
Secondary (Public)															
1.Castor Z Concepcion Memorial NHS	Antonino	0.901	Public	√	X	√	√	√	√	Yes	M				L
2.Bungol National High School	Bungol	0.457	Public	X	X	√	X	X	X	Yes		H			L
3.Butubut National High School	Butubut Norte	0.505	Public	X	X	√	X	X	√	Yes	M				L
4.Paraoir National High School	Paraoir	1.066	Public	√	X	√	√	X	X	Yes	M		H	H	L



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5.Sinapangan National High School	Sinapangan Norte	0.590	Public	X	X	√	√	X	X	Yes	M				L
Secondary (Private)															
1.Osias Educational Foundation	Dr. Camilo Osias	0.209	Private	√	√	√	√	√	X	No	M				L
2.San Nicolas Academy	Dr. Camilo Osias/Nalasin	0.264	Private	√	√	√	√	√	√	No	M				L

Source: *DepEd* *District* *Office,* *Primary* *Survey*



STUDENT-TEACHER AND STUDENT-CLASSROOM RATIO

Balaoan Central School which is a public school, recorded the highest no. of enrollees, where 474 are males and 483 are females totaling to 957 students or 20% enrolled in the elementary level. In addition, it has a student- teacher ratio of 1:31.

It is seconded by Pantar Elementary School which listed 393 pupils in the year 2018.

Table 16: Student-Teacher and Student-Classroom Ratio by Level and Schools, SY 2017

School	No. of Enrolment (2018)			No. of Teachers (2018)			No. of Classrooms	Student/Teacher Ratio	Student/Classroom Ratio
	Male	Female	Total	Male	Female	Total			
Elementary (Public)									
1. Almeida Elem. School	110	95	205	2	8	8	8	1:26	1:26
2. Apatut Elem. School	133	98	231	0	9	9	9	1:26	1:26
3. Ar-arampang Elem. School	60	58	118	3	5	8	7	1:15	1:17
4. Balaoan Central School	474	483	957	8	24	32	30	1:30	1:32
5. Bulbulala Elem. School	138	123	261	1	11	12	12	1:22	1:22
6. Bungol Elem. School	113	141	254	1	9	10	14	1:25	1:18
7. Butubut Elem. School	183	145	328	3	12	15	16	1:22	1:21
8. Butubut Norte Elem School.	120	102	222	0	8	8	7	1:28	1:32
9. Calliat Elem School	78	80	158	2	6	8	8	1:20	1:20
10. Guinaburan Elem. School	75	54	129	0	7	7	9	1:18	1:14
11. Masupe Elem. School	154	140	294	1	12	13	10	1:23	1:30
12. Nagsabaran Sur Elem. School	82	59	141	1	8	9	8	1:16	1:18
13. Pantar Elem. School	189	204	393	0	16	16	16	1:25	1:25
14. Pantar Sur Elem. School	72	59	131	3	5	8	7	1:16	1:19
15. Patpata Elem. School	44	45	89	0	7	7	7	1:13	1:13
16. Paraoir Elem. School	147	130	277	1	8	9	9	1:31	1:31
17. Sinapangan Norte Elem.	50	57	107	1	6	7	7	1:15	1:15



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18.Sinapangan Sur Elem. School	155	137	292	2	11	13	12	1:22	1:24
TOTAL	2,377	2,210	4,587	29	170	199	196	1:23	1:23
Elementary (Private)									
1.Balaoan Christian Foundation	22	23	45	2	6	8	7	1:6	1:6
2.Osias Educational Foundation	38	113	151	2	5	7	7	1:22	1:22
3.San Nicolas Academy	82	68	150	2	8	10	7	1:15	1:21
TOTAL									
Secondary (Public)									
1.Castor Z Concepcion Memorial NHS	1,020	955	1,975	17	40	57	38	1:35	1:52
2.Bungol National High School	131	109	240	1	14	15	8	1:16	1:30
3.Butubut National High School	158	138	296	2	13	15	8	1:20	1:37
4.Paraoir National High School	276	212	488	9	10	19	13	1:26	1:38
5.Sinapangan National High School	191	156	347	5	11	16	8	1:22	1:43
Secondary (Private)									
1.Osias Educational Foundation	98	238	336	2	11	13	11	1:26	1:31
2.San Nicolas Academy	211	175	386	4	10	14	10	1:28	1:39

Source: DEPED, District Office

Tertiary Level

The only school which offers tertiary in the locality is Osias Educational Foundation, a private school located at Dr. Camilo Osias, with an area of 0.63 hectares and offering different courses.



Table 15: Tertiary and Vocational/ Technical Schools by Type and Total Enrollment, SY 2018

Name of School	Location (Brgy)	Area (ha)	Ownership	Total Enrollment		Hazard Susceptibility (H/M/L)							
				M	F	FI	Tc	Eq	Vo	Ln	Ts	Su	Ground Shaking
Tertiary													
I.Osias Educational Foundation	Dr. Camilo Osias			53	117	M							L

Historical Enrollment

Out of eighteen (18) elementary schools in Balaoan, eleven (11) schools decreases its data of enrollees in the year 2018, maybe because of migration or transfer of students to other schools. The table below also shows that for the last three years, the rate of enrollees per school both elementary and secondary is erratic. Furthermore, the LGU addresses any deficit in the education sector to uplift the quality education in the municipality.



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Table 17: Historical Enrollment by Level for the Past Three School Years

School	No. of Enrolment 2014			No. of Enrolment 2016			No. of Enrolment 2018		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Elementary (Public)									
1. Almeida Elem. School	76	84	160	94	96	190	110	95	205
2. Apatut Elem. School	142	125	267	127	101	228	133	98	231
3. Ar-arampang Elem. School	58	55	113	62	54	116	60	58	118
4. Balaoan Central School	544	481	1025	528	460	988	474	483	957
5. Bulbulala Elem. School	122	127	249	125	125	250	138	123	261
6. Bungol Elem. School	127	135	262	124	124	248	113	141	254
7. Butubut Elem. School	192	204	396	206	170	376	183	145	328
8. Butubut Norte Elem. School.	117	105	222	123	101	224	120	102	222
9. Calliat Elem. School	99	113	212	95	103	198	78	80	158
10. Guinaburan Elem. School	70	51	121	68	53	121	75	54	129
11. Masupe Elem. School	166	114	280	169	122	291	154	140	294
12. Nagsabaran Sur Elem. School	65	48	113	67	51	118	82	59	141
13. Pantar Elem. School	230	201	431	227	187	414	189	204	393
14. Pantar Sur Elem. School	80	80	160	76	67	143	72	59	131
15. Patpata Elem. School	67	52	119	59	38	97	44	45	89
16. Paraoir Elem. School	131	122	253	133	135	268	147	130	277
17. Sinapangan Norte Elem.	65	48	113	65	50	115	50	57	107
18. Sinapangan Sur Elem. School	147	147	294	171	148	319	155	137	292
TOTAL	2,498	2,292	4,790	2,519	2,185	4,704	2,377	2,210	4,587



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Elementary (Private)									
1.Balaoan Christian Foundation	23	19	42	22	19	41	22	23	45
2.Osias Educational Foundation	62	114	176	58	110	168	38	113	151
3.San Nicolas Academy	100	97	197	99	79	178	91	69	160
TOTAL	185	230	415	179	208	387	151	205	356
Secondary (Public)									
1.Castor Z Concepcion Memorial NHS	535	520	1055	570	556	1126	1020	955	1975
2.Bungol National High School	162	130	292	111	116	227	131	109	240
3.Butubut National High School	122	112	234	104	107	211	158	138	296
4.Paraoir National High School	181	185	366	230	203	433	276	212	488
5.Sinapangan National High School	170	151	321	147	130	277	191	156	347
TOTAL	1,170	1,098	2,268	1,162	1,112	2,274	1,776	1,570	3,346
Secondary (Private)									
1.Osias Educational Foundation	88	198	286	202	89	291	98	238	336
2.San Nicolas Academy	202	183	385	175	168	343	222	189	411
TOTAL	290	381	671	377	257	634	320	427	747

Source: DEPED, District Office



Table 18: Historical Enrollment Participation Rate for the Past Five Years

Year	Enrollment Participation Rate (EPR)
2018	80
2017	75
2016	70
2015	80
2014	85

Source: District office, DEPED

II. CURRENT NEED AND PROJECTIONS

A primary role of education is to equip people with the knowledge and confidence to make a difference in the transformation of the society. Education also helps instill values, attitudes and behaviors, prepares young people for demands of work life and mitigates the risk of poverty. With this prominence, the Department of Education linger together with the Municipality in order to boost excellent education sector in the future generations of the populace.

With the DepEd target of 1:35 student-teacher and student-classroom ratio by 2010 in the elementary level, the projected classroom in the year 2028 will be 210 and 138 for teachers. There will be 4,831 projected enrollment in the elementary level. In the secondary level, standard ratio of 1:40 for the high school level, the projected classroom and teachers by the end of planning period will be 129 for both, while the projected number of enrollees is 5,155.

PROJECTED ENROLLMENT, CLASSROOM, AND TEACHER REQUIREMENT

Table 19: Projected Classroom, Teacher requirements in Public Schools by Level

Level	PROJECTED										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Elementary Level											
Projected Enrollment	4,587	4,611	4,635	4,659	4,683	4,707	4,732	4,756	4,781	4,806	4,831
Classroom	196	200	201	202	204	205	206	207	208	209	210
Teacher	131	132	132	133	134	134	135	136	137	137	138
Secondary Level											
Projected Enrollment	4,857	4,886	4,915	4,945	4,974	5,004	5,034	5,064	5,094	5,124	5,155
Classroom	121	122	123	124	124	125	126	127	127	128	129
Teacher	122	122	123	124	124	125	126	127	127	128	129

Source: DEPED, District Office



SPACE STANDARDS:

A. Pre-School (Kindergarten Level)

School site must have a minimum lot area of 500 square meters. The area may be divided into a minimum of 140 square meters for the playground. This area is only good for not more than 4 classes.

Space for playground must be provided, otherwise, easy and safe access to the nearest park or open space of not more than 200 meters walking distance from school site may be presented as an alternative.

Classroom size should be 1 ½ square meter per child.

B. Elementary School Sites Size.

The size of the site must meet the requirements of the enrollment and kind of schools as well as the recreational needs of the pupils. It shall be wide enough to make adequate provisions for an athletic field playground, lawns, agricultural activities and future building expansions.

The standard requirements of school site for elementary schools are as follows:

- a. One-half hectare (1/2 ha) for a non-central school which has only one or two classes and no grade above Grade IV.
- b. One hectare (1 ha) for a central school which has six classes or for non-Central School which has from three to four classes.
- c. Two hectares (2 ha) for schools which have from seven to nine classes.
- d. Three hectares (3 ha) for schools which have from ten to twelve classes.
- e. Four hectares (4 ha) for schools which have more than twelve classes.

However, for special cases or where there is difficulty in meeting the above standards, the following may be allowed:

a. For Rural Areas

One-half hectare (1/2 ha) for a central school which has six classes, for a non-central school which has from three to four classes. One and one half hectare (1 1/2 ha) for schools which have from seven to ten classes. Two hectares (2 ha) for schools which have more than 10 classes.



b. For Urban Areas

One-half hectare (1/2 ha) for central school with 6 classes and non-central schools with 7-10 classes. Three fourth of a hectare (3/4 ha) for eleven to twenty classes. One hectare (1 ha) for twenty one or more classes.

Elementary School Buildings - Standard Requirements

Adequacy. There should be sufficient number of standard classrooms to accommodate the school enrollment, as well as enough internal spaces for other basic curricular and administrative needs of the school. A standard classroom should provide at least 1.4 sq. meters of space per pupil, and on that basis the standard dimensions of elementary classrooms have been prescribed.

In a complete elementary school, there should be a separate building for Industrial Arts/home economics classes with a minimum standard area of 5.0 square meters per place, or a total of approximately 126 square meters.

Internal space should also be provided for such basic needs as an administrative office, a library (and/or learning resource center), a health clinic (first aid), a guidance and counseling room, toilets, storeroom, and lunch counter or room etc. At least 2 electrical outlets should be provided in front of each classroom, for the implementation of any feasible educational technology which requires electricity.

The minimum standards for instructional and administrative spaces are as follows:

- | | |
|----------------------------|---|
| 1. Classroom (elementary) | 1.40 sq.m. per person |
| 2. Elementary schools shop | 5.0 sq.m. per person |
| 3. Administrative Office | 5.00 sq.m. per person |
| 4. Library/LRC | 2.40 sq.m. per person
(10% of total enrollment)
Provided that it is not smaller than the
size of a classroom |
| 5. Medical/Dental Clinic | 28.00 sq.m. gross |
| 6. Guidance Room | 28.00 sq.m. gross |
| 7. Corridor | Above ground level, the minimum clear width is
2.0 m.
Provided that the provisions of the National
Building |



Code & Fire Code of the Philippines and other relevant laws.

8. Computer Room	1.4 sq.m. per person
9. Gymnasium/Auditorium	5.0 sq.m. per person
10. Speech Laboratory	1.4 sq.m. per person

C. Secondary Schools

Size. The size of the school site is largely determined by the level of education, the size of the enrollment, the type of curriculum offered and the location of the school, i.e., whether urban or rural. The ground area occupied by school buildings and other structures should not exceed 40% of the school site in order to provide adequate open spaces for assembly and co-curricular activities, as well as to conform with national and local regulations and standards pertaining to setbacks and distances between buildings.

Minimum standards for instructional and administrative spaces

Classroom	1.40 sq.m. per place
Science Laboratory	2.10 sq.m. per place

Secondary School Shops:

Practical Arts	5.00 sq.m. per place
Technology and Home Economics	7.00 sq.m. per place
Girls Trades/Homemaking	4.00 sq.m. per place
Wood Trades	5.00 sq.m. per place
Metal Trades	5.00 sq.m. per place
Mechanical Trades	7.00 sq.m. per place
Electrical Trades	4.00 sq.m. per place
Drafting/Drawing	2.50 sq.m. per place
Farm Mechanics	5.00 sq.m. per place
Farm Machinery	6.50 sq.m. per place
Fish/Capture/Culture/Preservation	2.50 sq.m. per place

Administrative and Services Spaces:

Administrative Office	5.00 sq.m. per place
Medical/Dental Clinics	28.00 sq.m. gross
Guidance Room	28.00 sq.m. gross

Library/Learning Resources Center

Capacity of 10% of the enrollment at 2.40 sq.m. per place, provided that the total area is not less than that of a standard classroom. In schools with more than one shift, the basis for computing the area is the shift with the largest enrollment.





Corridors

Not required at ground level if appropriate direct access to enclosed spaces is provided. Above ground level, the minimum clear width is 2.0 meters provided that the provisions of the National Building and Fire Codes of the Philippines and other relevant rules and regulations are observed.

SPACE REQUIREMENT

With these lists of space standards, the total area allotted for elementary schools by the nine (9) year planning period will be 26.50 hectares or a total increase of 16.93 hectares by the year 2028.

Table 20: SPACE REQUIREMENT FOR ELEMENTARY SCHOOL

School	Location (Brgy.)	Area Occupied (ha.)	Classrooms	Type of Brgy.	Space Requirement
Elementary (Public)					
1. Almeida Elem. School	Almeida	0.879	8	RURAL	1.5 has.
2. Apatut Elem. School	Apatut	0.303	9	RURAL	1.5 has.
3. Ar-arampang Elem. School	Ar-arampang	0.12	7	RURAL	1.5 has.
4. Balaoan Central School	Antonino & Cabua-an	2.164	30	URBAN	1 ha.
5. Bulbulala Elem. School	Bulbulala	0.332	12	RURAL	2.00 has.
6. Bungol Elem. School	Bungol	0.457	14	RURAL	2.00 has.
7. Butubut Elem. School	Butubut	0.505	16	RURAL	2.00 has.
8. Butubut Norte Elem. School.	Butubut Norte	0.016	7	RURAL	1.5 has.
9. Calliat Elem. School	Calliat	0.494	8	RURAL	1.5 has.
10. Guinaburan Elem. School	Guinaburan	0.291	9	RURAL	1.5 has.
11. Masupe Elem. School	Masupe	0.716	10	RURAL	1.5 has.
12. Nagsabaran Sur Elem. School	Nagsabaran Sur	0.788	8	RURAL	1.5 has.
13. Pantar Elem. School	Pantar Norte	0.888	16	RURAL	2.00 has.
14. Pantar Sur Elem. School	Pantar Sur	0.25	7	RURAL	1.5 has.
15. Patpata Elem. School	Patpata	0.182	7	RURAL	1.5 has.
16. Paraoir Elem. School	Paraoir	0.272	9	RURAL	1.5 has.
17. Sinapangan Norte Elem. School	Sinapangan Norte	0.32	7	RURAL	1.5 has.
18. Sinapangan Sur Elem. School	Sinapangan Sur	0.590	13	RURAL	2.00 has.
TOTAL		9.567	196		26.50 has.



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Elementary (Private)					
1.Balaoan Christian Foundation	Nalasin	0.192	7	URBAN	
2.Osias Educational Foundation	Dr. Camilo Osias	0.209	7	URBAN	
3.San Nicolas Academy	Dr. Camilo Osias/Nalasin	0.264	7	URBAN	
TOTAL		0.665	21		

III. SECTOR ANALYSI MATRIX (Education)

Table 21: Education Analysis Matrix		
Technical Findings/Observations	Implications (Effects)	Policy Options/ Interventions
Additional classroom & teachers are needed	Poor delivery of quality education due to overcrowding of pupils in a class	Local School Board to lobby for the hiring of more school teachers in the elementary and secondary levels
Lack of computer equipment/rooms	Low competitiveness of pupils re: I.T Concepts	Provide I.T Equipment for the school
Some schools easily flooded or are situated in flood-prone areas	Poor quality of education due to frequent disruption of classes	Provide sufficient time for make-up classes



HEALTH

I. SITUATIONAL ANALYSIS

A. General Health Situation

The table shows the general health situation in the municipality from 2012 to 2016. Crude Birth Rate has been decreasing yearly from a rate of 17.69/1000 population in 2012 to 14.13/1000 population in 2016. This could be attributed to a very strong and sustained family planning campaign of MHO Balaoan coupled with a strong LGU support. The LGU has been buying its own family planning supplies like pills and injectable like DMPA since 2006 when the Contraceptive Self Reliance ordinance was passed which allotted a yearly P250, 000 for FP supplies.

Crude death rate, Infant mortality rate and Young child mortality rate are likewise on the decline from 2012-2016. It is noteworthy that there has been no maternal death since 2012 except for 1 maternal death in 2016 due to a co-morbid severe mitral stenosis.



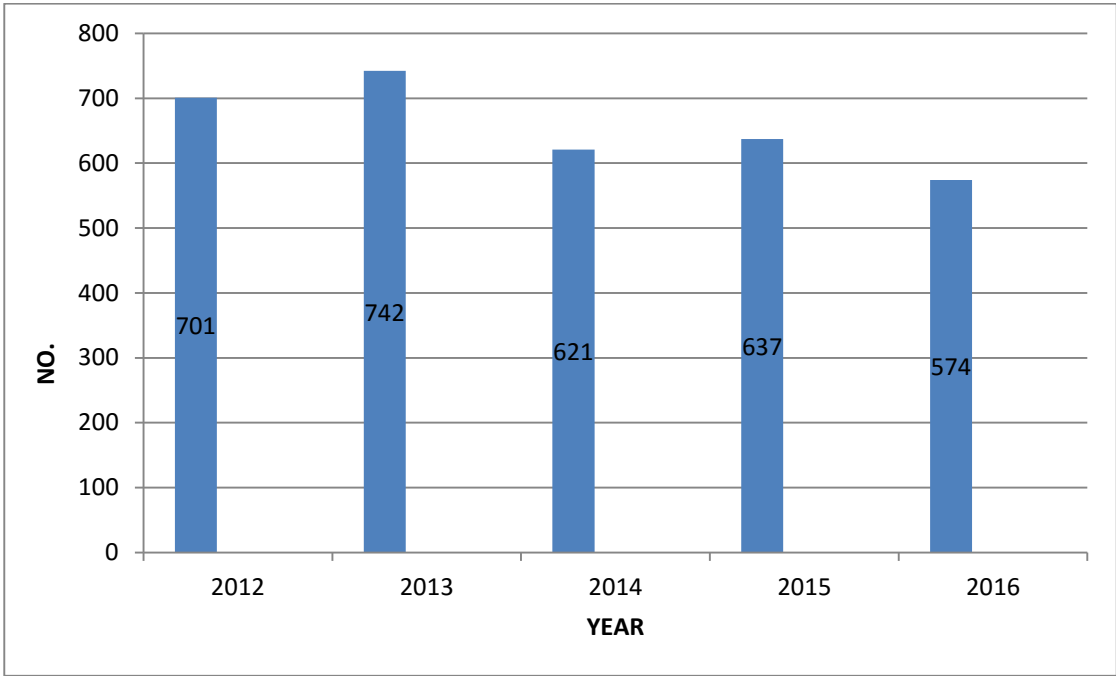
Table 22: General Health Situation for the Last Five Years

HEALTH INDICATOR	2012		2013		2014		2015		2016	
	No.	Rate/1000 pop	No.	Rate/1000 pop	No.	Rate/1000 pop	No.	Rate/1000 Pop	No.	Rate/1000 pop
FERTILITY										
CRUDE BIRTH RATE (CBR)	701	17.69	742	18.51	621	15.85	637	15.85	574	14.13
TOTAL FERTILITY RATE		3.5		3.7		3.1		3.2		2.9
MORBIDITY										
GENERAL MEDICAL										
CONSULTATIVE RATE										
HOSPITALIZATION RATE										
MORTALITY										
CRUDE DEATH RATE (CDR)	248	6.25	204	5.02	229	5.76	199	4.95	198	4.87
PROPORTIONED MORTALITY RATE (PMR)										
INFANT MORTALITY RATE (IMR)	6	8.55	9	12.12	5	8.08	3	4.07	0	0
YOUNG CHILD MORTALITY RATE (YCMR)	6	1.73	12	3.40	5	1.38	6	1.68	1	0.28
MATERNAL MORTALITYRATE (MMR)	0		0		0		0		1	1.74

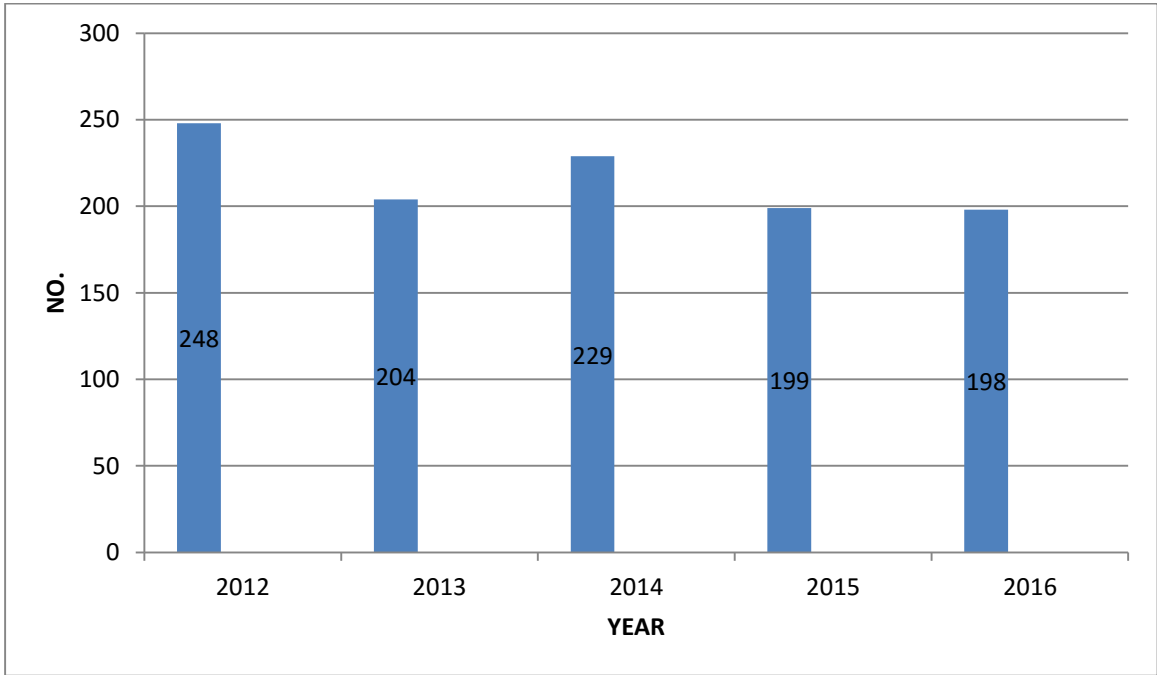
Source: MHO Balaoan



Graph 5: General Health Situation for the Past Five Years: Crude Birth Rates (CBR)



Graph 6: General health Situation for the Past Five Years: Crude Death Rates (CDR)





1. Health Services and Facilities

The Balaoan Municipal Health Office and Birthing Clinic or Main Health Center is located at the center of the town plaza adjacent to the Farmer's Civic center and approximately about 20 meters from the Municipal Hall. It is easily accessible to all 36 barangays



and is open 8:00 AM to 5:00 PM. It serves as a referring unit of all Barangay Health Stations. The attached birthing clinic is open 24/7, is DOH licensed and PhilHealth accredited and manned by BEmONC-trained health personnel. There are 10 Barangay Health Stations strategically spread in the different barangays of the municipality. Each Barangay

Health Station covers 3-5 adjacent barangays as its catchment area and is manned by a Rural Health Midwife assisted by Barangay Health Workers.

Services offered in the facility are: consultation and patient care, Tuberculosis-Directly Observed Treatment Scheme (TB DOTS), family planning services, pre and postnatal services, child birth, immunization, dental services, laboratory services, issuance of medical certificates, sanitary permits, health certificates to food handlers, death certificates, birth certificates and permits to disinter or transfer cadavers. It is also responsible for the monthly bacteriological water examination of water refilling stations.



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Table 23: Medical Health Facilities and Personnel, Year 2017

Name of Health facility	Barangay	Owner-ship	Capacity (No. of Beds)	Personnel (No.)					Physical Condition		Hazard Susceptibility (H/M/L)				
				D	N	M	SI	Others	Total		F	LL	SS	T	GS
HOSPITAL															
1. Bungol District Hospital	Bungol	Public	25	6	13	1	0	1 Dentist 1 Medtech 2 Pharmacist 1 Dental Aide 1 Lab Technician 1 Lab Aide 5 Nursing aide 1 Rad tech	33	O					L
MAIN HEALTH CENTER	Antonino	Public	2 (Birthing Clinic)	1	1		2	11 NDPs 5 RHMP 1 Medtech 1 utility	32	O	M				L
BARANGAY HEALTH STATION															
1.Ar-arampang BHS	Ar-arampang	Public	-	0	0	1	0		1	O	M				L



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2. Bulbulala BHS	Bulbulala	Public	-	0	0	1	0		1	NR					L
3. Butubut Este BHS	Butubut Este	Public	-	0	0	1	0		1	O	L				L
4. Calliat BHS	Calliat	Public	-	0	0	1	0		1	NR	L				L
5. Masupe BHS	Masupe	Public	-	0	0	1	0		1	O	L				L
6. Nagsabaran Norte BHS	Nag Norte	public	-	0	0	1	0		1	O	L				L
7. Pantar Norte BHS	Pantar Norte	Public	-	0	0	1	0		1	O	M				L
8. Paraoir BHS	Paraoir	Public	-	0	0	1	0		1	O	M		H	H	L
9. Sinapanagan Sur BHS	Sin. Sur	Public	-	0	0	1	0		1	O	H				L
10. Poblacion BHS	Antonino	Public	-	0	0	1	0		1	O	M				L



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PRIVATE CLINICS															
1. DAC Clinic and Lying In	Camilo Osias	Private	5	1	2	1	0		4	O	M				L
2. CARES Clinic	Antonino	Private	-	2	0	0	0		2	O	L				L
3. Balderas Children’s Clinic	Camilo Osias	Private	-	1	0	0	0		1	O	M				L



Bungol District Hospital is a 25 bed district hospital located in Bungol, about 4 kilometers away from the town proper. Other services are provided by private medical and dental clinics, all of which are located in the town proper. Cases that need further management are referred to tertiary hospitals like Lorma Hospital, Bethany Hospital or Ilocos Training and Regional Medical Center located in San Fernando, La Union which is approximately 30 kilometers away from Balaoan.

Manning Balaoan Municipal Health Office and Barangay Health Stations is 1 doctor, 1 public health nurse, 10 rural health midwives and 2 Rural Sanitary Inspectors assisted by 207 Barangay Health Workers. The dentist comes every Tuesdays and Fridays, half day and is being shared with the district hospital. There is no regular medical technologist. Considering a population of 40,181 for

2017, the ratio of health personnel to population falls below the standard of 1:20,000 for doctors and nurses. There is a need to hire one additional doctor and one additional permanent nurse. Presently however, we have a total of 8 nurses, 5 midwives and 1 medical technologist hired under the HRH (Human resource for Health) of the Department of Health as augmentation.

HAZARD SUSCEPTIBILITY

Based on the tabulated data, majority of the health facilities in the locality are low susceptible in hazards. However, the MDRRMO is equipped and readily available in times of calamities.



2. Morbidity

Table 24: Leading Causes of Morbidity for the Past Three Years (2014-2016)

2014			2015			2016		
CAUSES	No.	Rate /10,000 pop	CAUSES	No.	Rate/ 10,000 pop	CAUSES	No.	Rate/ 10,000 pop
Acute Respiratory Infection	1206	303.59	Acute Respiratory Infection	1,415	352.28	Acute Respiratory Infection	2893	712.31
Hypertension	611	158.81	Hypertension	640	159.33	Hypertension	1893	471.28
Anemia	394	99.00	Anemia	201	50.04	Anemia	391	466.09
Acute Tonsillopharngitis	363	91.38	Acute Tonsillopharyngitis	142	35.35	Diabetes mellitus	269	66.23
Diabetes Mellitus	333	83.82	PTB	96	23.90	Urinary tract Infection	173	42.59
Urinary Tract infection	307	77.28	Urinary tract Infection	86	21.41	Acute gastroenteritis	157	38.65
Wounds	264	66.46	Acute Gastroenteritis	84	20.91	Wounds	83	20.44
PTB	101	25.42	Abscess	63	15.68	Bronchial Asthma	82	20.19
Influenza	92	23.16	Diabetes mellitus	54	13.44	Abdominal Colic	70	17.23
Impetigo	63	15.86	Conjunctivitis	37	9.21	Impetigo	45	11.07

Source: MHO Balaoan

The table shows that Acute Respiratory Infection is the leading cause of consultation but there is an alarming increase of Hypertension and Diabetes Mellitus. Cases of tuberculosis and some gastroenteritis are consistently present.



3. Mortality

Table 25: Ten leading causes of Mortality for the Past Three Years (2014-2016)

2014			2015			2016		
CAUSES	No.	Rate /10,000 pop	CAUSES	No.	Rate/ 10,000 pop	CAUSES	No.	Rate/ 10,000 pop
1.Pneumonia	59	148.52	1. Pneumonia	45	112.03	1. Pneumonia	48	118.18
2. Cerebrovascular Disease/HPN	30	75.52	2. Cardiovascular Diseases	28	69.70	2. Cancer, all forms	27	66.48
3.Diabetes mellitus	26	65.45	3. Cancer, all forms	25	62.24	3. Cerebrovascular Disease/HPN	27	66.48
4.Cancer, all forms	25	62.93	4. COPD	23	57.26	4. Cardiovascular Diseases	17	41.86
5.Degenerative Heart Disease	22	55.38	5. Myocardial infarction	20	49.79	5. Myocardial Infarction	16	39.39
6.Myocardial Infarction	19	47.83	6. Cerebrovascular Disease/ HPN	20	49.79	6. COPD	9	22.16
7.Chronic Obstructive Pulmonary Disease	5	12.58	7. Vehicular Accident	6	14.93	7. PTB	5	12.31
8.Gunshot wounds	4	10.06	8. PTB	4	9.95	8. Liver Cirrhosis	3	7.38
9.PTB	3	7.55	9. Bleeding Peptic Ulcer	4	9.95	9. Diabetes mellitus	3	7.38
10.Vehicular Accident	2	5.03	10. Pancreatitis	2	4.98	10. Gunshot wounds	2	4.92

Source: MHO Balaoan



Mortality data as can be seen from above table shows that Pneumonia is still the leading cause of mortality in Balaoan but lifestyle-related illnesses like Cerebrovascular diseases and Cancer are closing in as 2nd and 3rd leading causes of death.

4. Nutrition

Table 26: Malnourished Children for the Past Five Years (2012-2016)

DEGREE OF MALNUTRITION	MUNICIPAL									
	2012		2013		2014		2015		2016	
	No.	%	No.	%	No.	%	No.	%	No.	%
Normal	3845	93.84	3887	92.83	4141	95.54	4023	96.22	3977	96.50
Underweight	206	5.02	198	4.73	140	3.23	119	2.84	104	2.52
Severely underweight	15	0.37	32	0.76	16	0.37	7	0.16	8	0.19
Overweight	31	0.75	70	1.67	37	0.85	32	0.76	32	0.77
TOTAL MALNOURISHED	252	6.15	300	7.16	193	4.45	158	3.77	144	3.49
Total No. of children(0-71months) weighed	4097		4187		4334		4181		4121	

Source: MHO Balaoan; MNAO

From the table, we can see that Malnutrition rate, except for a slight increase in 2013 has been steadily going down since then, from 6.15% (underweight + severely underweight+ overweight)in 2012 to just 3.49% in 2016. The number of severely underweight children was 15 in 2012 increasing to 32 in 2013 but steadily decreasing to just 8 children in 2016. The steadfast commitment of the LGU in partnership with all other stakeholders to combat malnutrition seems to be taking off with measures like Pabasasa Nutrisyon activities, feeding sessions in the barangays with focus on backyard gardening in everyhousehold , breastfeeding support and intensified family planning campaign. For this reason, LGU Balaoan has been an Outstanding PabasasaNutrisyon awardee for 2015-2016 and an Exemplary Pabasasa Nutrisyon awardee for 2017.



5. Sanitation and Hygiene

Table 27: Households by Kind of Toilet Facility for 2010

Type of Toilet Facility	Number of Households
Water-sealed sewer septic tank used exclusively by households	4,731
Water-sealed sewer septic tank shared with other households	1,025
Water-sealed other depository used exclusively by household	1,434
Water-sealed other depository shared with other households	305
Closed Pit	351
Open Pit	194
Others(Pail system and others)	41
None	47
Total	8,129

Source: NSO 2010

Way back in 2012, the table shows that out of a total of 8,129 households, only 58.19% have water-sealed sewer septic tank used exclusively by households. 16.36% are sharing, 2.38% used open pit and 47 households or 0.58% have none. Because of this, LGU Balaoan launched its “Safe Toilet for Every Juan” project in 2012 with the goal to provide safe toilets to indigent households. LGU provided the materials to be used for a water -sealed with two-chamber septic tank while the indigent families provide the labor component as their counterpart. This is a continuing project of the LGU with an annual budget of 300T.



Table 28: Ewreeta Disposal Facilities

Barangay	No. of HH	Flush		Water sealed		Sanitary Pit Privy		Pit privy		No Own Toilet Facility(Sharing)		Ecosan		Communal	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Almeida	333	17	6.18	228	82.91		0.00		0.00	30	10.91		0.00		0.00
Antonino	163	70	39.55	107	60.45		0.00		0.00	0	0.00		0.00		0.00
Apatut	184	38	25.85	104	70.75		0.00		0.00	5	3.40		0.00		0.00
Ararambang	227	21	12.00	119	68.00		0.00		0.00	35	20.00		0.00		0.00
Baracbac Este	240	66	32.20	115	56.10		0.00		0.00	24	11.71		0.00		0.00
Baracbac Oeste	100	16	23.19	40	57.97		0.00		0.00	13	18.84		0.00		0.00
Bet-ang	170	41	33.06	83	66.94		0.00		0.00	0	0.00		0.00		0.00
Bulbulala	380	44	14.92	208	70.51		0.00		0.00	43	14.58		0.00		0.00
Bungol	305	37	14.12	172	65.65	7	2.67		0.00	46	17.56		0.00		0.00
Butubut Norte	275	38	16.38	155	66.81		0.00		0.00	39	16.81		0.00		0.00
Butubut Sur	192	53	34.64	100	65.36		0.00		0.00	0	0.00		0.00		0.00
Butubut Este	153	32	20.92	121	79.08		0.00		0.00	0	0.00		0.00		0.00



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Butubut Oeste	134	46	34.33	83	61.94	1	0.75		0.00	4	2.99		0.00		0.00
Cabuaan	207	56	27.05	136	65.70		0.00		0.00	15	7.25		0.00		0.00
Calliat	222	70	31.53	126	56.76		0.00		0.00	26	11.71		0.00		0.00
Calungbuyan	295	41	13.90	227	76.95	7	2.37		0.00	20	6.78		0.00		0.00
Camiling	207	51	24.64	142	68.60		0.00		0.00	14	6.76		0.00		0.00
Camilo Osias	351	109	31.05	231	65.81		0.00		0.00	11	3.13		0.00		0.00
Guinaburan	149	18	12.08	117	78.52		0.00		0.00	14	9.40		0.00		0.00
Masupe	180	55	30.56	124	68.89		0.00		0.00	1	0.56		0.00		0.00
Nagsabaran Norte	285	75	26.32	203	71.23		0.00		0.00	7	2.46		0.00		0.00
Nagsabaran Sur	203	0	0.00	139	68.47	53	26.11		0.00	11	5.42		0.00		0.00
Nalasin	287	116	40.42	147	51.22		0.00		0.00	24	8.36		0.00		0.00
Napaset	132	28	21.21	72	54.55		0.00		0.00	32	24.24		0.00		0.00
Pagbennecan	158	32	20.25	99	62.66		0.00		0.00	27	17.09		0.00		0.00
Pagleddegan	130	29	22.31	101	77.69		0.00		0.00	0	0.00		0.00		0.00
Pantar Norte	272	58	21.32	190	69.85	1	0.37		0.00	23	8.46		0.00		0.00
Pantar Sur	164	46	28.05	110	67.07		0.00		0.00	8	4.88		0.00		0.00
Pa-o	118	38	32.20	68	57.63		0.00		0.00	12	10.17		0.00		0.00
Paraoir	390	56	14.36	319	81.79		0.00		0.00	15	3.85		0.00		0.00



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Patpata	243	43	17.70	170	69.96		0.00		0.00	30	12.35		0.00		0.00
Sablut	157	58	36.94	79	50.32		0.00		0.00	20	12.74		0.00		0.00
San Pablo	214	44	20.56	134	62.62	1	0.47		0.00	35	16.36		0.00		0.00
Sinapangan Norte	113	27	23.89	84	74.34		0.00		0.00	2	1.77		0.00		0.00
Sinapangan Sur	192	23	11.98	139	72.40		0.00		0.00	30	15.63		0.00		0.00
Tallipugo	188	38	20.21	134	71.28		0.00		0.00	16	8.51		0.00		0.00
													0.00		0.00
TOTAL	7258	1630	22.46	4926	67.87	70	0.96	0	0.00	632	8.71	0	0.00	0	0.00

For 2017, the LGU has set its goal to have all its 36 barangays be declared and verified ZOD (Zero Open Defecation) Barangays. Presently, 32 out of a total of 36 barangays or 88.89% have been declared and verified as ZOD (Zero Open Defecation) Barangays. Toilet bowl and other materials needed for the septic tank were jointly provided by the LGU and barangay funds. The beneficiaries provide the labor for the construction of the toilet as well as the enclosure for said toilet facility as their counterpart. From the above table, 6626 HH of the total 7258 HH of Balaoan or 91.28% have sanitary toilets but there are 632 HH or 8.71% who are sharing and don't still have their own toilet facility.



B. BURIAL GROUNDS

Table 29: Existing Capacity of Burial Grounds/ Cemeteries

Name of Cemetery	Barangay	Area (Hectares)	Ownership (Public or Private)	Capacity (No. of Plots)	Occupancy (No. of Plots)	Vacancies	Possible Hazards	Remarks
Balaoan Public Cemetery	Calungbuyan	2.724	Public					Full except for those with reserved lots
Balaoan Cemetery (Expansion 1- northeast)	Calungbuyan	1.1594	Public	Lot- 432 Mausoleum- 260 Apartment (6 buildings)- 497 *Still with some area left for more apartment buildings	344 168 451	88 92 46		Not yet congested
Balaoan Cemetery (Expansion2- southeast)- newly bought by LGU	Calungbuyan	*6.30	Public	Lot- 267 Mausoleum- 40 * There are still areas for possible apartment buildings.	163 22	104 (all of these lots are reserved and paid for but unused yet) 18		Not yet congested

*60% of said 6.3 hectares are of hilly, sloping terrain. Option is to slowly flatten hilly portion to make more cemetery lots available.



C. SOLIDWASTE AND WASTE WATER

Table 30: Households by Usual Manner of Garbage Disposal, 2010

Usual Manner of Garbage Disposal	Total No. of Households
Picked-up by Garbage Truck	844
Dumping in individual Pit (Not burned)	1411
Burning	4433
Composting	238
Burying	321
Feeding to Animals	882
Others	0
TOTAL	8129

Source: NSO, 2010 Census of Population and Housing



Generated Waste:

Table 31: Municipal Waste Generation per Source

Major Waste Source	Per unit Waste Generation (kg/day)	No. of establishments per major waste source	Total Waste Generation per Major Source		Composition of Waste Generated			
			Kg/ day	% Share	Biodegradable (Kg/day)	Recyclable (kg/day)	Residual (Kg/day)	Special Waste Kg/day)
Households	1.239	10,208	12,647.712	68.0675	7533.504	2541.792	2184.512	377.696
Food establishments	8.528	64	545.792	2.93735	389.76	74.88	78.72	2.368
Public Market	567.35	1	567.35	3.05337	278.9	105.4	178.6	4.5
Service providers	7.42	183	1,357.86	7.30774	515.145	248.514	582.123	81.471
Special Waste Generators	1.73	16	27.68	0.14897	17.28	0.464	3.92	6
Schools	47.36	22	1,041.92	5.60741	365.64	386.54	289.96	0
General Stores	4.28	512	2,191.36	11.7935	366.08	1448.96	363.52	10.24
Slaughterhouse	201.45	1	201.45	1.08416	201.45	0	0	0
Total			18,581.124	100	9,667.759	4806.55	3681.355	482.275
% Share					52.03	25.867	19.812	2.595

Source: Waste Analysis and Characterization Study, Balaoan, La Union



II. CURRENT AND PROJECTED NEEDS

A. Required Medical Personnel and Staff

Table 32: Required Medical Personnel and Staff

Year	Projected Population	Doctor	Nurse	Midwife	Sanitary Inspector
2017	40,061	2	2	8	2
2018	40,504	2	2	8	2
2019	40,953	2	2	8	2
2020	41,406	2	2	8	2
2021	41,865	2	2	8	2
2022	42,328	2	2	8	2
2023	42,797	2	2	8	2
2024	43,271	2	2	8	2
2025	43,750	2	2	8	2
2026	44,235	2	2	9	2
2027	44,724	2	2	9	2
2028	45,220	2	2	9	2

Evaluation made based on the health personnel to projected population ratio per RA 1082, the municipality needs 2 medical doctors based on 1:20,000 population; 2 public health nurses based on 1:20,000 population, 8 midwives based on 1:5,000 population and 2 rural sanitary inspectors based on 1:20,000 population. Presently,



Balaoan has 1 doctor, one Public health nurse, 10 Rural Health Midwives and 2 Sanitary Inspectors. So, there is a need to augment one doctor and one nurse for the municipality to meet standards set. And considering that the birthing clinic is open 24/7, there is a need for the LGU to hire about 4 more midwives, even just on a contractual basis.

Balaoan, with a population of 40,061 (2017) is among the municipalities in La Union with a plan for the construction of RHU II by the DOH. Again, additional manpower complement should be considered. In addition, a full time dentist and a regular medical technologist is also mandated.

B. BURIAL GROUNDS

Crude Death Rate = 5 deaths per 1000 population

Computed Number of deaths in 2016 = 198

Number of Burial Permits =179

Participation Rate = 90%

Minimum Plotsize = 1.0 m x 2.44 m

Table 33: Projected Number of Deaths and Projected Area Requirements for Burial Grounds

Year	Projected Population	Projected No. of Deaths (CDR X Projected Pop./1000)	Projected Area Requirements for Burial Grounds (Excluding open spaces, circulation etc)
2017	40,061	200	439 m2
2018	40,504	203	446 m2
2019	40,953	205	450 m2
2020	41,406	207	455 m2



2021	41,865	209	459 m2
2022	42,328	212	466 m2
2023	42,797	214	470 m2
2024	43,271	216	474 m2
2025	43,750	219	481 m2
2026	44,235	221	485 m2
2027	44,724	223	490 m2
		TOTAL- 2,329	5,115 m2

Balaoan LGU has bought 6.3 hectares for expansion of the cemetery although the first expansion is not yet full. However, about 60 % of the newly bought lot is on a hilly, sloping terrain. Projected total deaths from 2017-2027 is 2,329 requiring a total of 5,115 m2 or about 5 hectares, excluding provision of open spaces, circulation and facility requirements. So the present burial grounds available is enough to supply lot demand for just the next two-three years. The option for the LGU is to go vertical and build more apartment buildings and to slowly flatten the hilly sloping portion of the expansion site to make more cemetery lots. Likewise, it is necessary to scout for additional area for further expansion of the cemetery, say another 5 hectares.



C. SOLIDWASTE AND WASTE WATER

Projected Future Area Requirement for solid waste management:

Waste density = 330 kg/m (utilized by DENR)

Height = 10 m (Landfill depth)

Residence time = 10 years

a. Compute for waste generation

Waste generated (accdg to Waste Analysis and Characterization Study, Balaoan):

$$\begin{aligned} &18,581 \text{ kgs} \times 7 \text{ days/ week} \times 52 \text{ weeks/ year} \\ &= 6,763,484 \text{ kgs/ year} \end{aligned}$$

b. Compute for land area requirement

$$\begin{aligned} \text{Area} &= \frac{\text{waste generation (kg/year)}}{\text{Waste density (kg/m}^3\text{)}} \times \frac{\text{Residence time}}{\text{Landfill depth}} \\ &= \frac{6,763,484 \text{ kgs/ year}}{330 \text{ kg/ m}^3} \times \frac{10 \text{ years}}{10 \text{ m}} \\ &= 2.05 \text{ hectares} \end{aligned}$$

c. Projected Total Land Area: Increase by 50% to allow for daily cover, roads, receiving areas, fencing. Therefore

$$\text{Total Land Area} = 2.05 \times 1.50 = 3 \text{ hectares}$$

So the six- hectare sanitary landfill is more than enough to service the needs of the municipality for the next 10 years, There is a need however to lobby for a stricter implementation of the “ No segregation, no collection” policy through information dissemination and constant dialogues with all the stakeholders. Likewise,



there is a need to increase the number of Sanitary Landfill personnel, equipment used and purchase of more PPEs (Personnel Protective Equipment). Also included in future plan is to increase the number of barangays whose wastes are collected by garbage trucks.

Hospital wastes of the Bungol District Hospital are collected, treated and disposed of by an accredited private hauler/ treater, the Cleanway Environmental Management System Inc.

Waste Water

There is no waste water facilities in the municipality except from that of the Public Market which cater only the water waste coming from the Public Market, however, there is a plan in this year to establish a waste water treatment for the slaughter house.

III. HEALTH AND SANITATION ANALYSIS MATRIX

Table 34: Sector Analysis Matrix

Technical Findings	Implications	Policy recommendations
1. Need for additional 1 doctor and 1 nurse to meet standard health worker to population ratio	Quality of service to constituents being compromised	Recommend hiring or request from DOH 1 additional doctor and 1 nurse
2. Need for additional midwives to be hired by LGU for the birthing clinic	Quality of care to mother and child assured	Recommend hiring of additional midwives for birthing clinic
3. Need for additional health personnel for planned RHU 2	Quality of health service compromised	Request DOH for additional health personnel for RHU 2.
4. Increasing cases of lifestyle related illnesses like Diabetes and Hypertension and cancer	Shorter life span Economic burden for maintenance meds, hospitalization	Screening of high-risk individuals Anti-smoking campaign intensified Lifestyle and diet changes advocacy LGU-led Zumba activities



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5. About 600 HH still without toilet facility but sharing	Increase cases of diarrhea	Intensify “safe toilet for every Juan” campaign All barangays to be declared ZOD by 2018.
6. Insufficient implementation of segregation at source		Intensify campaign on segregation Sustained campaign on no plastics No segregation, no garbage pick-up
7. Inadequate number of garbage truck, personnel of sanitary landfill	Slow collection of garbage	Recommend purchase of additional garbage trucks, PPEs and hiring of additional personnel.
8. Cemetery lots good for 3-4 years only	Scarcity of burial lots	Locate for additional expansion of the present cemetery. Build more apartments.



HOUSING

A housing unit is structurally separate and independent place of abode which, by the way it has been constructed, converted or arranged is intended for habitation by one or more households. Structures or part of structures not intended for habitation such as commercial, industrial and agricultural buildings, or natural and manmade shelters such as caves, boats, abandoned trucks, culverts, etc. but used as living quarters by households are also considered as housing units



I. SITUATIONAL ANALYSIS

An aggregate 6,557 households for the total populace of 33,786 were listed as per the NSO 2000 Data. Though in the year 2010, there were 7,934 occupied housing units in the municipality against 8,129 households, wherein the difference of 195 households represents the number of doubled-up households which means that one dwelling units is shared by two or more households. Compared to 2000 data, as per data below there were a total of 1,572 households increase in the year 2010.

Table 35: Housing Situation for the Past Two Censal Years

	2000 No.	2010	
		No.	% Increase/ Decrease
Households (HH)	6557	8129	23.97
Household Population	33786	37887	12.14
Housing Units (HU)	6711	7934	18.22
Occupied HU	6346	7934	25.02
Vacant HU	365	0	0
Ratio of HH to Occupied HU	1.03	1.02	
Ratio of HH Population to Occupied HU	5.32	4.78	

Source: NSO/PSA



Housing Backlog

Backlog or shortfall is often defined as the under provision in housing that has accrued against previous development plan targets.

Doubled-up household comprises of 193 as to base year 2010 and unacceptable housing units of 8 and 6 makeshift/salvage/Improvised housing units, comprising a total backlog of 209.

Table 36: Housing Backlog, Year

Backlog	2000		2010	
	No.	%	No.	%
Doubled – Up Households	154	1.33913	195	0.93
Unacceptable Housing Units	24	-0.2087	8	0.04
Makeshift / Salvage/ Improvised HU	15	-0.1304	6	0.03
Others	-	-	-	-
Total Backlog	193		209	

Source: NSO Data 2000 and 2010

Informal Settlement

Based on the CBMS Data below year 2017, there are a total of 123 households listed as informal settlers in the municipality of Balaoan. Most of them are located at Barangays Pantar with 23 households and Bungol with 13 households.

Table 37: Informal Settlement Areas and Households by Barangay, Year 2017

Barangay	Number of Households	Households who are squatters*	
		Magnitude*	Percentage (%)
BALAOAN	8,801	123	1.4
Apatut	209	4	1.91
Ar-arampang	251	1	0.4
Baracbac Este	225	0	0
Baracbac Oeste	95	1	1.05



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Bet-ang	165	2	1.21
Bulbulala	359	1	0.28
Bungol	221	13	5.88
Butubut Este	220	3	1.36
Butubut Norte	273	0	0
Butubut Oeste	132	6	4.55
Butubut Sur	190	3	1.58
Cabuaan Oeste (Pob.)	290	4	1.38
Calliat	317	0	0
Calungbuyan	319	1	0.31
Camiling	186	0	0
Guinaburan	209	0	0
Masupe	204	0	0
Nagsabaran Norte	331	1	0.3
Nagsabaran Sur	287	6	2.09
Nalasin	341	2	0.59
Napaset	152	3	1.97
Pagbennecan	190	1	0.53
Pagleddegan	149	1	0.67
Pantar Norte	397	23	5.79
Pantar Sur	222	0	0
Pa-o	125	2	1.6
Almieda	314	9	2.87
Paraoir	424	9	2.12
Patpata	327	4	1.22
Dr. Camilo Osias Pob. (Cabuaan Este)	391	4	1.02



Sablut	195	5	2.56
San Pablo	266	1	0.38
Sinapangan Norte	155	0	0
Sinapangan Sur	273	11	4.03
Tallipugo	238	1	0.42
Antonino	159	1	0.63

Source: CBMS Census 2017

Resettlement Area



Furthermore, this plan is under validation by the LGU and they wanted to arrange for a public-private partnership arrangements with the landowners and or to the private developers in order to address the housing requirements of Balaoan within the planning period and to determine a safe home to live with for those vulnerable populace of Balaoan.

Table 38: Resettlement Areas, Year 2020

Barangay	Land Ownership	No. of Households	No. of Housing Units	Utilities/ Facilities/ Amenities	Area	Hazard Susceptibility (H/M/L)				
						FI	LL	TS	SS	GS
Ar-arampang	Private Individuals				15 hAs	L				L

Source: Local Shelter Plan

Based on the PSA Data, water supply within the municipality declined for the past years and also water-sealed toilets for the households. Moreover, the electric supply remains at 82% served as per 2010 data.



Table 39: Housing Facilities and Utilities Situation for the Past Two Censal Years

Utilities	2000			2010		
	No. of Housing Units	No. Served	% Served	Housing Units	No. Served	% Served
Water Supply	6557	6019	92%	8932	7179	80%
Electricity	6557	5362	82%	8932	7355	82%
Water – Sealed Toilets	6557	5924	90%	8932	7495	84%
Garbage Collection System	6557	408	6%	8932	844	9%
Total		17713			22,873	

Source: NSO/PSA

Occupied Housing Units by Tenure Status

There were 6,319 or (78%) housing units being owned/amortized, 148 (1.83%) housing units rented, 1,597 (19.73%) units occupied for free with consent of owner, and 31 (0.38%) units being occupied for free without the consent of the owner.

Table 40:
Occupied Housing Units and Lots by Tenure Status for the Past Three Censal Years

Tenure Status	2000		2007		2010	
	Housing Unit		Housing Unit		Housing Unit	
	No.	%	No.	%	No.	%
Owned/Being Amortized	4,693	74%	6,748	87%	6,319	78.1%
Rented	237	4%	111	1%	148	1.83%
Being Occupied for Free With Consent of Owner	1,381	22%	907	12%	1,597	19.73%
Being Occupied for Free Without Consent of Owner	5	0%	4	0%	31	0.38%
Total	6,316	100%	7,770	100%	8,095	100%



Table 41:
Occupied Housing Units by Condition (State of Repair) of the Building and Year Built, Year 2010

Year Built	Total Occupied Housing Unit	CONDITION (State of Repair) OF THE BUILDING						
		Needs No Repair/ Minor Repair	Needs Major Repair	Dilapidated / Condemned	Under Renovation/ Being Repaired	Under Construction	Unfinished Construction	Not Reported
2010	139	91	14	-	4	24	6	-
2009	276	198	28	-	6	18	26	-
2008	246	175	40	-	-	3	27	1
2007	275	205	28	-	4	12	24	2
2006	284	220	35	-	2	3	22	2
2001-2005	1294	1081	111	-	12	12	73	5
1991-2000	2091	1693	250	1	21	18	94	14
1981-1990	1290	1007	212	-	9	8	37	17
1971-1980	781	597	145	-	9	3	12	15
1970 or earlier	967	749	197	-	7	2	11	1
Not Applicable	-	-	-	-	-	-	-	-
Don't Know/Not Reported	291	220	63	-	1	1	4	2
TOTAL	7934	6236	1123	1	75	104	336	59

Source: NSO/PSA Data

II. CURRENT AND PROJECTED NEEDS

Housing Backlog

The housing backlog in the Municipality of Balaoan cannot be addressed overnight, but serious efforts to address the problem over a long-period of time must start sooner to make the economic growth inclusive.

The Municipality is currently estimating a 209 total number of housing backlog. The number could rise if disasters are likely to occur or strike in the locality particularly those barangays along the coast.



Table 42: Projected Housing Needs

Housing Needs	Y ₀ (2010)	FUTURE HOUSING NEEDS									
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
A. Housing Backlog	209	24	23	23	23	23	23	23	23	23	0
b. Household Formation due to Increase in Population	1,475	164	168	170	173	176	180	182	186	189	192
C. Upgrading											
TOTAL	1,684	188	191	193	196	199	203	205	209	212	192

Source: Computed based on NSO/PSA Data

III. SECTOR ANALYSIS MATRIX

Technical Findings/ Observations	Implications/Effects	Policy Options/ Interventions
• Housing made of makeshifts/salvage materials	• Unhealthy and unsafe housing unit	• Monitoring and shelter assistance
• Presence of doubled-up households in the year 2010	• Overcrowded population within small area of housing unit	• Providing pabahay or low cost housing unit for the unprivileged
• Illegal Settlers	• Uncontrolled settlements resulting to overcrowded population within area not suitable to housing	• Identify suitable relocation sites for settlers
• Hazard prone areas	• Not safe to live with	• Introduction of mitigation/adaptation measures to residence • Implement Program of Awareness for the residences

Source: Municipal Planning Development Office



SOCIAL WELFARE SERVICES SECTOR

I. SITUATIONAL ANALYSIS

Social Welfare Facilities, Services offered and Type of Clientele, CY 2017

The Office of the Municipal Social Welfare and Development (MSWDO) is the lead department in the implementation of social welfare programs and projects. It identifies basic needs of the needy, the disadvantaged and the impoverished and initiate actions in alleviating their problems and improve their living conditions. The office is the implementing department on the program for the total development and protection of children up to five (5) years of age. It facilitates welfare programs for the elderly, disabled and for the prevention of juvenile delinquency. It initiates and supports youth welfare programs to enhance the role of youth in nation building and development. It coordinates with government agencies and NGOs in the promotion of all needy, disadvantaged, under privileged or impoverished groups or individuals identified to be vulnerable and high risk to exploitation, abuse and neglect. It also serves as the frontline in the delivery of social services particularly those that concerns immediate relief and assistance during and in the aftermath of man-made and natural disasters and calamities.

Presently, the Office of the MSWDO has four (4) plantilla positions namely: Municipal Social Welfare & Development Officer, Social Welfare Assistant and 2 Child Development Worker I. The other 36 Child Development Workers are appointed as contractual. Below is Table 1 which indicates the different Social Welfare Facilities, services offered and clients served for CY 2017.



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Table 43: Social Welfare Facilities, Services Offered, Type of Clientele for CY 2017

Facility	Barangay	Services Offered	Type of Clientele	No. of Clientele	Staff	Ownership	Physical Condition	Hazard Susceptibility (H/M/L)				
								F	LL	SS	T	GS
Senior Citizen Center	Antonino	Death benefit assistance	All individuals 60 years old and above	1,157	OSCA Officers MSWDO SWA	Public	Fair	M				L
		social pension	Indigent senior citizens	1,002	-do-	Public	Fair	M				L
		provision of identification cards/purchase booklets (medicine and grocery)	All senior citizens	1,157	-do-	Public	Fair	M				L
Daycare Center /Feeding Center	Almeida	Day Care Service (ECCD), Supplemental Feeding/PES & Pabasasa Nutrisyon	2-5 year old children/ parents	33/12	Day Care worker, volunteer parents	Public	Fair	H		H	H	L
	Sitio Sta. Isabel	-do-	-do-	28/12	-do-	Public	Fair	L	L		L	L
	Antonino	-do-	-do-	41/12	-do-	Public	Fair	M				L
	Apatut	-do-	-do-	35/12	-do-	Public	Fair	L				L
	Ar-arampang	-do-	-do-	39/12	-do-	Public	Fair	M	L			L
	Baracbac Este	-do-	-do-	27/12	-do-	Public	Fair	M				L



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	Baracbac Oeste	-do-	-do-	29/12	-do-	Public	Fair	H				L
	Bulbulala	-do-	-do-	28/15	-do-	Public	Fair					L
	Bungol	-do-	-do-	40/15	-do-	Public	Fair		H			L
	Bet-ang	-do-	-do-	20/12	-do-	Public	Fair	M				L
	Butubut Oeste	-do-	-do-	40/12	-do-	Public	Fair	L				L
	Butubut Norte	-do-	-do-	37/12	-do-	Public	Fair	M				L
	Butubut Oeste	-do-	-do-	27/12	-do-	Public	Fair					L
	Butubut Sur	-do-	-do-	23/12	-do-	Public	Fair					L
	Cabua-an**	-do-	-do-	18/12	-do-	Public	Poor	M				L
	Calliat	-do-	-do-	34/15	-do-	Public	Fair	L				L
	Calungbuyan	-do-	-do-	40/12	-do-	Public	Fair	M	L			L
	Camiling	-do-	-do-	30/12	-do-	Public	Fair	L	L			L
	Dr.Camilo Osias	-do-	-do-	33/15	-do-	Public	Fair	M				L
	Guinaburan	-do-	-do-	25/12	-do-	Public	Fair	M	L			L
	Masupe	-do-	-do-	26/12	-do-	Public	Poor	L				L
	Nalasin	-do-	-do-	31/15	-do-	Public	Poor	M				L
	Napaset	-do-	-do-	27/12	-do-	Public	Fair	M				L
	NagsabaranNorte	-do-	-do-	43/15	-do-	Public	Fair	L				L
	Nagsabaran Sur	-do-	-do-	21/12	-do-	Public	Fair					L
	Pagbennecan	-do-	-do-	32/12	-do-	Public	Poor	M				L
	Pagleddegan	-do-	-do-	20/12	-do-	Public	Fair	L	L			L
	PantarNorte	-do-	-do-	30/12	-do-	Public	Fair	M				L
	Pa-o	-do-	-do-	25/12	-do-	Public	Fair	L				L
	Pantar Sur	-do-	-do-	17/12	-do-	Public	Fair	M				L
	Sitio Banged	-do-	-do-	31/12	-do-	Public	Fair	M				L
	Paraoir	-do-	-do-	34/15	-do-	Public	Fair	M		H	H	L
	Patpata	-do-	-do-	31/12	-do-	Public	Fair	H				L
	Sablut	-do-	-do-	33/12	-do-	Public	Fair	L				L



	San Pablo	-do-	-do-	31/12	-do-	Public	Fair					L
	Sinapangan Norte	-do-	-do-	32/12	-d0-	Public	Fair	M				L
	Sinapangan Sur	-do-	-do-	30/12	-do-	Public	Fair	M				L
	Tallipugo	-do-	-do-	29/12	-do-	Public	Fair	M				L

Social Welfare Programs

There are various programs, projects and activities under the Office of the Municipal Social Welfare and Development – Balaoan, La Union which were implemented as part of the Gender and Development (GAD) Plan of the Municipality of Balaoan and among them were the following:

- a. **ECCD Programs**- this program aimed at supporting young children’s development from pre-natal until the primary grades. In 2017, a total of 1,150 pre-school children were enrolled in the 38 child development centers in the municipality. These pre-school children enjoyed the benefit of being served with daily education classes, supplemental feeding among others. Table below shows the no. of children enrolled in the 38 day care centers.





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Table 44: No. of Children enrolled per child development center, SY 2017-2018

No.	Child Development Center	No. of Children Served			Nutritional Status of Children																	
					Upon Entry																	
					No. of Normal Children				No. of Under Weight Children				No. of Severely Underweight Children				No. of Overweight Children				Total	
Male	Female	Total	Male	Female	Total	%	Male	Female	Total	%	Male	Female	Total	%	Male	Female	Total	%	Total			
1	Almeida	21	12	33	21	12	33		0	0	0		0	0	0		0	0	0			
2	Sta. Isabel	10	18	28	10	18	28		0	0	0		0	0	0		0	0	0			
3	Antonino	24	17	41	24	17	41		0	0	0		0	0	0		0	0	0			
4	Apatut	13	22	35	13	22	35		0	0	0		0	0	0		0	0	0			
5	Ar-arampang	19	20	39	18	17	35		1	2	3		0	0	0		0	1	1			
6	Baracbac Este	19	8	27	19	8	27		0	0	0		0	0	0		0	0	0			
7	Baracbac Oeste	11	18	29	11	18	29		0	0	0		0	0	0		0	0	0			
8	Bet-ang	7	13	20	4	11	15		1	2	3		2	0	2		0	0	0			
9	Bulbulala	13	15	28	12	13	25		0	1	1		0	0	0		1	1	2			
10	Bungol	22	18	40	22	17	39		0	1	1		0	0	0		0	0	0			
11	Butubut Este	16	24	40	16	24	40		0	0	0		0	0	0		0	0	0			
12	Bututbut Norte	21	16	37	20	14	34		1	2	3		0	0	0		0	0	0			
13	Butubut Oeste	13	14	27	13	14	27		0	0	0		0	0	0		0	0	0			
14	Bututbut Sur	11	12	23	11	12	23		0	0	0		0	0	0		0	0	0			
15	Cabua-an	7	11	18	7	11	18		0	0	0		0	0	0		0	0	0			
16	Calliat	17	17	34	17	17	34		0	0	0		0	0	0		0	0	0			
17	Calungbuyan	20	20	40	20	20	40		0	0	0		0	0	0		0	0	0			
SUB-TOTAL		264	275	539	258	265	523		3	8	11		2	0	2		1	2	3			



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No.	Child Development Center	No. of Children Served			Nutritional Status of Children																
					Upon Entry																
					No. of Normal Children				No. of Under Weight Children				No. of Severely Underweight Children				No. of Overweight Children				Total
		Male	Female	Total	%	Male	Female	Total	%	Male	Female	Total	%	Male	Female	Total	%				
18	Camiling	14	16	30	14	16	30		0	0	0		0	0	0		0	0	0		
19	Dr.Camilo Osias	17	16	33	17	15	32		0	0	0		0	1	1		0	0	0		
20	Guinaburan	15	10	25	14	10	24		1	0	1		0	0	0		0	0	0		
21	Masupe	16	10	26	15	7	22		1	2	3		0	1	1		0	0	0		
22	Nalasin	16	15	31	15	13	28		1	0	1		2	0	2		0	0	0		
23	Napaset	13	14	27	13	13	26		0	1	1		0	0	0		0	0	0		
24	Nagsabaran Norte	20	23	43	19	21	40		1	2	3		0	0	0		0	0	0		
25	Nagsabaran Sur	11	10	21	11	10	21		0	0	0		0	0	0		0	0	0		
26	Pagbennecan	13	19	32	13	18	31		0	1	1		0	0	0		0	0	0		
27	Pagleddegan	14	6	20	14	6	20		0	0	0		0	0	0		0	0	0		
28	Pantar Norte	16	14	30	16	14	30		0	0	0		0	0	0		0	0	0		
29	Pantar Sur	8	9	17	8	9	17		0	0	0		0	0	0		0	0	0		
30	Pa-o	12	13	25	10	12	22		2	1	3		0	0	0		0	0	0		
31	Pantar Sur (Banged)	16	15	31	15	13	28		1	2	3		0	0	0		0	0	0		
32	Paraoir	22	12	34	22	12	34		0	0	0		0	0	0		0	0	0		
33	Patpata	10	21	31	10	21	31		0	0	0		0	0	0		0	0	0		
34	Sablut	20	13	33	20	13	33		0	0	0		0	0	0		0	0	0		
	SUB-TOTAL:	253	236	489	246	223	469		11	9	16		2	2	4		0	0	0		



No.	Child Development Center	No. of Children Served			Nutritional Status of Children																
					Upon Entry																
					No. of Normal Children				No. of Under Weight Children				No. of Severely Underweight Children				No. of Overweight Children				Total
		Male	Female	Total	Male	Female	Total	%	Male	Female	Total	%	Male	Female	Total	%	Male	Female	Total	%	
35	San Pablo	15	16	31	15	16	31		0	0	0		0	0	0		0	0	0		
36	Sinapangan Norte	17	15	32	17	15	32		0	0	0		0	0	0		0	0	0		
37	Sinapangan Sur	12	18	30	12	18	30		0	0	0		0	0	0		0	0	0		
38	Tallipugo	17	12	29	17	12	29		0	0	0		0	0	0		0	0	0		
	SUB-TOTAL:	61	61	122	61	61	122		0	0	0		0	0	0		0	0	0		
OVER ALL TOTAL		578	572	1150	565	549	1114		14	17	27		4	2	6		1	2	3		1150





b. **Special Services Program** – this program is the provision of assistance to every clientele depending on their needs. Among the assistance given are the following:

1. Financial assistance – to those individuals/families in crisis situation and disadvantaged individuals or groups.
2. Educational Assistance – to those poor yet scholastically deserving students
3. Social Protection Services – for abused women and children, children in conflict with the law and children at risk
4. Death Benefit Assistance – for the heir of deceased indigent senior citizens
5. Skills & Livelihood Training Programs – for OSY’s, 4Ps members
6. Medical Assistance – for all individuals whose finances are not enough for their financial obligations

c. **Other Support and Social Welfare Services** – the Office of the MSWDO provides assistance to the following:

- a. Organization of Persons with Disabilities
- b. Organization of the Kalipunanng Liping Pilipina
- c. Organization of Balaoan Child Development Workers
- d. Organization of the Balaoan Child Development Parents
- e. Organization of the Municipal Federation of Senior Citizen’s Affairs

d. Historical Number of Population Served by Type of Clientele System

Table 45: shows the historical number of population served by Type of clientele system for the past three (3) years (20-15, 2016, 2017). For CY 2017, a total of 2,085 clients were served by the Office of the MSWD. About 1,887 are senior citizens who were provided with medical, burial, financial assistance and social pension. Other clients were PWDs with a total number of 190 clients, solo parents numbering to 8.

Type of Clientele	Previous Years		2017	
	2015	2016	Number	%
Women in especially difficult circumstances				
Children in need of special protection	0	0	0	
Persons with disabilities	15	21	190	
Senior Citizens	1,044	1,206	1,887	
Solo Parents	1	1	8	



e. Social Welfare-Related Projects Approved/Funded for Implementation

Table 46: Social Welfare Projects, Approved and Funded for Implementation, 2016 and 2017

Name of Project	Barangay/Location of Project	Type	Proponent (Government, Private, others)	Estimated Start Date	Estimate Date of Completion
Renovation of Child Development Center	Bulbulala	Facility (Construction)	Government (DSWD-BUB)	August 2016	On going
Renovation of Child Development Center	Baracbac Este	Facility (Construction)	Government (DSWD-BUB)		Completed
Renovation of Child Development Center	Pantar Sur	Facility (Construction)	Government (DSWD-BUB)		Completed
Construction of Child Development Center	Apatut	Facility (Construction)	LGU	September 2017	On going
Construction of Child Development Center	Masupe	Facility (Construction)	LGU	September 2017	On going
Construction of Child Development Center	Cabua-an	Facility (Construction)	LGU	December 2017	On going
Sustainable livelihood Programs – skills and livelihood training programs	Municipality wide		Government (DSWD)	January to December 2017	



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on: a. Dressmaking b. SMAW c. Security Guard d. Food Cart e. Food Processing f. Swine/Hog Fattening g. Goat Raising h. Provision of food carts					
Renovation of Senior Citizens Center		Facility (Construction)	Government (DSWD-BUB)	October 5, 2017	Nov. 13, 2017 (complete)
Supplemental Feeding Program	Municipality wide		Government (DSWD)	September 2017	On going
Social Pension Program	Municipality wide		Government (DSWD)	Year round	



II. SECTOR ANALYSIS MATRIX

Table 47: Social Welfare Services Analysis Matrix

Technical Findings/ Observations	Implications (Effects)	Policy Options/ Interventions
Absence of senior citizen care center in the barangay	Unmet senior citizens' need for socialization and more active community involvement	Establishment of a Senior Citizen care center in the barangay
Limited space to be used as playground in the child development centers		
Presence of dilapidated development centers	Unconducive place for learning for the day care children	Repair and improvement of day care centers



PROTECTIVE SERVICES

I. SITUATIONAL ANALYSIS

a. Protective Services, Personnel and Facilities

Philippine National Police

The local Philippine National Police (PNP) Headquarters/Station is located in Barangay Antonino near the Municipal Hall building, with an area of 180 square meters, including the jail for inmates. The municipality's police station is under the district command of La Union Police Provincial Office and Region 1 Police Regional Office.

The existing Balaoan police force has a total strength of thirty 1 (31) including the deputy chief of police, with a ratio of one policeman per 1,123 persons.

For mobility, the police station has three (3) patrol cars and a motorcycle. The station is equipped with one 2 based radio, fourteen (14) handheld radios, telephone, and almost all policemen have their own personal cellular phones as channel for communication. As to firearms, the PNP has sufficient firepower.

It has one (1) substation/outpost located along the national highway near public market and business establishments.

Fire Protection Facilities

Recognizing the importance of having a ready protective service in order to readily and immediately response to put off or abate the spread of fire, the Municipality has a Fire Station located beside the Municipal Hall with an area of 45 sq.m.

The Fire Station, established is manned by ten (10) firefighters, two (2) fire truck, five (5) fire boots, six (6) fire jackets and eight (8) fire helmets. It is located in a low susceptibility hazards of which is a good result for the protective service provider.

Below are the listed fire incidents in the municipality for the last five years and causes mostly of Pugon/Unattended cooking accident.



Table 48: Fire Incidence for the Last Five Years						
Barangay	Involved Establishment/Origin/Cause	Frequency of Occurrence				
		2013	2014	2015	2016	2017
Bet-ang	Corn Field/ Flying Embers/ Accidental	1				
Nagsabaran Norte	Residential/ unattended cooking/ accidental	1				
Antonino	Residential/ Electric Short Circuit/ Accidental		1			
Paraoir	Residential/ Flying Embers/ Accidental		1			
Calungbuyan	Structural/ Garbage Fire/ Accidental		1			
Ar-arampang	Residential/ Unattended Cooking/ Accidental			1		
Nalasin	Residential/ Unattended Cooking/ Accidental			1		
Antonino	Residential/ Electrical Short Circuit/ Accidental			1		
Nagsabaran	Residential/ Unattended Cooking/ Accidental			1		
Calungbuyan	Vehicular/ Electrical Short Circuit/ Accidental				1	
Patpata	Flu curing barn/ Falling tobacco leaves/ Accidental				1	
Cabua-an	Residential/ Electrical/ Accidental					1
Camiling	Residential/ Electrical/ Octopus Connection/ Accidental					1
Apatut	Residential/ Unattended Cooking/ Accidental					1
TOTAL		2	3	4	2	3



Municipal Jail / District jail

Presently there are thirteen (13) Jail Officers assigned in the Municipality with permanent office located at Barangay Antonino. The said office has an estimated area of 100 square meters.

II. CURRENT AND PROJECTED NEEDS

For the period under study, beginning in 2018, the municipality needs 40 police and 20 firemen to meet the prescribed standard for protective services. With the municipality’s data of police and fireman, at 28 including chief of police and 11 firemen, the current needs (2015) for policemen totaled to 10 and 8 firemen.

At the end of the planning period (2028), about 43 policemen and 22 firemen and one (1) additional fire truck will be needed by the municipality to effectively respond to the needs of protective services for its growing population.

Projected area requirement for headquarters for the year 2028 will be 600 square meter and 200 square metere building requirement based on the standard police station pursuant to the PAPOLCOM Resolution No. 92-36.

Table 49: Current and Projected Requirements for Police, Fireman and Jail Personnel

	2018	2022	2024	2025	2026	2027	2028
POPULATION	40,111	41,376	42,023	42,350	42,680	43,013	43,348
POLICE FORCE	40	41	42	42	43	43	43
FIRE FORCE	20	21	21	21	21	22	22

Computed based on PNP Data



III. SECTORAL MATRIX

Table 50: Sector Matrix (Protective Services)

Technical Findings/ Observations	Implication/Effects	Policy Options/ Interventions
Inadequate trainings of Barangay Tanods in self-defense	Low self-confidence or morale of tanods	Conduct trainings for Barangay Tanods in the art of self defense
Inadequate number of firemen and firefighting facilities	Spread of fire not easily contained	Hiring of additional firemen and fire volunteer brigades and purchase of additional fire truck and fire equipment facilities
Lack of policemen	Late response in terms of crime incidence	Hiring of additional policemen in order to meet the projected population of the town



SPORTS AND RECREATION

I. SITUATIONAL ANALYSIS

The LGU of Balaoan exerts much effort in the promotion of sports and recreation in the municipality. All of the barangays in the municipality have a basketball court and in good condition. However, in terms of susceptibility, the identified recreational areas are affected by the listed hazards below in low condition. Medium effects of flood, tsunami and storm surge in the areas of Almeida and Paraoir is observed.

As a support, the LGU allocate funds in the annual budget to be used in sports and recreational promotions, e.g. purchase of sports equipment, repair of existing sports facilities and the conduct of annual inter barangay basketball tournament.

Table 51:
Existing Sports & Recreational Facilities

Barangay	Type of Facilities	Lot Area (ha.)	Ownership	Physical Condition (Good, Poor, Critical)	Used as Evacuation Center	Hazard Susceptibility (H/M/L)				
						Flood	Land Slide	Tsunami	Storm Surge	Ground Shaking
Almeida	Basketball Court	0.043	Brgy	Good	No	H		H	H	L
Apatut	Basketball Court	0.038	Brgy	Good	No	L				L



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Ar-arampang	Basketball Court	0.043	Brgy	Good	No	L	L			L
Baracbac Este	Basketball Court	0.025	Brgy	Good	No	L				L
Baracbac Oeste	Basketball Court	0.060	Brgy	Good	No	L				L
Bet-ang	Basketball Court	0.033	Brgy	Good	No	L				L
Bulbulala1	Basketball Court	0.035	Brgy	Good	No	L				L
Bulbulala2	Basketball Court	0.049	Brgy	Good	No	L				L
Bungol	Basketball Court	0.031	Brgy	Good	No	L	L			L
Butubut Este	Basketball Court	0.030	Brgy	Good	No	L				L
Butubut Norte	Basketball Court	0.048	Brgy	Good	No	L				L
Butubut Oeste	Basketball Court	0.054	Brgy	Good	No	L				L
Butubut Sur	Basketball Court	0.030	Brgy	Good	No	L				L
Cabua-an	Basketball Court	0.022	Brgy	Good	No	L				L
Camiling	Basketball Court	0.030	Brgy	Good	No	L				L
Dr. Camilo Osias	Basketball Court	0.038	Brgy	Good	No	M				L
Calliat	Basketball Court	0.035	Brgy	Good	No	L				L
Calungbuyan	Basketball Court	0.042	Brgy	Good	No	L				L
Guinaburan	Basketball Court	0.039	Brgy	Good	No	M				L
Masupe	Basketball Court	0.028	Brgy	Good	No	L				L
Nagsabaran Norte	Basketball Court	0.042	Brgy	Good	No	L				L
Nagsabaran Sur	Basketball Court	0.039	Brgy	Good	No	L	L			L
Nalasin	Basketball Court	0.033	Brgy	Good	No	M				L
Napaset	Basketball Court	0.041	Brgy	Good	No	L				L
Pagbennecan1	Basketball Court	0.022	Brgy	Good	No	H				L
Pagbennecan2	Basketball Court	0.042	Brgy	Good	No	H				L



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Pagleddegan1	Basketball Court	0.044	Brgy	Good	No	L				L
Pagleddegan2	Basketball Court	0.027	Brgy	Good	No	L				L
Pagleddegan3	Basketball Court	0.027	Brgy	Good	No	L				L
Pantar Norte	Basketball Court	0.041	Brgy	Good	No	L				L
Pantar Sur	Basketball Court	0.037	Brgy	Good	No	M				L
Pa-o	Basketball Court	0.041	Brgy	Good	No	L				L
Paraoir	Basketball Court	0.043	Brgy	Good	No	H		H	H	L
Patpata1	Basketball Court	0.024	Brgy	Good	No	M				L
Patpata2	Basketball Court	0.021	Brgy	Good	No	M				L
Patpata3	Basketball Court	0.044	Brgy	Good	No	L				L
Patpata4	Basketball Court	0.028	Brgy	Good	No	L				L
Sablut	Basketball Court	0.036	Brgy	Good	No	L				L
San Pablo	Basketball Court	0.052	Brgy	Good	No	L				L
Sinapangan Norte	Basketball Court	0.039	Brgy	Good	No	L				L
Sinapangan Sur	Basketball Court	0.042	Brgy	Good	No	L				L
Tallipugo	Basketball Court	0.035	Brgy	Good	No	L				L
Antonino	Basketball Court	0.1477	Municipality	Good	Yes	L				L

Source: MPDO



II. CURRENT AND PROJECTED NEEDS

- Below are the proposed recreational facilities in the municipality located in Barangay Antonino which is public owned. Improvement of the existing sports facilities in the town proper consisting of the purchase of updated equipment is needed.
- Continuous allocation of funds for sports activities to encourage the populace to participate in sports activities in order to hone up their skills and to be physically fit.
- Creation of a special body tasked to promote sports through skills training for coaches, umpires and athletes; and
- Strengthening of the existing sports teams, like federating them in order to synchronize their activities and to give them the needed direction.

Table 52: Proposed Recreational Facilities

Proposed Project Facility	Brgy.	Type Facility	Ownership	Area (has)	Hazard Susceptibility (H/M/L)				
					Flood	Land Slide	Tsunami	Storm Surge	Ground Shaking
Childrens Park	Antonino	Recreational	LGU	0.030	L				L
Purchase of Updated Sports Equipment	Antonino	Sports Center	LGU	0.1477	L				L

SPACE REQUIREMENT

With the increasing number of population by the year 2027, the space requirement needed for Municipal Park will be 2.17 hectares computed based on the standard requirement of 500 sq.m per 1,000 population, to cater the needs of the future generation



III. SECTOR MATRIX

Table 53: Sports and Recreation		
Technical Findings/Observations	Implications (Effect)	Recommended Intervention
Uncovered sports and recreation facilities in most of the barangays	Lack of proper training for sports competition	Construction of covered courts in all barangays
Inadequate fund to support sports activities in the barangays	Incompetent athletes and low achievement level	Allocate enough fund for sports activities and conduct proper trainings for the competing athletes



ECONOMIC SECTOR STUDY



ECONOMIC SECTOR

AGRICULTURE

I. SITUATIONAL ANALYSIS

a. Crop Production

One of the major source of living in Balaoan is their vast agricultural products. It has 3,894.8 hectares devoted for agricultural crop production purposes. Out of this, 61.65% is devoted to rice production with a total area of 2,401 hectares, 20.23% for corn production or an area of 788 hectares and the remaining 18.117% is for tobacco production or a total area of 705.63 hectares.

Table 54: Existing Major Agricultural Crops by Area and Production, Year 2017

BARANGAY	Major Crops		Area		Production		Product Market	
			Hectares	% total	Volume (tons/ha)	Value (000)	Local	Export*
ALMEIDA	Rice	irrigated	30	1.78	139.8	2376.6		
		non-irrigated	10	2.4	46.6	792.2		
	Corn	seed production	-	-	-	-		
		yellow corn	12	2.66	68.4	889.2		
	Tobacco	virginia	4.32	0.61	8.64	648		
ANTONINO	Rice	irrigated	36	2.13	167.76	2851.92		
		non-irrigated	0	0	0	0		
	Corn	seed production	-	-	-	-		
		yellow corn	6	1.33	34.02	444.6		
	Tobacco	virginia	-	-	-	-		
APATUT	Rice	irrigated	20	1.19	93.2	1584.4		
		non-irrigated	33	7.91	153.78	2614.26		
	Corn	seed production	31.6	9.39	158	2780.8		
		yellow corn	3.25	0.72	18.525	240.83		
	Tobacco	virginia	17.66	2.5	35.32	2649		
AR-ARAMPANG	Rice	irrigated	16	0.95	74.56	1267.52		
		non-irrigated	20	4.8	93.2	1584.4		



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	Corn	seed production	3.33	0.99	16.65	293.04		
		yellow corn	12	2.66	68.4	889.2		
	Tobacco	virginia	24.45	3.46	48.9	3667.5		
BARACBAC ESTE	Rice	irrigated	8	0.48	37.8	642.6		
		non-irrigated	65	15.59	302.9	5149.3		
	Corn	seed production	-	-	-	-		
		yellow corn	7.5	1.66	42.75	555.75		
	Tobacco	virginia	39.78	5.64	79.56	5967		
BARACBAC OESTE	Rice	irrigated	4	0.24	18.64	316.88		
		non-irrigated	10	2.4	46.6	792.2		
	Corn	seed production	-	-	-	-		
		yellow corn	10	2.21	57	741		
	Tobacco	virginia	3.07	0.44	6.14	460.5		
BET-ANG	Rice	irrigated	144	4.69	368.14	6258.38		
		non-irrigated	0	0	0	0		
	Corn	seed production	20	5.94	100	1760		
		yellow corn	20	4.43	114	1482		
	Tobacco	virginia	-	-	-	-		
BULBULALA	Rice	irrigated	137	8.14	638.42	10853.14		
		non-irrigated	0	0	0	0		
	Corn	seed production	53.65	15.95	268.25	4721.2		
		yellow corn	16	3.54	91.2	1185.6		
	Tobacco	virginia	68.52	9.71	137.04	10278		
BUNGOL	Rice	irrigated	31	1.84	144.46	2455.82		
		non-irrigated	18	4.32	83.88	1425.96		
	Corn	seed production	8.71	2.59	43.55	766.48		
		yellow corn	8	1.77	45.6	592.8		
	Tobacco	virginia	8.25	1.77	16.5	1237.5		
BUTUBUT ESTE	Rice	irrigated	41	2.44	191.06	3248.02		
		non-irrigated	0	0	0	0		



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	Corn	seed production	-	-	-	-		
		yellow corn	28	6.2	159.6	2074		
	Tobacco	virginia	15.35	2.18	30.7	2302.5		
BUTUBUT NORTE	Rice	irrigated	66	3.92	307.56	5228.52		
		non-irrigated	0	0	0	0		
	Corn	seed production	14.54	4.32	7.27	127.95		
		yellow corn	7.5	1.66	42.75	555.75		
	Tobacco	virginia	104.45	14.8	208.9	15667.5		
SUB TOTAL	Rice	irrigated	533	27.81	2180.88	37074.96		
		non-irrigated	156	37.4	726.96	12358.38		
	Corn	seed production	131.83	39.19	659.15	11601.04		
		yellow corn	130.25	28.83	741	9633		
	Tobacco	virginia	285.85	40.45	571.7	42877.5		
GRAND TOTAL	RICE	Irrigated	1984	100	7842.78	133327.3		
		Non-irrigated	417	100	1943.22	33034.74		
	CORN	Seed Production	336.42	100	1682.1	29604.96		
		Yellow corn	451.75	100	2574.98	33474.69		
	TOBACCO	Virginia	705.63	100	1411.26	105825		

Source: Municipal Agriculture Office

As of 2016 data from the Municipal Agriculture Office, the total land area for rice production decreased from the year 2015 to 2016 to about 272 hectares, while land area for corn production increased from 677.7 hectares to 788.17 has for the year 2016. Moreover, tobacco products also decreased from 986.66 hectares to 705.63 hectares in the year 2016. Though land decreased in rice production, still the production upsurges and denote its demand from the market.

Table 55: Comparative Agricultural Crop Areas and Production, Year 2016



MAJOR CROPS	AREA (has.)			VOLUME OF PRODUCTION (mt.)		
	2014-2015	2015-2016	Increase/ Decrease	2014-2015	2015-2016	Increase/ Decrease
Rice	2,372	2,100	272-Decrease	9,728	9,786	58- Increase
Corn	677.7	788.17	110.47-Increase	3,665	4,257.08	592.08- Increase
Tobacco	986.66	705.63	281.03-Decrease	1,973.32	1,411.26	562.06- Decrease

Source: Municipal Agriculture Office

b. Livestock and Poultry

Raising hogs is the main source of livestock which are exported for commercial purposes and stocks also for the towns needs for meat. Though it's not the main source of living in the municipality, Balaoan tremendously yield high value of production in terms of livestock. Almeida is the only barangay producing livestock with a total of 256 volume production. Chicken dominates most of the poultry products in the municipality of Balaoan, which is found in barangays Almeida and Guinaburan. For the 27,000 heads, the equivalent production is 7.13 million



Table 56: Existing Livestock and Poultry Farm, Year 2017

Type	Barangay	Area	**Classification	Production		** Product Market
				Volume	Value (₱)	
*Livestock						
Piggery	Almeida		Semi-commercial	256 heads	2,165,000	export
Dairy cattle	Almeida		Semi-commercial	15 heads	750,000	export
*Poultry						
Chicken layer	Almeida		Commercial	9,000 birds	3,240,000	export
Chicken layer	Almeida		Commercial	8,000 birds	2,880,000	export
Chicken broiler	Guinaburan		Commercial	10,000 birds	1,000,000	export
Total				27,271	10,035,000	



c. Fishing Ground

Aside from being a crop producing municipality, particularly on tobacco, Balaoan is also known for its fishing industry. Only two barangays of the town are coastal barangays. There were about 340 fisherfolks (marine) in the area located along the West Philippine Sea. Most of these fishermen were engaged in municipal fishing and resides mainly in barangays Paraoir and Almeida where the fishing port is located.

There are area of 10.889 hectares in Balaoan devoted to aquaculture. Around 9 hectares are for communal fishponds while the rest are brackish and freshwater who operated and owned by about 69 populace. These areas are located mostly in the coastal and agricultural clusters, particularly in Paraoir and Almeida. Production registered 32.7 MT for an average productivity of 3 MT per hectare.

Table 57: Existing Fishing Grounds and Aquaculture Production, Year 2016

Fishing Grounds	Barangay	Production		Post-Harvest Facilities				Product Market	Hazard Susceptibility (H/M/L)				
		Volume (mt)	Value	Type	Number	Capacity	Status		F	LS	T	SS	GS
Marine													
	Paraoir	27 MT							H		H	H	L
	Almeida								H		H	H	L
Fresh Water	Paraoir and Almeida								H		H	H	L
Brackish water		3							H		H	H	L
Communal		2.7											

Source: Opag Balaoan/Municipal Agriculture Office



d. Irrigation Facilities

Of the total area devoted for agriculture of about 3,894.8 hectares1,216 hectares or 31% is potentially irrigated by Water Irrigation Systems including Ar-arampang-Masupe Irrigators Association, Calungbuyan-Nagsabaran Irrigation System, Balaoan Irrigators Associations and others listed on the table below. Moreover, 449 hectares were supplied by the National Irrigation Administration (NIA) which covers eight (8) barangays in the municipality.

Other sources of water present in the locality are water impounding system, shallow tube wells, small farm reservoir and other type of water pumps that contribute to the production of rice.

Table 58: Water Irrigation Systems 2007

IRRIGATION SYSTEM	BARANGAY COVERAGE	AREA SERVED	STATUS
Ar- Arampang – Masupe Irrigators Association	Brgy. Masupe, Brgy. Ar- Arampang	35 hectares	Operational
Calungbuyan- Nagsabaran Irrigation System	Brgy. Calungbuyan, Brgy. Nagsabaran Norte, Brgy. Pagbennecan	70 hectares	Needs repair
Balaoan Irrigators Association	Brgy. Guinaburan, Brgy. Pagleddegan, Brgy. Masupe, Brgy. Calungbuyan, Brgy. Patpata, Brgy. Bulbulala, Brgy. Pantar Sur, Brgy. Butubut Norte, Brgy. Butubut Sur, Brgy. Butubut Este, Brgy. Butubut Oeste, Brgy. Pao,	545 hectares	Ongoing repair
Almeida Irrigators Association	Brgy. Almeida	15 hectares	Needs repair
Olaviano Irrigators Association	Brgy. Tallipugo	43 hectares	operational
Sinapangan Irrigators Association	Brgy. Sinapangan Norte, Brgy. Sinapangan Sur, Brgy. Tallipugo	59 hectares	Needs repair
NIA- Amburayan	Brgy. Sablut, Brgy. Napaset, Brgy. San Pablo, Brgy. Pantar Norte, Brgy. Pantar Sur, Brgy. Camilo Osias, Brgy. Cabua- An, Brgy. Bet- Ang	449 hectares	Ongoing repair
TOTAL		1,216 hectares	

Source: Municipal Agriculture Office



Agro-forest in the municipality covers an area of 1,470.31 hectares scattered within barangays Nagsabaran Sur, Pagbennecan, Camiling, Calungbuyan, Pagleddegan, Bungol, Ar-arampang, Almeida and Paraoir.

Protection forest aggregated 39.00 hectares and located in Bungol, Nagsabaran Sur, Guinaburan and Ar-arampang.

Table 59: Area and Location of forestlands by Sub- Category and Primary Use, Year 2017

Category	Location	Area (has.)
A.Production forest		
Agro- forest	Nagsabaran Sur, Pagbennecan, Camiling, Bungol, Ar- Arampang, Almeida, Paraoir, Calungbuyan, Pagleddegan	1,470.31
B.Protection forest	Almeida, Bungol, Nagsabaran Sur, Guinaburan, Paraoir, Calungbuyan	39.00



Table 60: Existing Agricultural Support Facilities and Services, Year 2016-2017

LOCATION	Post harvest facilities and support services	NUMBER	TYPE/ CAPACITY	% UTILIZATION	REMARKS (whether operational , needs repair, etc)
ALMEIDA	Milling	1 unit	Cono	50 %	Operational
	Multi- purpose drying pavement	3 units	1,500 sq.m	100%	operational
	Warehouse	2 units	5,000 sacks	25%	operational
ANTONINO	Milling				
	Multi- purpose drying pavement				
	Warehouse	1 unit	6,000 sacks	80%	operational
APATUT	Milling				
	Multi- purpose drying pavement	1 unit	500 sq.m	100%	operational
	Warehouse				
AR-ARAMPANG	Milling				
	Multi- purpose drying pavement	2 units	1,000 sq.m	75%	operational
	Warehouse				
BARACBAC ESTE	Milling				
	Multi- purpose drying pavement	1 unit	500 sq.m	90%	operational
	Warehouse				
BARACBAC OESTE	Milling	1 unit	Cono	40%	operational
	Multi- purpose drying pavement	1 unit	500 sq.m	80%	operational
	Warehouse				
BET-ANG	Milling	1 unit	Cono	90%	operational
	Multi- purpose drying pavement	1 unit	500 sq.m	100%	operational
	Warehouse	1 unit	10,000 sacks	80%	operational
BULBULALA	Milling	2 units	Cono	0%	Needs repair
	Multi- purpose drying pavement	3 units	1,500 sq.m	80%	operational
	Warehouse	3 units	9,000 sacks	50%	operational
BUNGOL	Milling	1 unit	Cono	40%	operational
	Multi- purpose drying pavement	5 units	1000 sq.m	80%	operational
	Warehouse				
BUTUBUT ESTE	Milling	2 units	cono	50%	operational
	Multi- purpose drying pavement	4 units	1,500 sq.m	90%	operational
	Warehouse	1 unit	5,000 sacks	40%	operational
BUTUBUT NORTE	Milling	1 unit	cono	50%	operational
		1 unit		0%	Needs repair
	Multi- purpose drying pavement	2 units	1,000 sq.m	80%	operational



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	Warehouse	1 unit	5,000 sacks	50%	operational
BUTUBUT OESTE	Milling				
	Multi- purpose drying pavement	1 unit	500 sq.m	90%	operational
	Warehouse	3 units	6,000 sacks	20%	operational
BUTUBUT SUR	Milling	2 units	cono	40%	operational
		1 unit			Needs repair
	Multi- purpose drying pavement	3 units	1,500 sq.m	80%	operational
	Warehouse				
CABUA-AN	Milling	1 unit	cono	80%	operational
		1 unit		0%	Needs repair
	Multi- purpose drying pavement	2 units	1,000 sq.m	80%	operational
	Warehouse	2 units	4,000 sacks	50%	operational
SUB TOTAL	Milling	14 units			
	Multi- purpose drying pavement	29 units	12,500 sq.m		
	Warehouse	14 units	50,000 sacks		

LOCATION	Post-harvest facilities and support services	NUMBER	TYPE/ CAPACITY	% UTILIZATION	REMARKS (whether operational, needs repair, etc.)
CALLIAT	Milling				
	Multi- purpose drying pavement	5 units	500 sq.m	100%	operational
	Warehouse	2 units	5,000 sacks	100%	operational
CALUNGBUYAN	Milling	1 unit	cono	50%	operational
		3 units	cono		Needs repair
	Multi- purpose drying pavement	1 unit	500 sq.m	100%	operational
	Warehouse	2 units	20,000 sacks	50%	operational
CAMILING	Milling				
	Multi- purpose drying pavement	1 unit	500 sq.m	100%	operational
	Warehouse				
CAMILO OSIAS	Milling				
	Multi- purpose drying pavement	2 units	500 sq.m	100%	operational
	Warehouse				
GUINABURAN	Milling	1 unit	cono	0%	Needs repair
	Multi- purpose drying pavement	2 units	700 sq.m	100%	operational
	Warehouse				
MASUPE	Milling	1 unit	cono	0%	Needs repair
	Multi- purpose drying pavement	3 units	1,500 sq.m	100%	operational
	Warehouse				



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NAGSABARAN NORTE	Milling				
	Multi- purpose drying pavement	2 units	1,500 sq.m	100%	operational
NAGSABARAN SUR	Warehouse				
	Milling	1 unit	cono		Needs repair
NALASIN	Multi- purpose drying pavement	1 unit	500 sq.m	100%	operational
	Warehouse				
	Milling	1 unit	cono	50%	operational
NAPASET					
	Multi- purpose drying pavement	2 units	700 sq.m	100%	operational
	Warehouse	2 units	2,000 sacks	80%	operational
PAGBENNECAN	Milling	1 unit	cono		Needs repair
	Multi- purpose drying pavement	2 units	500 sq.m		operational
PAGLEDDEGAN	Warehouse				
	Milling				
PANTAR NORTE	Multi- purpose drying pavement	3 units	1,500 sq.m	80%	operational
	Warehouse	2 units	10,000 sacks	75%	
	Milling				
PANTAR SUR					
	Multi- purpose drying pavement	2 units	1,000 sq.m	100%	operational
	Warehouse				
SUB TOTAL	Milling				
	Multi- purpose drying pavement	4 units	1,800 sq.m	75%	operational
SUB TOTAL	Warehouse				
	Milling	9 units			
SUB TOTAL	Multi- purpose drying pavement	31 units	15,500 sq.m		
	Warehouse	9 units	47,000 sacks		



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LOCATION	Post-harvest facilities and support services	NUMBER	TYPE/ CAPACITY	% UTILIZATION	REMARKS (whether operational, needs repair, etc.)
PA-O	Milling	1 unit	cono	50%	operational
	Multi- purpose drying pavement	4 units	1,500 sq.m	50%	operational
	Warehouse				
PARAOIR	Milling				
	Multi- purpose drying pavement	2 units	1,000 sq.m	75%	operational
	Warehouse				
PATPATA	Milling				
	Multi- purpose drying pavement	3 units	1,200 sq.m	50%	operational
	Warehouse	1 unit	2,000 sacks		
SABLUT	Milling				
	Multi- purpose drying pavement	1 unit	500 sq.m		operational
	Warehouse	1 unit		0%	Needs repair
SAN PABLO	Milling	2 units	cono	100%	operational
	Multi- purpose drying pavement	3 units	1,500 sq.m		operational
	Warehouse				
SINAPANGAN NORTE	Milling	1 unit	cono	0%	Needs repair
	Multi- purpose drying pavement	2 units	1,000 sq.m	80%	operational
	Warehouse				
SINAPANGAN SUR	Milling	1 unit	cono		Needs repair
	Multi- purpose drying pavement	2 units	1,000 sq.m	80%	operational
	Warehouse				
TALLIPUGO	Milling	1 unit	cono		Needs repair
	Multi- purpose drying pavement	1 unit	500 sq.m	100%	operational
	Warehouse				
SUB TOTAL	Milling	6 units			
	Multi- purpose drying pavement	18 units	8,200 sq.m		
	Warehouse	2 units	2,000 sacks		
GRAND TOTAL	Milling	29 units			
	Multi- purpose drying pavement	78 units	36,200 sq.m		
	Warehouse	25 units	99,000 sacks		



Table 61: Agricultural Related Projects, Approved/Funded for Implementation, Year 2017

Name/ type of project	Location	Type	Proponent (government, private, other)	Estimated start date	Estimated date of completion
Composting Facility for Biodegradable Waste (CFBW)	Land Fill, Nagsabaran Norte	Non-infra	BSWM		December
5 Units Engine Water Pump Set 7.HP Diesel	Apatut Camiling Balaoan Irrigators Association	Non-infra	NIA		December
Community Fish Landing	Paraoir	Non-infra	BFAR	December 2017	February 2018
Farm Tractor Kubota	Corn Growers Association	Non-infra	DA		November
Multi- Purpose Drying Pavement	San Pablo MPCl	Non-infra	DA	September 2017	December 2017
Sea Urchin Cages	Paraoir/ Almeida	Non-infra	LGU, BALAOAN		December
Goat Raising	Pagbennecan Ar-Arampang RIC	Non-infra	DOLE		December
Rehabilitation of Irrigation System	Balaoan Irrigators Association	Non-infra	NIA	December 2017	March 2018
Swine Fattening	La Union	Non-infra	CSO	September	
Marine Protected	Paraoir/ Almeida	Non-infra	LGU, BALAOAN	December 2017	February 2018
3 Units Motorized Wooden Banca	Paraoir/ Almeida	Non-infra	LGU, BALAOAN	December 2017	March 2018
Procurement of Palay Seeds	36 Barangays of Balaoan	Non-infra	LGU, BALAOAN	April 2018	June 2018
Anti- Rabies Vaccination	36 Barangays of Balaoan	Non-infra	DA, LGU, BALAOAN	October 2018	December 2018

II. CURRENT AND PROJECTED NEEDS

a. Crop Production

Projected Per Capita Dietary Requirement on Agricultural Products

Using the standards recommended by the Food and Nutrition Resource Council in projecting the dietary/food requirement for the planning period, the highest requirement are the cereals and cereal products of 5,375 kg/year. Since Balaoan is producer of cereals, it is understood that the municipality has to sustain its rice production for the future needs of the populace.



Comparing the production of Vegetable to that of the municipality's requirement, the municipality will have no problem on vegetable supply because the municipality is producing more than what it can consume and also backyard farming is a big help to the populace of Balaoan, which is one of the municipality's go green program for every barangay. As to the other products, we really need to import products from outside the locality.

Table 62:
Projected Per Capita Dietary Requirement on Agricultural Products

Per Capita Dietary/Food Requirement on Agricultural Products	Standard Requirement (Kg/year)	2015	2018	2019	2020	2022	2024	2026	2027	2028
Cereals and Cereal Products	124	4,859	4,974	5,013	5,052	5,131	5,211	5,292	5,334	5,375
Sugars and Syrups	70	2,743	2,808	2,830	2,852	2,896	2,942	2,988	3,011	3,034
Starchy Roots and tubers	60	2,351	2,407	2,425	2,444	2,483	2,521	2,561	2,581	2,601
Vegetables	39	1,528	1,564	1,577	1,589	1,614	1,639	1,665	1,678	1,691
Fruit	28	1,097	1,123	1,132	1,141	1,159	1,177	1,195	1,204	1,214
Dried Beans, Nuts and Seeds	4	157	160	162	163	166	168	171	172	173
Milk and Milk Products	16	627	642	647	652	662	672	683	688	694



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Eggs	4	157	160	162	163	166	168	171	172	173
Fish, Meat and Poultry	54	2,116	2,166	2,183	2,200	2,234	2,269	2,305	2,323	2,341
Miscellaneous	7	274	281	283	285	290	294	299	301	303
TOTAL POPULATION		39,188	40,111	40,424	40,739	41,376	42,023	42,680	43,013	43,348

b. Livestock and Poultry

As of 2017, Balaoan recorded a high value of Poultry and Livestock products that can be tapped for exports to adjacent towns and other places , which only means that the locality is sufficient in terms of said production.



III. SECTOR ANALYSIS MATRIX

Table 63: Sector Matrix (Agriculture)

Technical Findings/Observation	Implications (Effects)	Policy Options/Interventions
Increasing rate of land use conversion/reclassification into residential, commercial and other land uses	Food scarcity in agricultural production Low income for the farmers	Strict implementation of the zoning ordinance
Expensive agricultural equipment/facilities	Low income for the farmers	Support/ programs of the locality or national agencies concern for the farmers
Excessive use of chemicals/insecticide	Unsafe vegetable for consumption	Intensify campaign for organic farming
Land reclassification process of agricultural lands is not properly implemented	Low agricultural production	Strict implementation on the compliance to the legal mandates on land reclassification



COMMERCE AND TRADE

I. SITUATIONAL ANALYSIS

The town of Balaoan is continuously experiencing a fast and booming commercial activities concentrated in the urban core starting in Brgy. Nalasin to Cabua-an due to the great number of commercial establishments found in the area, stretching along the National Road going to Ilocos Region. The other stretch of commercial area of which fresh fish products are traded is in Barangay Paraoir going to the town of Luna. The locality opened up areas of expansion for commercial establishments that aimed to cater the future needs and thereby transforming the municipality as business center for the neighboring municipality.

In addition, the Department of Trade and Industry (DTI) in coordination with the municipality opened up a negosyo center in Balaoan to support the growing number of commercial establishments in the locality.

Table 64: INVENTORY OF COMMERCIAL AREAS, YEAR 2017			
Location	Area (in sq. meters)	Market Catered	
		Local	Outside
Antonino	0.363	/	
Nalasin	1.133		/
Cabuaan	2.359	/	
Camilo Osias	0.936	/	
Bet-ang	0.063	/	
Bungol	0.044	/	
Butubut Este	0.036	/	
Butubut Norte	0.451	/	
Butubut Sur	0.322	/	
Calungbuyan	1.246	/	
Calliat	0.007	/	
Camiling	0.019	/	
Guinaburan	0.042	/	
Masupe	0.078	/	
Nagsabaran Norte	0.016	/	
Pao	0.085	/	
Paraior	0.036	/	
Sablut	0.021	/	
San Pablo	1.81	/	/
Tallipugo	0.122	/	

Data Source: Municipal Treasury Office



Commercial activities included here are buying and selling of goods and services in retail businesses, wholesale buying and selling, financial establishments, and a wide variety of services that are broadly classified as "business". Even though these commercial activities use only a small portion of land, they are extremely important to a community's economy. They provide jobs and bring money into the community. The public market located at the center of Balaoan, barangay of Nalasin purposely for the selling of vegetables, fishes, meats, rice and other dry and wet products which supplies the needs of the populace of Balaoan and the neighboring towns of Luna and Santol especially during the market days of Tuesday, Friday and Sunday.



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Table 65: Inventory of Commercial Establishment by Economic Activities						
	Year 2016		2017		% INCREASE/Decrease over Previous Year	
Economic Activities	No. of Establishment	No. of	No. of Establishment	No. of	No. of Establishment	No. of
		Employment		Employment		Employment
Whole & Rental Trade	698	1185	785	1307	.50	.050
Hotel & Restaurant, Transport & Storage	93	150	95	160	0.50	0.50
Communication	3	5	3	5		
Financial Intermediation	48	100	48	100		
Real Estate Renting & Business Activities	9	9	10	10	0.50	0.50
Health & Social Work	10	21	12	20	0.50	0.50
Services	131	393	135	400	0.50	0.50
Internet Café	13	15	14	17	0.50	0.50
TOTAL	1005	1869	1102	2019	2.50	3.00



The Business Permits issued for the past two (2) years have been continuously increasing. Per table below, businesses are more on wholesale and retail trade. These comprises mostly of sari-sari stores and the like. The concentration of these stores are in areas of lower economic wealth, wherein they cater to people whose income does not allow them to store goods and instead buy only as they need in small quantities.

For the storeowners, it is an innovative business venture that creates an income-generating enterprise with a minimal capital outlay. A properly managed store can become an important source of family income. Sari-sari store which represents the traditional retail industry is seen to continuously boost the economy as more Filipinos are attracted to the fastest and easiest business venture they can get into. It may not be primarily highlighted as one of the economic indicators; they still account a significant contribution to the economy as part of the retail industry. Sari-sari stores may have less capital but they comprise the majority of the retail sector which is likewise considered as one of the main entrepreneurial growth drivers that pushes the economy to be on the upward trend. Other than that, restaurants and eatery are also thriving along the stretch of National Road of the town.

Table 66: List of Business Permits Issued by Type

Type of Business Permits Issued	2016	2017
Whole Sale & Retail	698	785
Hotel & Restaurants, Eatery	93	95
Communication	3	3
Financial Intermediation	48	48
Real Estate Renting & Business Activities	9	10
Salons & Barber Shops	10	12
Internet Café	13	14
Services	131	135
TOTAL	1005	1102

Data Source: Municipal Treasury Office



II. CURRENT AND PROJECTED NEEDS

Based on the provided formula in computing the space requirement for commercial areas, the computed area requirement for commercial purpose of the municipality is 9.5 hectares. Comparing the existing commercial area of 7.489 hectares to that of the area requirement, there is a need for the municipality to provide for additional space in order to supply the area requirement for the nine (9) year planning period and to address the booming development of the municipality.

Given:

Existing Commercial Area = 7.489 hectares
Projected built-up area increase = 316.71 hectares

Area requirement = (space standard X Projected Built-up Area) - Existing Com'l Area

Area requirement = 2.0123 hectares

III. SECTOR ANALYSIS MATRIX

Table 67: Sector Analysis Matrix

Technical Findings/Observations	Implications (Effects)	Recommended Interventions
<ul style="list-style-type: none">Increased traffic volume and inadequate parking areas	<ul style="list-style-type: none">Area is prone to traffic accidentsTraffic congestion	<ul style="list-style-type: none">Implement a workable traffic improvement planPropose additional parking areas
<ul style="list-style-type: none">Conflicting economic activities	<ul style="list-style-type: none">Low income for the LGU	<ul style="list-style-type: none">Strict enforcement of CLUP/Zoning Ordinance
<ul style="list-style-type: none">Business operating without proper business permit	<ul style="list-style-type: none">Low income for the LGUProliferation of businesses without permits	<ul style="list-style-type: none">Strict enforcement of Municipal Ordinance regarding businesses
<ul style="list-style-type: none">Irresponsible waste disposal	<ul style="list-style-type: none">Pollution of environment due to industrial discharges	<ul style="list-style-type: none">Community participation in monitoring waste disposal and to practice the 4R's (Reduce, Reuse, Recycle and Recover)



INDUSTRY

I. SITUATIONAL ANALYSIS

With the continuous development in the commercial activities comes the growth of industries which has increased in number from the previous year's contributing a positive indication for business in the locality.

Most of the existing industrial establishment in the municipality are generally light, home-based and small scale in classification. The HOLCIM being the largest industry in the municipality contributed the highest payment of taxes and permits. It is located in the boundary of Bacnotan and Balaoan, La Union with an area of 128.21 hectares. Other industrial establishments mentioned below are hollow blocks making, rice mill and other industrial establishments scattered within the vicinity of the locality.

Hollow blocks making is located in barangays Napaset, Bungol and Pantar Norte. The municipality is also abundant in mineral resources like gravel, sand and stones which are utilized and used as materials in construction industry.

AGRI-INDUSTRY

As per record from the municipal treasury, 9 rice mills were operated which covers an area of 1.048 hectares which is 0.76% of the total Industry of the municipality.

Other than rice mills, there are also livestock resources of the municipality. There are some who practices backyard raising.

II. CURRENT AND PROJECTED NEEDS

Projected Land Requirement for Industry

High Intensity Industry= 4.00 hectares per 1,000 population



Table 68: Projected Land Requirement for Industrial Development

YEAR	POJECTED POPULATION	LAND AREA REQUIREMENT (Hectares)
2007	36,829	147.32
2015	39,188	156.75
2016	39,493	157.97
2017	39,801	159.20
2018	40,111	160.44
2019	40,424	161.70
2020	40,739	162.96
2021	41,056	164.22
2022	41,376	165.50
2023	41,698	166.79
2024	42,023	168.09
2025	42,350	169.40
2026	42,680	170.72
2027	43,013	172.05

By the end of the planning period CY 2028, the municipality needs a total land area of 172.05 hectares based on the standard industrial area to population requirement.

III. SECTOR ANALYSIS MATRIX

Table 69: SECTOR ANALYSIS MATRIX

TECHNICAL FINDINGS/ OBSERVATIONS	IMPLICATIONS/EFFECTS	POLICY OPTIONS/ INTERVENTIONS
Limited financial resources	Minimal production and low income	Coordination with concerned agency for financial and marketing support
No designated area for industrial activities	Projected income not realized	Develop an investment promotion plan in close coordination with DTI and LGU



TOURISM

I. SITUATIONAL ANALYSIS

Tourism is an important sector in our country, it contributes to economic growth. Our country is known for having rich biodiversity as its main tourist attraction. The municipality of Balaoan has its own biodiversity that attracts tourists, it has both the land and the sea. A first (1st) class municipality in the Province of La Union, Balaoan has various tourist attractions such as the famous Immuki Island of Brgy. Paraoir, clean and beautiful beaches and a Sea Urchin Farm. There are also tourist establishments operating around the Municipality which offers different activities to engage in. Tourists can swim, have picnic and exercises around the resort's vicinity. In Brgy. Almeida, the remains of a century old Spanish Tower could be seen and a Man Made forest is a head turner to travelers heading the Balaoan-Luna Road. They are mesmerize by the beauty and solitude of the place. The San Nicolas Parish Church also attracts tourists, not only because of its beautiful structural design or view but also because of the sanctity of the place. Mangrove plantations in the Municipality also attract the interest of tourists. The Maratangtang or Sea Urchin as the town's One Town, One Product (OTOP), the Ar-arampang Handicrafts and the finest Virginia Tobacco as products of Balaoan drew also the attention of tourist.

Tourist attractions and establishments give relaxation, enjoyment and contribution to economic growth of the Municipality however, they are not exempted from hazards. Sea Urchin Farms, attractions along coastal areas, beach resorts and cottages are highly susceptible to tsunami and storm surge and at medium level for flood due to its vicinity to the ocean. Erosion, earthquake and landslide are only at low level of susceptibility.



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Table 70: LIST OF TOURIST ATTRACTIONS: 2017

TOURISM SITE	DESCRIPTION	LOCATION	ACCESS ROAD	DISTANCE FROM MUNICIPAL/CITY HALL	TYPE (Manmade, Historical, Religious, Natural, Agri-Tourism, etc.)
1. Dalisungsung Falls (seasonal)	It is located at Brgy. Bungol, Balaoan, La Union (8 kilometers from town proper). Old folks called it Dalisungsung because the falls serves as funnel. The falls is not only a tourist attraction but also a source of water for agricultural lands in the barangay.	Brgy. Bungol, Balaoan, La Union	Bungol Farm to Market Road	7.24 km.	Natural
2. Apaleng Park and Lagoon	The place is a good venue for picnic, sight-seeing and boating. Picnic shades are available for rent.	Brgy. Butubut Norte, Balaoan, La Union	Balaoan-Santol Road Butubut Norte Farm to Market Road	6 km.	Manmade
3. Saint Nicolas of Tolentino Parish Church	It is a Roman Catholic Church constructed around 1820's. Located at the Town Proper of Balaoan, the church, a best place for prayer and meditation	Nat. Highway, Camilo Osias, Balaoan, La Union	National Highway, Balaoan, La Union	in front of the Municipal Hall	Religious
4. Paraoir and Almeida Beaches	The beaches of Brgy. Paraoir & Almeida are considered as one of the best beaches in the Province. The beaches are a good place for swimming, boating, fishing and picnics.	Brgys. Paraoir & Almeida, Balaoan, La Union	Balaoan-Luna Road or Bacnotan-Luna Road via Quirino	Almieda-12 km Paraoir-15 km	Natural
5. Immuki Island	Immuki Island was once called Kaparingitan in the old time. The word Immuki is a word which was derived from a sea creature that can thrive only on the dead corals. These are Sea Slugs or Babao. Babao or Bao is a Pangasenense term which refer to female genital or in Ilocano Term is UKI. Since then the word Immuki is used since its main lagoon is like the shape of female genital. Today Immuki Island is a stunning island because of the mangrove (Bantigue/Nirad) on it. The crystal clear water and fishes is also an added attraction.	Brgy. Paraoir, Balaoan, La Union	Balaoan-Luna Road or Bacnotan-Luna Road via Quirino Road	15.50 km.	Natural
6. Ar-arampang Handicraft Making	Brgy. Ar-arampang is the sole producer of handicrafts in Balaoan which serve as the sole the source of income to the unemployed	Brgy. Ar-arampang, Balaoan, La Union	Ar-arampang Farm to Market Road	5 km	AgriTourism
7. Balaoan Town Plaza		Brgy. Antonino, Balaoan, La Union	National Highway, Balaoan, La Union	beside Municipal Hall	Manmade
8. Almeida Watch Tower	A remains of a century old sight. This old Spanish watch tower is used by the Spaniards to guard their territories from the possible attack of their enemies. Later on, this watch tower is used by the fishermen as a guide to the shore. The Almeida Watch Tower in Balaoan is connected to the Watch Towers found in its neighboring towns Luna, Bacnotan and San Juan.	Brgy. Almeida, Balaoan, La Union	Balaoan-Luna Road or Bacnotan-Luna Road via Quirino Road	12 km	Historical
9. Man Made Forest	Found in Brgy. Almeida, this wide man-made forest planted with mahogany and other trees is a good site for pictorial and pre-nup videos. Like the famous Bohol man-made forest, Almeida's Man Made forest is a head turner to travelers heading the Balaoan-Luna road. They are mesmerize by the beauty and solitude of the place.	Brgy. Almeida, Balaoan, La Union	Balaoan-Luna Road or Bacnotan-Luna Road via Quirino Road	11 km	Man made



Table 71: LIST OF ACCREDITED AND NON ACCREDITED ACCOMODATION ESTABLISHMENTS: 2017						
NAME OF ESTABLISHMENTS	ADDRESS	TYPE	ROOMS	CLASSIFICATION	DOT ACCREDITED	
					YES	NO
ORDOÑO'S ECO FARM RESORT	CABUA-AN, BALAOAN, LA UNION	RESORT	11 ROOMS 8 OPEN SHADES 2 FUNCTION HALLS	RESORT		✓
NORTHERN BREEZE RESORT (TRINITY RESORT)	ALMIEDA, BALAOAN, LA UNION	RESORT	7 ROOMS 4 COTTAGES W/ ROOMS (FOR 8-10 PAX) 2 BIG COTTAGES 3 OPEN COTTAGES 1 FUNCTION HALL	RESORT		✓
EL NAVI INN AND RESTAURANT	ALONG NATIONAL HIGHWAY, DR. CAMILO OSIAS, BALAOAN, LA UNION	INN AND RESTAURANT	20 ROOMS RESTAURANT IN THE 2 ND FLOOR	RESORT		✓
CASA DE FAMILIA	ALONG BALAOAN-SANTOL ROAD, DR. CAMILO OSIAS, BALAOAN, LA UNION	VENUE PLACE	FUNCTION HALL	VENUE PLACE		✓



Table 72: Inventory of Tourism Attractions and its Hazards Susceptibility, Year 2017

Name of Tourist Attraction and Establishments	Location	Hazard Susceptibility (H/M/L)				
		Flood	Land Slide	Tsunami	Storm Surge	Ground Shaking
Dalisungsung Falls (seasonal)	Brgy. Bungol	L	L			L
Apaleng Park and Lagoon	Brgy. Butubut Norte	H				L
Saint Nicolas of Tolentino Parish Church	Nat. Highway, Brgy. Dr. Camilo Osias	L				L
Paraoir and Almeida Beaches	Brgys. Paraoir and Almeida	H		H	H	L
Immuki Island	Brgy. Paraoir	H		H	H	L
Ar-arampang Handicraft Making	Brgy. Ar-arampang	L				L
Balaoan Town Plaza	Brgy. Antonino	L				L
Almeida Watch Tower	Brgy. Almeida	H		H	H	L
Man Made Forest	Brgy. Almeida	M				L



Table 73: Inventory of Tourism Establishments and its Hazards Susceptibility, Year 2017

Name of Tourism Establishments	Location	Hazard Susceptibility (H/M/L)				
		Flood	Land Slide	Tsunami	Storm Surge	Ground Shaking
ORDOÑO'S ECO FARM RESORT	CABUA-AN, BALAOAN, LA UNION	H				L
NORTHERN BREEZE RESORT (TRINITY RESORT)	ALMIEDA, BALAOAN, LA UNION	H		H	H	L
EL NAVI INN AND RESTAURANT	ALONG NATIONAL HIGHWAY, DR. CAMILO OSIAS, BALAOAN, LA UNION	L				L
CASA DE FAMILIA	ALONG BALAOAN-SANTOL ROAD, DR. CAMILO OSIAS, BALAOAN, LA UNION	M				L
4 ACES RESORT	BUNGOL, BALAOAN, LA UNION	H	L			L



With the people’s continued search for adventure, relaxation and a place to stay, tourism now-a-days has a great impact not only on the country’s economic growth but most especially to the Municipality/City where tourist establishments/ spots are located. The tourism industry generates substantial economic benefits to the municipality. For the past five (5) years in Balaoan, local revenue of the Municipality is constantly increasing. Also another aspect in the locality that tourism affects is the employment of people in the Municipality. This tourist establishments create opportunities to the people as evidenced by the increasing employment rate on the establishments.

Local Revenue and Employment

Table 74: Local Revenue and Employment by Tourism Activities for the Past Three Years

Year	Local Revenue	Employment No.			Increase/Decrease
		M	F	Total	
2018	504,420	29	8	37	572,021.00
2017	156,200	19	8	27	

Source: Municipal Tourism Office



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Table 75: Accessibility of Existing Tourism Establishment and Tourist Attraction, Year 2017

Name of Tourism Attraction/Establishments	Means of Transportation	Distance from Nearest Airport (m)	Distance from Nearest Seaport (m)	Distance from Nat'l Highway (m)	Acces Road		Accessibility
					Pavement	Condition	
Dalisungung Falls (seasonal)	by land	25,770	23,670	1,241	concrete	good	Brgy road
Apaleng Park and Lagoon	by land	32,600	30,500	6,311	concrete	good	Provincial Road/Brgy. Road
Saint Nicolas of Tolentino Parish Church	by land	32,600	30,500	Along Nat. Highway	asphalt	good	Nat. Hi-way
Paraoir and Almeida Beaches	by land	32,600	30,500	13,795	concrete	good	Provincial Road
Immuki Island	by land	32,600	30,500	14,156	concrete	good	Provincial Road
Ar-arampang Handicraft Making	by land	27,800	30,500	906	concrete	good	Brgy. Road
Balaoan Town Plaza	by land	32,600	30,500	Along Nat. Highway	asphalt	good	Nat. Highway
Almeida Watch Tower	by land	32,600	30,500	12,190	concrete	good	Provincial Road
Man Made Forest	by land	32,600	30,500	12,567	concrete	good	Provincial Road
Ordoño's Eco Farm Resort	by land	32,600	30,500	1,357	concrete/ gravel	good	Provincial Road
Northern Breeze Resort (Trinity Resort)	by land	32,600	30,500	13,052	concrete	good	Provincial Road
El Navi Inn And Restaurant	by land	32,600	30,500	Along Nat. Highway	concrete	good	Nat. Highway
Casa De Familia	by land	32,600	30,500	253	concrete	good	Provincial Road
4 ACES Resort	by land	26,000	23,000	Along Nat. Highway	concrete	good	Nat. Highway

Source: Municipal Tourism Office

Tourist establishments and attractions around the Municipality are very accessible through land transportation vehicles and equipped with paved roads and only a short distance away from the National Highway.



Table 76: Inventory of Tourism Establishment and Support Facilities. Year 2017

Name of Tourism Establishment	Facilities Present								No. of Employee	Market Catered
	Accom. Facilities	Financial Facilities	Comm. Facilities	Medical Facilities	Eating Facilities	Shopping Facilities	Travel Agencies	Others		
ORDOÑO'S ECO FARM RESORT	12 ROOMS							12 OPEN SHADES 2 FUNCTION HALLS	3	Local & International
TRINITY ROYALE RESORT & RESTAURANT	12 ROOMS				RESTAURANT			6 RENTABLE HUTS 1 FUNCTION HALL	6	Local & International
EL NAVI INN AND RESTAURANT	15 ROOMS WITH INTERNET CONNECTION				RESTAURANT				9	Local & International
CASA DE FAMILIA	FUNCTION HALL								2	Local & International
4 ACES RESORT					RESTAURANT			5 RENTABLE HUTS	8	Local & International

Source: Municipal Tourism Office



Tourism Establishments

Tourism establishments specifically beach resorts caters not only to international market but also including the locals. Accommodation facilities are at its best with clean bathroom, cable, aircon and internet connection. Function Halls are also made available for events/occasions. Tourism establishments can be easily accessed because roads are paved and near to the national highway and provincial roads. Restaurants and other amenities are also available within the municipality.

Source: Tourism Office

Table 77: Inventory of Tourist by Country of Origin for the Past Three Years					
No. of Tourist/Visitors					
Year 2015		Year 2016		Year 2017	
Local	Foreign	Local	Foreign	Local	Foreign
2,787	228	7,354	168	10,477	221

Beach resorts in the Municipality cater not only to foreign guests but also to local tourists and the people residing in the Municipality. For the past 3 years, tourists whether local or foreign, are constantly increasing.

Cultural Activities

The Festivals in the Philippines are fun-filled activities. Fiestas or festivals are as either religious, cultural, or both. These festivals are held to a patron saint or to uphold the history and culture of the place such as celebrating bountiful harvest or promoting its own products. Balaoan has its own fiesta or festival. Every 9th and 10th day of September, the Feast of San Nicolas de Tolentino is celebrated. It is celebrated through masses, procession and field demonstration of elementary and high school students. The Balaoan Town Fiesta or popularly known as “Panagyaman Festival” is celebrated every 18th to 22nd day of December. It is celebrated to give thanks to the bountiful agricultural harvest and all the God’s blessings the townspeople received during the year. Cultural activities have great impact on the economic growth of a municipality. Aside from tourist spots and establishments it also attract tourist to come and visit the place. The more tourist will come the greater the revenue for the municipality.



Table 78: Cultural and Tourism Activities/Facilities/Festivals

Activity	Date	Duration of Activity
Holy week Presentation/Procession	Every Year	7 days
Feast of San Nicolas de Tolentino	September 09 to 10	2 days
Panagyaman Festival (Balaoan Town Fiesta)	December 18 to 22	5 days

Source: Tourism Office

II. CURRENT AND PROJECTED NEEDS

Although resorts, establishments and tourist spots are present in the Municipality, developments of new tourist establishments or attractions are also being taken into consideration. The local government is realizing a potential attraction around the municipality. It also improve its roads and other infrastructure to cater more tourist. These roads and infrastructure projects will be more accessible and useful to attract more tourist to come in the municipality. Promotions of tourist attractions and agri-tourism products are also given importance. Through the help of social media and different mediums of communication, tourist attraction in the municipality are now discovered by visitors. Brochures and flyers are used by the municipality in promoting tourism activities. The use of social media is another method also. The LGU has its own facebook page and website where updates on the municipality including tourism activities is postedConstruction of parking lots, public comfort rooms, Tourist Information and Assistance Center and Pasalubong Center is also taken into consideration. These tourist attractions can contribute in increasing the revenue of the municipality by increase job opportunities, visitors arrival and investments.

Hazard Susceptibility

Though potential attractions will be planned thoroughly, hazards will still be present. The potential mountain resort, with its vicinity, will have a high risk of erosion and landslides. Earthquake, flood, tsunami and storm surge will also have an effect if they occur. Ports fish landing, mangrove and other resorts are highly susceptible to storm surges, tsunami and floods. Earthquakes, land slide and erosion, though in low level, will still be a risk on the said projects.



Table 79: Potential Tourist Attractions in the Locality

Barangay	Potential Attraction	Within Forest Land (ha)	Within A & D Land (ha)	Hazard Susceptibility (H/M/L)				
				Flood	Land Slide	Tsunami	Storm Surge	Ground Shaking
Barangay Almeida	Karumasan	√		H		H	H	L

Source: Tourism Office

III. SECTOR ANALYSIS MATRIX (TOURISM)

Table 80:

Technical Findings/Observation	Implications (Effects)	Policy Options/Interventions
- Improper waste disposal	- Unsanitary surroundings causing health problems	- Strict enforcement of waste disposal for locales and even to tourists
- Lack of accommodation facilities	- Low income for the LGU	- Provision of additional facilities for accommodation of tourists
- Absence of Tourism Development Plan	- Low visitors arrival - No proper programs and projects for tourism development	- Crafting of Tourism Development Plan
- Lack of access roads leading to Tourism spots	- Low tourist arrival	- Acquisition of lot for road right of way
- Poor implementation of environmental fee ordinance	- Low environmental fee collection	- Strict implementation of environmental fee ordinance
- Lack of tourism promotions	- Low visitors arrival	- Creation of information materials such as pamphlets, brochures, flyers and promotion through social media accounts - Public education campaign



- Untrained tourism front liners	- Low tourism income and job opportunities	- Skills upgrading and training for Tourism frontliners and personnel
- Inadequate tourism amenities and establishments	- Low tourism income - Low business opportunities - Low job opportunities	- Construction of Parking Lots, Public Comfort Rooms, Pasalubong Center and Tourist Information and Assistance Center - Encourage Small and Medium Enterprises to invest.
- Lack of Tourism and Environment Awareness	- Improper waste disposal, littering and vandalism - Destruction of tourist attractions	- Strengthening social protection, tourism and environmental awareness through a. Formulation of Tourism/Environment related policies and laws b. Strict implementation of Laws and Ordinance c. Conduct of Trainings and Workshops d. Community planning and participation -



INFRASTRUCTURE STUDY



INFRASTRUCTURE SECTOR

TRANSPORTATION

I. SITUATIONAL ANALYSIS

Transportation covers road network facilities and utilities, bridges, information and communications facilities and power define mobility and access to various functional areas in the locality. Land transport vehicles and people move and travel from one place to another.

A. ROAD NETWORKS

At present, tricycle is the most common utilities of land transport vehicle used in the municipality. It passes and crosses all road networks and it is the most efficient means of transportation to the barangay either in the urban or rural areas.

All barangays have a tricycle terminal in the urban areas which cater to commuters coming from manila and other provinces. There are 797 public utility tricycle circulating in the vicinity which are members of Balaoan TODA. Regular buses and other utility vehicles bound for Manila, Baguio and other Provinces in the region pass through the municipality.

As per record, the municipality of Balaoan has a total circumferential road of 174.09 kilometer, of which 8.55 kilometers are municipal roads; 17.46_kilometers are classified as national roads, 18.22 kilometers are provincial roads, 129.87 kilometers are barangay roads. About 12.012 kilometers are located at the urban barangays and 117.65 kilometers in the rural barangays.



**Table 81: Inventory of Roads by System Classification and Type of Pavement,
Year 2017**

Road Name		Road Surface Type													Hazard Susceptibility (H/M/L)					
		Right of Way (RoW)	Total Length (m)	Concrete			Asphalt			Gravel			Earth							
				L (m)	%	C	L (m)	%	C	L (m)	%	C	L (m)	%	C	F L	L L	T S	S S	G S
BARANGAY ROAD																				
1	ALMEIDA	10	9,578.40	8,485.20	88.59	Fair							156.00	1.63	Fair	H		H	H	L
2	ANTONINO	10	5,242.60	5,242.60	100.00	Fair										M				L
3	APATUT	10	5,411.30	5,345.00	98.77	Fair							521.00	9.63	Fair	L				L
4	AR-ARAMPANG	10	3,391.90	3,391.90	100.00	Fair										H	H			L
5	BARACBAC ESTE	10	4,714.70	4,714.70	100.00	Fair										L				L
6	BARACBAC OESTE	10	671.00	671.00	100.00	Fair										L				L
7	BET-ANG	10	2,110.00	2,110.00	100.00	Fair										L				L
8	BULBULALA	10	2,198.00	2,198.00	100.00	Fair														L
9	BUNGOL	10	2,404.60	2,404.60	100.00	Fair										L	H			L
10	BUTUBUT ESTE	10			100.00	Fair										L				L



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				3,844.10	3,844.10																
	11	BUTUBUT NORTE	10	3,815.00	3,815.00	100.00	Fair										L				L
	12	BUTUBUT OESTE	10	220.40	220.40	100.00	Fair										L				L
	13	BUTUBUT SUR	10	2,123.50	2,123.50	100.00	Fair										L				L
	14	CABUA-AN	10	6,770.00	6,770.00	100.00	Fair										L				L
	15	CALLIAT	10	5,391.40	5,391.40	100.00	Fair										L				L
	16	CALUNGBUYAN	10	4,326.40	4,326.40	100.00	Fair										L	H			L
	17	CAMILING	10	4,199.10	3,971.10	94.57	Fair							228.00	5.4297	Fair	L	L	L	L	L
	18	GUINABURAN	10	4,101.80	4,101.80	100.00	Fair										L	L			L
	19	MASUPE	10	2,302.60	1,853.60	80.50	Fair							449.00	19.5	Fair	L				L
	20	NAGSABARAN NORTE	10	4,018.50	4,018.50	100.00	Fair										L	H			L
	21	NAGSABARAN SUR	10	10,317.00	5,366.00	57.83	Fair							4,351.00	42.173	Fair	L	H			L
	22	NAPASET	10	1,643.30	1,643.30	100.00	Fair										L				
	23	PAGBENNECAN	10	1,187.00	858.00	72.28	Fair							329.00	27.717	Fair	L	H			L
	24	PAGLEDDEGAN	10	2,930.50	2,930.50	100.00	Fair										L	L			L



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25	PANTAR NORTE	10	2,183.30	2,183.30	100.00	Fair											M				L
26	PANTAR SUR	10	5,210.16	5,210.16	100.00	Fair											H				L
27	PAO	10	2,995.00	2,995.00	100.00	Fair											M				L
28	PARAOIR	10	4,768.30	4,768.30	100.00	Fair											H		H	H	L
29	PATPATA	10	3,913.30	3,913.30	100.00	Fair											H				L





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Road Name		Road Surface Type														Hazard Susceptibility (H/M/L)				
		Right of Way (RoW)	Total Length (m)	Concrete			Asphalt			Gravel			Earth							
				L (m)	%	C	L (m)	%	C	L (m)	%	C	L (m)	%	C	FL	LL	TS	SS	GS
30	SABLUT	10	1,994.00	1,994.00	100.00	Fair										H				L
31	SAN PABLO	10	2,871.90	2,871.90	100.00	Fair										L				L
32	SINAPANGAN NORTE	10	4,243.00	4,243.00	100.00	Fair										M	L			L
33	SINAPANGAN SUR	10	3,575.50	3,575.50	100.00	Fair										L				L
34	TALLIPUGO	10	5,199.10	5,199.10	100.00	Fair										M				L
			129,866.66																	
Municipal Road																				
1	Ressurreccion Street	10	366.00	366.00	100.00	Fair										L				L
2	Oriel street	10	701.00	701.00	100.00	Fair										L				L
3	Lopez Street	10	617.00	617.00	100.00	Fair										M				L
4	Carbonnell Street	10	539.00	539.00	100.00	Fair										M				L
5	Olaviano Street	10	666.00	666.00	100.00	Fair										M				L
6	San Nicolas Street	10	524.00	524.00	100.00	Fair										M				L
7	Obar Street	10	192.00	192.00	100.00	Fair										M				L
8	Viloria Street	10	725.00	725.00	100.00	Fair										M				L
9	Zambrano Street	10	744.00	744.00	100.00	Fair										M				L
10	Concepcion Street	10	1,006.00	1,006.00	100.00	Fair										M				L
11	Rodriguez Street	10	1,110.00	1,110.00	100.00	Fair										M				L



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12	Olivar Street	10	907.00	907.00	100.00	Fair											L				L
13	Clemente Street	10	229.30	229.30	100.00	Fair											L				L
14	Siete Martirez Street	10	224.70	224.70	100.00	Fair											L				L
			8,551.00																		
	Provincial Road																				
1	Masupe -Guinaburan Rd.	20	3,660.00	3,660.00	100.00	Fair											M	L			L
2	Bungol-Nagsara Rd.	20	2,122.00	2,122.00	100.00	Fair											L	L			L
3	Balaoan-Santol Rd.	20	5,082.00	5,082.00	100.00	Fair											M				L
4	Pantar-Luna Rd.	20	668.00	668.00	100.00	Fair											M				L
5	Pantar-San Francisco Rd.	20	3,550.00	3,550.00	100.00	Fair											M				L
6	Pagbennecan -Tallaoen Rd.	20	1,533.70	1,533.70	100.00	Fair											M	L			L
7	Processional Route Road	20	1,601.00	1,601.00	100.00	Fair											M				L
			18,216.70																		
	National Road																				
1	Balaoan -Luna Road	20	1,872.00				1872	100	Fair								M				L
2	Almeida-Paraoir Road	20	4,701.00				4701	100	Fair								H		H	H	L
3	Mc. Arthur Hi-way	20	10,883.00				10883	100	Fair								M				L
	(Bacnotan-Balaoan-Luna Road)	20	17,456.00																		
	TOTAL		174,090.36																		

Source: DPWH / Provincial Municipal/ City Engineering Office



Table 82: Inventory of Public Land Transportation Vehicles by Type and Service Routes, Year 2018

Type of Public Utility Vehicle	Registered In Municipality	
	Total No.	Route/Destination
Buses	3	Other Municipalities to Municipal Center
Jeepneys	5	Other Municipalities to Municipal Center
Vans	10	Other Municipalities to Municipal Center
Tricycles	592	Other Municipalities to Municipal Center

Total: 797

Source: Municipal /City Philippine National Police Office



Table 83: Transport Related Projects, Approved/ Funded for Implementation, Year 2019

Name/ Location of Project	Barangay	Type	Proponent (Government, Private, Other)	Estimated Date Started
IMPROVEMENT OF ALMEIDA FARM TO MARKET ROAD	ALMEIDA	CONCRETE	GOVERNMENT	Within 2019
CONSTRUCTION OF AR-ARAMPANG PATHWAY	AR-ARAMPANG	CONCRETE	GOVERNMENT	Within 2019
CONSTRUCTION OF BUNGOL PATHWAY	BUNGOL	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF BUNGOL FARM TO MARKET ROAD	BUNGOL	CONCRETE	GOVERNMENT	Within 2019
CONCRETE PAVING OF SECTOR 3 SINAPANGAN SUR FARM TO MARKET ROAD	SINAPANGAN SUR	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF 2-UNITS AR-ARAMPANG BRIDGE	AR-ARAMPANG	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF CALUNGBUYAN FARM TO MARKET ROAD	CALUNGBUYAN	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF GUINABURAN FARM TO MARKET ROAD	GUINABURAN	CONCRETE	GOVERNMENT	Within 2019
CONSTRUCTION OF MASUPE PATHWAY	MASUPE	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF NAGSABARAN NORTE FARM TO MARKET ROAD	NAGSABARAN NORTE	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF PARAOIR FARM TO MARKET ROAD	PARAOIR	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF SINAPANGAN NORTE FARM TO MARKET ROAD	SINAPANGAN NORTE	CONCRETE	GOVERNMENT	Within 2019
INSTALLATION OF STREET LIGHTING SYSTEM	NAT.HIGHWAY	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF PANTAR SUR FARM TO MARKET ROAD	PANTAR SUR	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF BULBULALA FARM TO MARKET ROAD	BULBULALA	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF PA-O BRIDGE	PA-O	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF BUTUBUT ESTE FARM TO MARKET ROAD	BUTUBUT ESTE	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF SECTOR 7 BUTUBUT NORTE FARM TO MARKET ROAD	BUTUBUT NORTE	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF PAGLEDDEGAN FARM TO MARKET ROAD	PAGLEDDEGAN	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF BET-ANG FARM TO MARKET ROAD	BET-ANG	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF ALMEIDA FARM TO MARKET ROAD	ALMEIDA	CONCRETE	GOVERNMENT	Within 2019
CONSTRUCTION OF GUINABURAN PATHWAY	GUINABURAN	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF PANTAR SUR - BULBULALA FARM TO MARKET ROAD	PANTAR-BULBULALA	CONCRETE	GOVERNMENT	Within 2019



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IMPROVEMENT OF AR-ARAMPANG BRIDGE	AR-ARAMPANG	CONCRETE	GOVERNMENT	Within 2019
CONCRETE PAVING OF AR-ARAMPANG FARM TO MARKET ROAD	AR-ARAMPANG	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF CABUA-AN FARM TO MARKET ROAD	CABUA-AN	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF MASUPE FARM TO MARKET ROAD	MASUPE	CONCRETE	GOVERNMENT	Within 2019
CONSTRUCTION OF MASUPE FOOTBRIDGE	MASUPE	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF TALLIPUGO FARM TO MARKET ROAD	TALLIPUGO	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF SAN PABLO - CABUA-AN FARM TO MARKET ROAD	SAN PABLO	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF TALLIPUGO-SINAPANGAN SUR-SINAPANGAN NORTE FARM TO MARKET ROAD	TALLIPUGO-SINAPANGAN	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF SAN PABLO - PANTAR SUR FARM TO MARKET ROAD	SAN PABLO-PANTAR SUR	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF SECTORS 5 & 6 PATPATA FARM TO MARKET ROAD	PATPATA	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF PATPATA BRIDGE	PATPATA	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF PANTAR - SAN FRANCISCO FARM TO MARKET ROAD	PANTAR-SAN FRANCISCO	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF BUTUBUT SUR-PAGLEDDEGAN-GUINABURAN FARM TO MARKET ROAD	PAGLEDDEGAN-GUINABURAN	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF CALLIAT BRIDGE	CALLIAT	CONCRETE	GOVERNMENT	Within 2019
CONCRETE PAVING OF NAGSABARAN SUR FARM TO MARKET ROAD	NAGSABARAN SUR	CONCRETE	GOVERNMENT	Within 2019
CONCRETE PAVING OF APATUT - NAGSABARAN SUR FARM TO MARKET ROAD	OF APATUT-NAGSABARAN SUR	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF PAGBENNECAN FOOTBRIDGE	PAGBENNECAN	CONCRETE	GOVERNMENT	Within 2019
CONCRETE PAVING OF AR-ARAMPANG - BUNGOL FARM TO MARKET ROAD	OF AR	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF TALLIPUGO - SINAPANGAN NORTE FARM TO MARKET ROAD	TALLIPUGO-SINAPANGAN NORTE	CONCRETE	GOVERNMENT	Within 2019
IMPROVEMENT OF CABUA-AN - CANTORIA FARM TO MARKET ROAD	CABUA-AN	CONCRETE	GOVERNMENT	Within 2019



Table 84: Road Accidents by Location, Nature and Frequency for the Past 5 Years

Name of Road	Barangay	Nature	No. of Accidents					Total
			2013	2014	2015	2016	2017	
1. ALMEIDA	1. ALMEIDA	angle impact, hit object	0	1	5	5	1	12
2. ANTONINO	2. ANTONINO	angle impact, hit parked, hit object	3	5	9	7	2	26
3. APATUT	3. APATUT	angle impact	1	0	0	1	0	2
4. AR-ARAMPANG	4. AR-ARAMPANG	rear end	1	1	5	4	0	11
5. BARACBAC ESTE	5. BARACBAC ESTE	head on, angle impact	0	0	0	2	0	2
6. BARACBAC OESTE	6. BARACBAC OESTE		0	0	0	0	0	0
7. BET-ANG	7. BET-ANG	angle impact	0	1	0	1	0	2
8. BULBULALA	9. BULBULALA	hit pedestrian, side swipe, head on, rear end, angle impact	1	9	8	3	1	22
9. BUNGOL	9. BUNGOL	hit object, rear end, head on	0	3	6	7	2	18
10. BUTUBUT ESTE	10. BUTUBUT ESTE	-	0	0	0	0	0	0
11. BUTUBUT NORTE	11. BUTUBUT NORTE	-	0	0	0	0	0	0
12. BUTUBUT OESTE	12. BUTUBUT OESTE	angle impact, rear end	1	2	1	3	1	8
13. BUTUBUT SUR	13. BUTUBUT SUR	rear end	0	2	3	2	0	7
14. CABUA-AN	14. CABUA-AN	angle impact, rear end	0	3	16	15	5	39
15. CALLIAT	15. CALLIAT	-	0	0	0	0	0	0
16. CALUNGBUYAN	16. CALUNGBUYAN	angle impact, rear end	1	4	9	12	1	27
17. CAMILING	17. CAMILING	rear end, angle impact, head on	0	1	4	4	0	9
18. CAMILO OSIAS	18. CAMILO OSIAS	rear end, side swipe, angle impact, head on	0	4	8	4	2	18
19. GUINABURAN	19. GUINABURAN	angle impact	1	0	0	0	0	1
20. MASUPE	20. MASUPE	rear end, angle impact, hit parked	2	2	4	6	3	17



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21. NAGSABARAN NORTE	21. NAGSABARAN NORTE	rear end, hit object	0	1	1	3	0	5
22. NAGSABARAN SUR	22. NAGSABARAN SUR	-	0	0	0	0	0	0
23. NALASIN	23. NALASIN	angle impact	1	0	2	2	0	5
24. NAPASET	24. NAPASET	head on, angle impact	0	0	0	1	0	1
25. PAGBENNECAN	25. PAGBENNECAN	angle impact	1	0	0	0	0	1
26. PAGLEDDEGAN	26. PAGLEDDEGAN	head on, angle impact	1	0	1	22	2	26
27. PANTAR NORTE	27. PANTAR NORTE	hit object, hit pedestrian, angle impact	0	3	14	10	2	29
28. PANTAR SUR	28. PANTAR SUR	angle impact	0	0	0	1	0	1
29. PAO	29. PAO	-	0	0	0	0	0	0
30. PARAOIR	30. PARAOIR	rear end, head on	1	0	0	2	1	4
31. PATPATA	31. PATPATA	angle impact	0	0	0	1	1	2
32. SABLUT	32. SABLUT	-	0	0	2	1	0	3
33. SAN PABLO	33. SAN PABLO	rear end, angle impact, hit parked	1	3	9	12	1	26
34. SINAPANGAN NORTE	34. SINAPANGAN NORTE	-	0	0	0	0	0	0
35. SINAPANGAN SUR	35. SINAPANGAN SUR	rear end	0	1	0	0	0	1
36. TALLIPUGO	36. TALLIPUGO	rear end	0	1	0	0	0	1
All Location			16	47	107	131	25	326

Source: Philippine National Police Office



B. BRIDGES

There are thirty seven (37) bridges scattered within the vicinity of the municipality. Majority of the bridges in the town are concrete and in good condition with a total of 158 linear meters in length and 186 meter width. Most of the bridges are affected by hazards as per listed below, however in a low susceptibility.

Table 85: Inventory of Bridges by Location, Type, Capacity and Condition, Year 2017

Bridge Name	Barangay	Type	Length (m)	Width (m)	Load Capacity (Tons)	Physical Condition	Hazard Susceptibility (H/M/L)				
							Fl	Gs	Ln	Ts	Ss
1. Antonino-Pagbennecan	Antonino-Pagbennecan	concrete	8	5	18	Good	L	L			
2. Apatut-Masupe	Apatut-Masupe	concrete	21	5	18	Good	L	L			
3. Ar-arampang Bridge #1	Ar-arampang	concrete	6	6	18	Good	L	L			
4. Ar-arampang Bridge #2	Ar-arampang	concrete	9	6	18	Good	L	L			
5. Baracbac-Sablut	Baracbac- Sablut	concrete	38	6	28	Good	L	L			
6. Butubut Norte	Butubut Norte	concrete	7	5	18	Good	L	L			
7. Butubut Oeste	Butubut Oeste	concrete	9	6	25	Good	L	L			
8. Bulbulala	Bulbulala	concrete	9	6	25	Good	L	L			
9. Bungol	Bungol	concrete	18	6	36	Good	L	L			
10. Cabua-an Bridge#1	Cabua-an	concrete	12	6	36	Good	L	L			
11. Cabua-an Bridge#2	Cabua-an	concrete	14	6	36	Good	H	L			
12. Cabua-an Bridge#3	Cabua-an	concrete	8	6	36	Good	L	L			
13. Calliat	Calliat	concrete	24	5	18	Good	H	L			



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14. Calliat2	Calliat	concrete	10	5	18	Good	H	L			
15. Calungbuyan Bridge	Calungbuyan	Bailey	16	5	18	Good	L	L			
16. Camiling Bridge	Camiling	concrete	6	6	36	Good	L	L			
17. Masupe Bridge #1	Masupe	concrete	7	6	20	Good	L	L			
18. Masupe Bridge#2	Masupe	concrete	6	6	20	Good	L	L			
19. Nagsabaran Norte Bridge #1	Nagsabaran Norte	concrete	14	5	18	Good	L	L			
20. Nagsabaran Norte Bridge #2	Nagsabaran Norte	concrete	9	5	18	Good	M	L			
21. Nagsabaran Norte Bridge #3	Nagsabaran Norte	concrete	8	5	18	Good	M	L			
22. Nagsabaran Norte Bridge #4	Nagsabaran Norte	concrete	25	5	18	Good	M	L			
23. Nagsabaran Norte Bridge #5	Nagsabaran Norte	concrete	11	5	18	Good	L	L	M		
24. Pagbennecan Bridge#1	Pagbennecan	concrete				Good	M	L			
25. Pagbennecan Bridge#2	Pagbennecan	concrete	8	5	18	Good	M	L			
26. Pagbennecan Bridge#3	Pagbennecan	concrete	8	5	18	Good	M	L			
27. Pagbennecan Bridge#4	Pagbennecan	concrete	22	5	18	Good	M	L			
28. Pagbennecan Bridge#5	Pagbennecan	concrete	7	5	18	Good	M	L			
29. 10. Pantar Norte Bridge	Pantar	concrete	18	6	28	Good	L	L			
30. Pantar Norte Bridge #1	Pantar Norte	concrete	10	6	28	Good	M	L			
31. Pantar Norte Bridge# 2	Pantar Norte Bridge# 3	concrete	8	5	18	Good	M	L			
32. Patpata	Patpata	concrete	7	5	18	Good	H	L			
33. Pao	Pao	concrete	13	5	18	Good	H	L			
34. Sablut Bridge	Sablut	concrete	6	6	18	Good	L	L			
35. Paraoir Bridge	Paraoir	concrete					M			H	H
35. Sinapangan Sur Bridge	Sinapangan Sur Bridge	concrete	17	5	18	Good	H	L			



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36. Tallipugo I	Tallipugo	concrete	22	5	18	Good	M	L			
37. Tallipugo II	Tallipugo	concrete	18	5	18	Good	M	L			
			458	186							

II. CURRENT AND PROJECTED NEEDS

The following is the current and future development needs of the transportation sector in terms of road network system and its relationship to current land uses and other socio economic activities.

1. Current Needs for Urban

Existing Urban Road Requirement

= (Urban Population X Standard Road to Population Ratio) – Existing Urban Road Length

Urban Population 2017=5,444

Standard Road to Population Ration=2.4km/1000 pop

Existing Urban Road Length= 12.012 km

Current Urban Road Requirement = (5,444 x 2.4/1000) -12.012

= 13.06 – 12.012

= 1.05 km.

This means that the existing urban road deficit of Balaoan is 1.05 kilometer for year 2017.



Projected Urban Road

Projected Urban Population = 5,929

Urban Road Standard to Population Ratio = 2.4km/1000 pop.

Existing Urban Road Length =12.012 km

Current Road Requirement=1.05 km

Projected Urban Road Requirement = (projected urban population x std. Urban road to pop. Ratio) - (existing urban road length + current road rqmt. *)

$$\begin{aligned} &= (5,929 \times 2.4 \text{ km/1000 pop.}) - (12.012 \text{ km} + 1.05 \text{ km}) \\ &= 14.23 \text{ km} - 13.06 \text{ km.} \\ &= 1.17 \text{ km.} \end{aligned}$$

The projected urban road requirement based on the projected population CY 2028 of 5,929 using the standard road length to population ratio of 2.4 kms. per 1,000 population, shows that the municipality require an additional of 1.17 kms. by the end of the planning period.

2. Current and Future Rural Road Requirement

Current Rural Road Requirement

= (Arable land area X Standard Road to area ratio) – existing rural road length

= (3,894.8 hectares X 1.5 km/1000 hectare) – 117.65km



= 5.8422-117.65

= -111.81km

Projected Rural Road Requirement

Projected rural road requirement = (Projected/proposed area of agricultural land use X 1.50 kms/100 hectare of arable land) – (current/existing rural road length + current rural road requirement)

Projected rural road requirement = (3,505.32 x 1.50 kms/100 hectares)-(12.012+-111.81km)
= -47 hectares

The current and future rural road requirement of the municipality of Balaoan based on the standard road requirement shown above, shows that the present/existing roads in the locality exceeds the requirement and it can still accomodate the increasing populace in the year 2028.



III. SECTOR ANALYSIS MATRIX

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
Sufficient roads for Rural barangays	Productive Good Flow of traffic Easy access to barangay	Traffic management
During Road widening Electrical post, streetlight post were remain as is.	Prone to accident due to the post obstructed on the road extension.	Traffic management (Markings should be indicated on an accident prone area, reminders to a public should be communicated.
Most of the Public Transportation (tricycle)were stationed in town proper	Commuters from a barangay will wait for a tricycle who transport passenger to that barangay will tend to be late when running out of time. More time wasted on waiting.	There should be terminal situated along the provincial road intervened to a barangays.
Canals along National Road are clogged.	Flooding	Upgrading of road drainage.



POWER

I. SITUATIONAL ANALYSIS

The municipality of Balaoan is being served by the La Union Electric Cooperative of which the main Office is located at Aringay, La Union. Latest data showed that 79% of household is being served and energized by electricity while the remaining 21% are unserved households as of year 2017. Most of which are provided for residential use.



Barangays Nalasin and Bet-ang recorded the highest percentage of served households with 99.30 and 99.58% respectively.

To address the continuing changes in climate, the municipality in partnership with the Province, promoted the use of LED Lights covering the National Road of Balaoan from North to South.



Table 86: Households Served and Unserved with Electricity for the Past Three Years

Barangay	2015					2016					2017				
	Total No. of HH	Served		Unserved		Total No. of HH	Served		Unserved		Total No. of HH	Served		Unserved	
		No.	%	No.	%		No.	%	No.	%		No.	%	No.	%
1. ALMEIDA	343	209	60.93	134	39.07	351	230	65.54	120.94	34.46	359	251	69.90	108.06	30.10
2. ANTONINO	176	157	89.20	19	10.80	177	160	90.26	17.27	9.74	179	160	89.61	18.55	10.39
3. APATUT	232	130	56.03	102	43.97	250	140	55.91	110.39	44.09	270	154	56.99	116.23	43.01
4. AR-ARAMPANG	213	142	66.67	71	33.33	217	150	68.97	67.48	31.03	222	176	79.26	46.05	20.74
5. BARACBAC ESTE	236	198	83.90	38	16.10	240	202	84.10	38.18	15.90	244	241	98.60	3.43	1.40
6. BARACBAC OESTE	99	54	54.55	45	45.45	104	63	60.71	40.77	39.29	109	72	66.19	36.78	33.81
7. BET-ANG	173	119	68.79	54	31.21	178	120	67.48	57.82	32.52	183	182	99.58	0.77	0.42
8 . BULBULALA	378	200	52.91	178	47.09	383	209	54.62	173.64	45.38	387	240	61.96	147.33	38.04
9. BUNGOL	301	168	55.81	133	44.19	307	179	58.35	127.77	41.65	313	198	63.33	114.64	36.67
10. BUTUBUT ESTE	212	148	69.81	64	30.19	222	151	67.89	71.41	32.11	233	179	76.71	54.34	23.29
11. BUTUBUT NORTE	296	153	51.69	143	48.31	313	172	54.91	141.25	45.09	331	180	54.30	151.50	45.70
12. BUTUBUT OESTE	152	130	85.53	22	14.47	154	133	86.17	21.34	13.83	157	147	93.80	9.71	6.20
13. BUTUBUT SUR	164	148	90.24	16	9.76	167	150	90.04	16.60	9.96	169	160	94.54	9.24	5.46
14. CABUA-AN	289	197	68.17	92	31.83	300	248	82.68	51.97	17.32	311	259	83.19	52.35	16.81
15. CALLIAT	301	203	67.44	98	32.56	309	222	71.78	87.29	28.22	318	244	76.78	73.81	23.22
16. CALUNGBUYAN	331	287	86.71	44	13.29	336	290	86.33	45.93	13.67	341	332	97.38	8.93	2.62
17. CAMILING	236	202	85.59	34	14.41	247	200	80.97	47.00	19.03	247	237	95.95	10.00	4.05
18. CAMILO OSIAS	419	299	71.36	120	28.64	427	322	75.34	105.41	24.66	436	385	88.31	50.98	11.69



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19. GUINABURAN	208	42	20.19	166	79.81	217	49	22.56	168.18	77.44	227	56	24.70	170.76	75.30
20. MASUPE	223	143	64.13	80	35.87	226	150	66.26	76.37	33.74	230	162	70.50	67.80	29.50
21. NAGSABARAN NORTE	340	245	72.06	95	27.94	346	260	75.08	86.28	24.92	353	285	80.81	67.68	19.19
22. NAGSABARAN SUR	275	101	36.73	174	63.27	286	111	38.85	174.72	61.15	297	127	42.78	169.85	57.22
23. NALASIN	332	281	84.64	51	15.36	337	303	90.00	33.66	10.00	341	339	99.30	2.38	0.70
26. PAGLEDDEGAN	148	111	75.00	37	25.00	153	122	79.96	30.58	20.04	157	134	85.18	23.31	14.82
27. PANTAR NORTE	342	204	59.65	138	40.35	352	239	67.91	112.93	32.09	362	252	69.58	110.15	30.42
28. PANTAR SUR	211	155	73.46	56	26.54	216	171	79.15	45.04	20.85	221	185	83.64	36.19	16.36
29. PAO	130	118	90.77	12	9.23	132	126	95.78	5.54	4.22	133	130	97.67	3.11	2.33
30. PARAOIR	407	230	56.51	177	43.49	410	269	65.60	141.06	34.40	413	285	68.98	128.14	31.02
31. PATPATA	328	197	60.06	131	39.94	341	203	59.49	138.23	40.51	355	235	66.20	120.00	33.80
32. SABLUT	206	180	87.38	26	12.62	213	195	91.39	18.36	8.61	221	195	88.24	25.99	11.76
33. SAN PABLO	264	245	92.80	19	7.20	272	255	93.62	17.37	6.38	281	259	92.17	22.01	7.83
34. SINAPANGAN NORTE	151	103	68.21	48	31.79	154	113	73.56	40.61	26.44	156	148	94.71	8.26	5.29
35. SINAPANGAN SUR	265	182	68.68	83	31.32	273	191	69.87	82.37	30.13	282	203	71.98	79.01	28.02
36. TALLIPUGO	241	201	83.40	40	16.60	248	214	86.20	34.27	13.80	256	242	94.62	13.75	5.38
TOTAL	8,622	5,882	70	123	30	8,860	6,312	68.26	2,548	31.74	9,095	7,034	79	2,061.11	21

Source: Local Power Service Provider



Majority of 7,034 connections are for residential consumers and seconded by commercial use of about 900 connections. But as to total KW, commercial consumers gathered 47.1%.

Table 87: Number of Connections by Type of Users and Average Consumption (KWH/Mo.) for the Past Three Years

TYPE OF CONSUMERS	2015			2016			2017		
	No. of connections	KW	%	No. of connections	KW	%	No. of connections	KW	%
Residential	5,882	80	29	6,312	100	28.6	7,034	125	29.4
Commercial	800	100	36	850	150	42.9	900	200	47.1
Other: Public Buildings/Facilities; Street Lights	33	100	36	34	100	28.6	36	100	23.5
TOTAL	6,715	280		7,196	350		7,970	425	

Source: Local Power Service Provider



II. CURRENT NEEDS AND PROJECTIONS

To address the future needs of power, the computed power requirement by type of user /connection tabulated below which serve as a guide in planning for the future. It shows that the municipality needs **2,178 KWH** by year 2028 per computed projection. (Refer to table below)

Table 88: Projected Number of Connections by Type of Users and Average Consumption (KWH/Mo.)

TYPE OF CONSUMERS	2015			2017			2018			2019			2020			2022			2024			2026			2028		
	No. of Connections	KWH	%	No. of Connections	KWH	%	No. of Connections	KWH	%	No. of Connections	KWH	%	No. of Connections	KWH	%	No. of Connections	KWH	%	No. of Connections	KWH	%	No. of Connections	KWH	%	No. of Connections	KWH	%
No. of Connections																											
Residential	5,882	80	29	7,034	100	29	7,692	148	33	8,412	171	28	9,199	194	24	11,000	240	21	13,154	286	19	15,731	332	18	18,812	378	17
Commercial	800	100	36	900	150	47	955	200	45	1,013	250	40	1,074	300	38	1,208	400	35	1,359	500	34	1,529	600	33	1,720	700	32
Other: Public Buildings/Facilities; Street Lights	33	100	36	36	100	23	37	100	22	38	200	32	39	300	38	42	500	44	44	700	47	47	900	49	50	1,100	51
TOTAL	6,715	280		7,970	350		8,684	448		9,462	621		10,312	794		12,250	1,140		14,558	1,486		17,307	1,832		20,582	2,178	

Source: Computed based on getting the average consumption



Table 89: Power Transmission/Distribution Line, Year 2017

Name of Line Owner	Year Constructed/ Developed	Area Occupied (ha)	Length (m)	Width (m)	Voltage (kV)	Hazard Susceptibility (H/M/L)				
						FL	LL	TS	SS	GS
La Union Electric Cooperative Inc.	1993	6,870 ha	91 km		13.2		L			L

Source: Local Power Service Provider/LUECO

The substation of LUECO is located within the vicinity of the town, in barangay Ar-arampang with 420.00 square meter built in 1993 and a total voltage of 13.20 kv.

Table IF-90: Power Substations, Year 2017

Name of Substation	Barangay	Area Occupied (ha)	Year Constructed	Voltage (kV)	Hazard Susceptibility (H/M/L)				
					FL	LL	TS	SS	GS
Balaoan s/s	Ar- arampang, Balaoan,L.U	420 sq.m	1993	13.20					L

Source: Local Power Service Provider, LUECO



III. SECTOR ANALYSIS MATRIX

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
Limited power supply in upland barangay such as Apatut, Bungol, Guinaburan, Nagsabaran Sur	Remote barangays remain unenergized.	Introduction of new type of energy electricity generation technology in cooperation with concerned government agencies/private organizations
No power power for some residences.	Deprived access to modern amenities.	Coordinate/negotiate with Power Agencies/NEA/local electric cooperative for extension of service to these barangays.



WATER

I. SITUATIONAL ANALYSIS

The municipality’s needs for potable water is being served by the Balaoan Water District, which serves 8,315 households in the town or about 93% households as of 2015. Commercial businesses as well provide distilled and purified water for drinking. Spring water is tapped to provide communal potable drinking water within the municipality. Some water sources are drawn primarily from open and shallow tube wells through the use of water pumps. There are about 3,460 households that use shallow wells either for their own use or shared with other households.

In terms of irrigation, the locality depends from the seven (7) irrigation systems as provided by the NIA in coordination with the Municipal Agriculture Office. Other sources include streams and creeks to supply the agricultural area of the town.



COMPREHENSIVE LAND AND WATER USE PLAN
Sectoral Studies

Table 91: Level III Water Supply System by Type and Number of Population Served, Year 2017

Barangay	Year Constructed/ Developed	No. of Household	Shallow Well			Deep Well			Improved Spring			Hazard Susceptibility (H/M/L)				
			No.	HH Served		No.	HH Served		No.	HH Served		FL	LL	TS	SS	GS
				No.	%		No.	%		No.	%					
1. ALMEIDA		333		152	45.65							L				L
2. ANTONINO		185		15	8.11		21					L				L
3. APATUT		184		88	47.83							L				L
4. AR-ARAMPANG		227		40	17.62					40	51.28	L	L			L
5. BARACBAC ESTE		240		154	64.17		7	2.92				L				L
6. BARACBAC OESTE	2014	100		73	73.00		7	7				L				L
7. BET-ANG		170		69	40.59							L				L
8. BULBULALA	1998	380		172	45.26							L				L
9. BUNGOL	1978	305		41	13.44					38	68.32	L	L			L
10. BUTUBUT ESTE		205		105	51.22							L				L
11. BUTUBUT NORTE		275		177	64.36							L				L
12. BUTUBUT OESTE		147		51	34.69							L				L
13. BUTUBUT SUR		192		126	65.63							L				L
14. CABUA-AN		297		77	25.93							L				L
15. CALLIAT		300		139	46.33							L				L
16. CALUNGBUYAN		344		164	47.67							L	L			L
17. CAMILING		273		68	24.91							L	L			L
18. CAMILO OSIAS	1978	407		66	16.22		281	69.04177				M	L			L



COMPREHENSIVE LAND AND WATER USE PLAN **Sectoral Studies**

19. GUINABURAN		204		117	57.35							L	L			L
20. MASUPE		178		107	60.11							L	L			L
23. NALASIN		362		33	9.12							M	L			L
24. NAPASET		131		67	51.15							L	L			L
25. PAGBENNECAN		191		96	50.26							M	L			L
26. PAGLEDDEGAN	2015	150		81	54.00							L	L	L	L	L
27. PANTAR NORTE		316		204	64.56							L		L	L	L
28. PANTAR SUR		211		130	61.61							M		L	L	L
29. PAO		131		83	63.36							L		L	L	L
30. PARAOIR		397		32	8.06							H			L	L
31. PATPATA		335		149	44.48							H				L
32. SABLUT		199		109	54.77							M				L
33. SAN PABLO		259		145	55.98							L				L
34. SINAPANGAN NORTE		172		103	59.88							L	L			L
35. SINAPANGAN SUR		272		103	37.87							L			L	L
36. TALLIPUGO		243		124	51.03							M				L
TOTAL		8,315		3,460												

Source: Local Waterworks District



Table 92: Water Sources of Level II Water Supply System

Water Source	Barangay	Physical Condition	Hazard Susceptibility (H/M/L)				
			FL	LL	TS	SS	GS
Shallow Well	1. ALMEIDA	Fair	M	L			L
Shallow Well	2. ANTONINO	Fair	L				L
Shallow Well	3. APATUT	Fair	L				L
Shallow Well	4. AR-ARAMPANG	Fair	L	L			L
Shallow Well	5. BARACBAC ESTE	Fair	L				L
Shallow Well	6. BARACBAC OESTE	Fair	L				L
Shallow Well	7. BET-ANG	Fair	L				L
Shallow Well	8. BULBULALA	Fair	L				L
Shallow Well	9. BUNGOL	Fair	L				L
Shallow Well	10. BUTUBUT ESTE	Fair	L				L
Shallow Well	11. BUTUBUT NORTE	Fair	L				L
Shallow Well	12. BUTUBUT OESTE	Fair	L				L
Shallow Well	13. BUTUBUT SUR	Fair	L				L
Shallow Well	14. CABUA-AN	Fair	M				L
Shallow Well	15. CALLIAT	Fair	M				L
Shallow Well	16. CALUNGBUYAN	Fair	L	L			L
Shallow Well	17. CAMILING	Fair	L				L
Shallow Well	18. CAMILO OSIAS	Fair	M				L
Shallow Well	19. GUINABURAN	Fair	M	L			L
Shallow Well	20. MASUPE	Fair	L				L
Shallow Well	21. NAGSABARAN NORTE	Fair	L	L			L
Shallow Well	22. NAGSABARAN SUR	Fair	L	L			L
Shallow Well	23. NALASIN	Fair	H				L
Shallow Well	24. NAPASET	Fair	L				L
Shallow Well	25. PAGBENNECAN	Fair	M	L			L



COMPREHENSIVE LAND AND WATER USE PLAN
Sectoral Studies

Shallow Well	26. PAGLEDDEGAN	Fair	L				L
Shallow Well	27. PANTAR NORTE	Fair	M				L
Shallow Well	28. PANTAR SUR	Fair	H				L
Shallow Well	29. PAO	Fair	M				L
Shallow Well	30. PARAOIR	Fair	H				L
Shallow Well	31. PATPATA	Fair	H				L
Shallow Well	32. SABLUT	Fair	M				L
Shallow Well	33. SAN PABLO	Fair	L				L
Shallow Well	34. SINAPANGAN NORTE	Fair	L	L			L
Shallow Well	35. SINAPANGAN SUR	Fair	L				L
Shallow Well	36. TALLIPUGO	Fair	M				L

Table 93: Level II Water Supply System by Type and Number of Population Served, Year 2017

Pump ID/ Name	Barangay	Year Constructed	Pump Capacity	Water Source	Barangays Served	No. of HH Served	Physical Condition	Hazard Susceptibility (H/M/L)				
								FL	LL	TS	SS	GS
Pump No. 1	Dr. Camilo Osias	1978	3 lps	Deepwell	24	1572	Fair	M				L
Pump No. 2	Bulbulala	1998	6 lps	Deepwell	24	1572	Fair	L				L
Pump No. 3	Baracbac Oeste	2014	2 lps	Deepwell	24	1572	Fair	L				L
Pump No. 4	Pagleddegan	2015	10 lps	Deepwell	24	1572	Fair	L				L
Spring Source	Nagsabaran Sur	2008	2 lps	Spring	24	1572	Fair		H			L
Spring Source	Bungol	1978	1 lps	Spring	3	1572	Fair		H			L

Source: Local Water District



Table 94: Level III – Local Waterworks System by Type and Number of Consumers and Average Water Consumption, Year 2017

Name of Barangays Served	Type of Consumer					
	Domestic		Commercial B		Commercial A	
	No. of Connections	Ave. Water Consumption	No. of Connections	Ave. Water Consumption	No. of Connections	Ave. Water Consumption
1. Antonino	163	18	16	12	6	52
2. Ar-arampang	39	13			1	10
3. Baracbac Este	7	10				
4. Baracbac Oeste	7	10				
5. Bet-ang	53	13				
6. Bulbulala	127	14				
7. Bungol	38	13				
8. Butubut Oeste	35	14	1	10		
9. Butubut Sur	16	14				
10. Cabua-an	133	16	3	13	4	75
11. Calungbuyan	63	14	1	10		
12. Camiling	1	10				
13. Camilo Osias	255	19	13	13	13	50
14. Masupe	8	12	1	10		
15. Nagsabaran Norte	99	13				
16. Nagsabaran Sur	4	12				
19. Pagbennecan	52	13				
20. Pagleddegan	24	11				
21. Pantar Norte	16	13				
22. Pantar Sur	15	14				



COMPREHENSIVE LAND AND WATER USE PLAN

Sectoral Studies

23. Pao	4	10				
24. Patpata	89	14				
25. Sablut	10	13				
26. San Pablo	22	13				
27. Tallipugo	9	11				
TOTAL	1,289		35		36	

Source: Local Water District

Table 95: Water Distribution Line

Pipeline ID	Ownership	Water Pipeline Diameter	Type of Pipe Material	Year Established	Physical Condition	Hazard Susceptibility (H/M/L)				
						FL	LL	TS	SS	GS
1	Public	8"	PVC	2017	Fair	L	L			L
2	Public	6"	PVC	2017	Fair	L	L			L
3	Public	4"	P.E/PVC/PCI	2008/2015/1978	Fair	L	L			L
4	Public	3"	PVC	2000	Fair	L	L			L
5	Public	2"	PVC	2012	Fair	L	L			L
6	Public	1 1/2"	PE	2015	Fair	L	L			L
7	Public	1 1/4"	PE	2012	Fair	L	L			L

Source: Local Water District



II. CURRENT AND PROJECTED NEEDS

Being a highly urbanizing municipality and losses water supply within the urban areas during summer, this only denotes that the municipality of Balaoan has to prepare for the future especially with regards to providing domestic water use.

By year 2028, the local water utility should seriously work with the local government unit as well as the households uses deep well should address this future need specially in locating for source of water and other possible interventions.

III. SECTORAL MATRIX

Table 96: Water Analysis Matrix

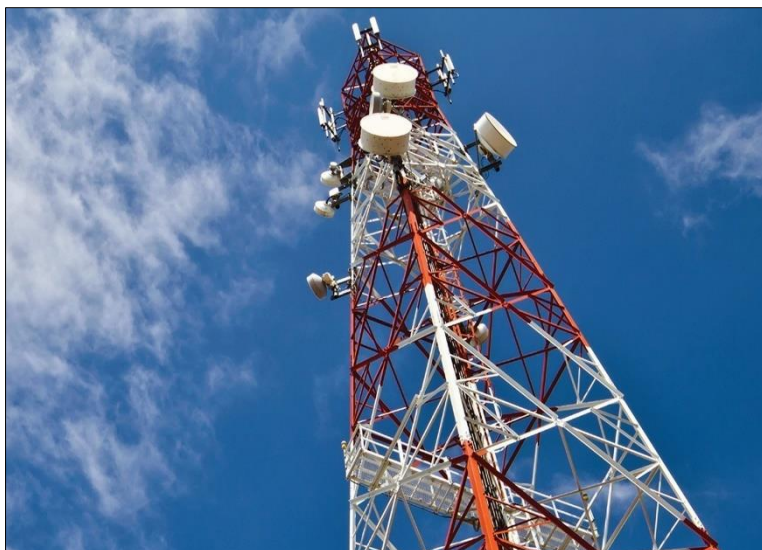
Technical Findings/ Observations	Implications (Effects)	Policy Options/ Recommendations
Insufficient water to supply the Poblacion area and other barangays during summer of type III Water Supply	Expensive cost of water	Develop potential water sources Coordinate with local water district to increase water pressure/supply in the area during summer.



INFORMATION AND COMMUNICATION TECHNOLOGY

I. SITUATIONAL ANALYSIS

The town of Balaoan is now fully equipped with Communication Technology compared with the past years where there are only a few connection of telephone lines and only a number of telecommunication facilities. The Philippine Long Distance Company, Smart



Communications, Globe Telecom, Sun Cellular, and other providers are now operating business in the municipality which are a good sign of progress in terms of information and communication facilities.

Postal office renders services in the locality with their communication needs especially in the rural areas that cannot be reached by telecommunication and internet connection services.



The municipality postal station is located at the side of Balaoan Farmers Civic Center of Barangay Antonino, Balaoan, La Union under the management and supervision of the Philippine Postal Corporation. Aside from the telecommunication companies and postal services, newspapers and reading materials for sales as well, provide information to the locality.

To those who can avail/afford, they use the internet for their communication.



II. CURRENT AND FUTURE NEEDS

It is expected that while we have a high technology, there are expected problems along with it such as occurrence of low signal which bothers internet and cellular phone users.

With this scenario, the local government unit of Balaoan will coordinate with the private telecom and internet provider to upgrade/repair facilities to prevent interruption in order to address the needs of the increasing population of the municipality by the year 2028.

III. SECTOR MATRIX

Table 97: Information and Communication Services

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
Great acceptability for cell sites	Low economic investment	Advocacy for more social acceptability of telecommunication facilities
Unstable quality of signals for cellular phones and internet access.	Increase in expenditures related to communications	Provision of additional cell sites/repair of existing cell sites



SPECIAL STUDY AREAS



GREEN GROWTH AND URBAN DESIGN

I. INTRODUCTION

GREEN GROWTH is the means by which current economy can make transition to sustainable economy while reducing pollution and greenhouse gas emissions, minimizing waste and inefficient use of natural resources, maintaining biodiversity, and strengthening energy security. As a new model of economic growth, targeting poverty reduction, job creation and social inclusion.

The sustainability of municipal growth depend upon its commitment to protecting and strengthening its unique assets. The advantages of natural endowment provides rich water resources, fertile land and unparalleled biodiversity-are under threat from the spread of inefficient land use and deforestation.



Using sector by sector approach here is the Economic Sector Matrix Analysis.

ECONOMIC SECTOR ANALYSIS

Technical Findings/Observation	Implications (Effects)	Policy Options/Interventions
AGRICULTURE <ul style="list-style-type: none">Increasing rate of land use conversion/reclassification into residential, commercial and other land usesExpensive agricultural equipment/facilitiesExcessive use of chemicals/insecticide	Food scarcity in agricultural production Low income for the farmers Unsafe vegetable for consumption	Strict implementation of the zoning ordinance Support/ programs of the locality or national agencies concern for the farmers Intensify campaign for organic farming
SOCIAL <ul style="list-style-type: none">Absence of senior citizen care center in the barangay.Limited space to be used as playground in the child development centers.Presence of old and dilapidated child development centers.	Unmet senior citizens need for socialization and more active community involvement. Unconducive place for learning for day care children.	Establishment of a Senior Citizen center in the barangay. Repair and improvement of day care centers.
ECONOMIC <ul style="list-style-type: none">Increase traffic volume and inadequate parking areas.Conflicting economic activitiesIncrease in the number of agricultural land reclassification application	Areas are prone to traffic accident Traffic congestion. Low income for the LGU Considerable decrease in agricultural production	Implement a workable traffic improvement plan Proposed additional parking areas. Strict enforcement of CLUP/Zoning Ordinance Strict implementation on the compliance to the legal mandates on land reclassification



II. GREEN GROWTH DEVELOPMENT PROGRAMS AND PROJECTS

A. GREEN SPACE

1. RECREATION

Parks and Plaza are emerging as important public health solutions that support human health and wellness. The research about active living and opportunities to avoid chronic disease is particularly relevant to parks where people can enjoy walking and bike paths and playing fields. Nature spaces like this has the following benefits.

- Improve general mood and attitude
- Stress reduction
- Better mental health and functioning
- Improved mindfulness and creativity



With the new face of the Public Plaza, one can't say no but to stay and spend a few moments to look at the picturesque view and take some snap shots of the place. The new landscape and greenery, the remodelled tree house and the installation of the **I LOVE BALAOAN** monument truly make the place inviting.



COMPREHENSIVE LAND AND WATER USE PLAN
Special Study Areas

APALENG PARK was developed by Barangay Butubut Norte. The place is a good venue for picnic, site-seeing and boating. Picnic shades are available for rent. The area also showcases environment-friendly practices.



Barangay Butubut Norte being the National Champion in the Search for Best Implementer of the Solid Waste Management Program of the National Government in 2008



2. EROSION CONTROL

Soil Erosion is the displacement of the upper layer soil, one form of soil degradation. The natural process is caused by water, wind, plants, animals and humans. It may be a slow process that continues relatively unnoticed, or it may occur at an alarming rate causing serious loss of top soil.

Shore erosion

Riprap is commonly used to protect soil from erosion in the areas of concentrated runoff. It consist of the layer of very large stones interlocked together and acts as a barrier on the slopes that are unstable because of seepage problems or in areas that are receiving a large concentrated flow. Riprap can be used to stabilize slopes to prevent erosion and provide support. Where it sometimes is used to stabilized slopes and prevent erosion include bridges, drainage structures, grade stabilization structures, stream banks.



COMPREHENSIVE LAND AND WATER USE PLAN
Special Study Areas

These are some mitigation and preventive measures done by municipality of Balaoan to address erosion problem.

**TREE PLANTING/
MANGROVE
PLANTING activity**
done by municipality of
Balaoan for Greening
Projects





Riprapping of Canals and Creek, including Farm Slope Protection are projects of municipality for erosion control. Yearly inspection of these projects was being implemented and its rehabilitations are topmost priority.



B. EFFICIENT WATER FIXTURE

Rainwater Harvesting You’ve heard that rainwater harvesting is a great way to increase the sustainability quotient in your eco-friendly garden, but if you’re like most of us, you don’t know exactly why. Here are some of the major ways you align with Mother Earth when you capture rainwater for on-site use

Rainwater harvesting is a great way to:

- Drought-proof, flood-proof, and fire-proof your garden;
- Restore the hydrologic cycle;
- Recharge groundwater;
- Reduce your carbon footprint;
- Maintain healthy soils;
- Keep your garden lush and healthy;
- Lessen the effects of wet and dry spells;
- Mitigate impacts of climate change;
- Utilize recycled materials

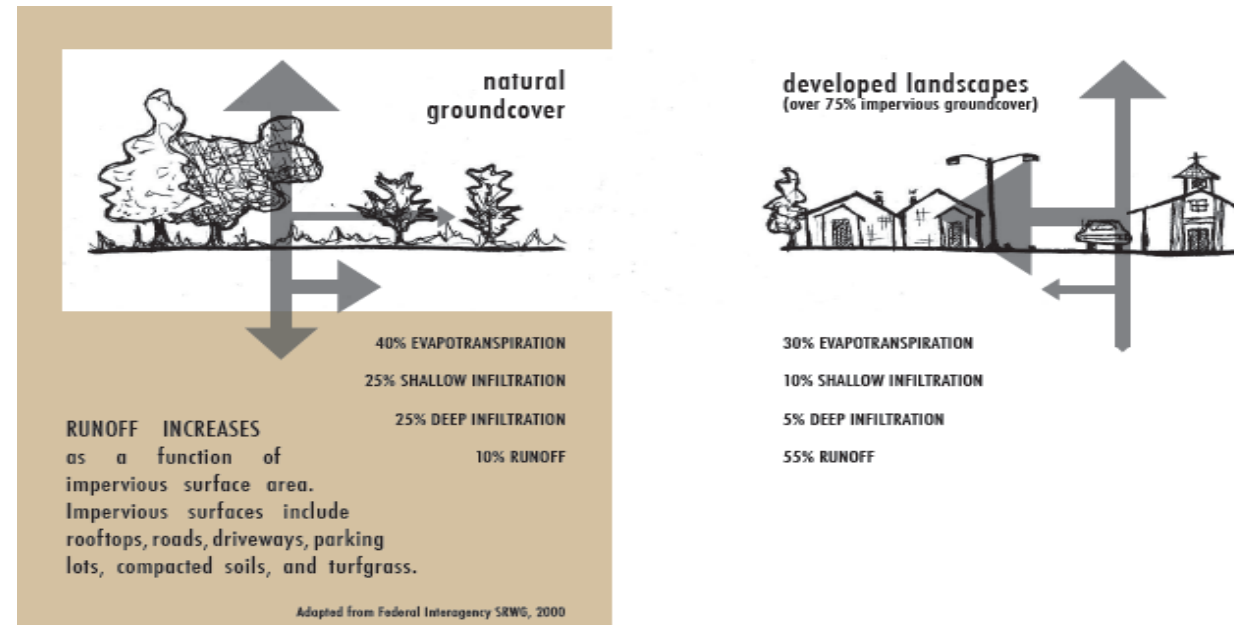




COMPREHENSIVE LAND AND WATER USE PLAN

Special Study Areas

- **Reduce your Draw on Stressed Systems (Conserve Water):** Aging water infrastructure is expensive to update, and groundwater and reservoirs are often overdrawn. When you supply a portion of your own water from the rain that falls on your roof, you reduce your draw on these stressed systems.



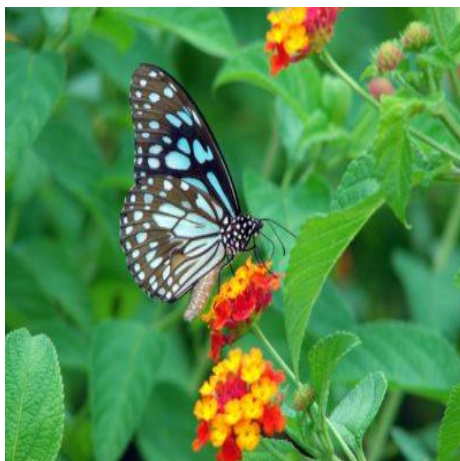
Restore the Hydrologic Cycle (Reduce Storm water Impacts & Recharge Groundwater): In a natural landscape, approximately 50% of storm water infiltrates into the ground, recharging groundwater. About 40% evaporates, and only 10% runs off. In developed landscapes by contrast (e.g. our neighborhoods!), only 15% infiltrates and a whopping 55% runs off! This is because water can't penetrate the hardscape in a developed environment (roads, rooftops, parking lots, etc.). When you collect rainwater for use in your garden, you reduce storm water impacts by holding water on-site rather than letting it run off. As you release it later (when the ground is no longer saturated), you allow that water to sink back into the ground where it belongs – hydrating soils and recharging the groundwater beneath us. In other words, you fix the broken hydrologic cycle by restoring the infiltration link



- **Protect your Local Watershed (Reduce Pollution & Erosion):** When rainwater infiltrates onsite, it is filtered naturally by the earth, and is prevented from entering storm drains and surface waters as polluted runoff. Left unmitigated, rainwater sheets off hardscapes collecting contaminants along the way. When storm water runs heavy, it causes stream banks to erode as well, causing further damage to our sensitive waterways and wildlife habitat.
- **Reduce your Carbon Footprint (Mitigate Climate Change by Reducing Energy Use):** There is a strong link between energy and water in our modern world. By reducing your reliance on pumped and treated water sources, you are contributing to a collective savings in energy.



- **Increase the Health of Your Garden (Mitigate Climate Change with Healthier Plants & Soils):** It's no coincidence that plants love rainwater better than any other water source. Not only is rain free of the salts, chemicals and minerals found in other water sources; by nature's design it has the perfect pH balance and nitrate delivery, ready for uptake by your thirsty garden. Benefit from the beauty of a healthy garden ecosystem, while the earth benefits from all that a healthy garden provides... including cleaner air, carbon sink, pollinator habitat, and more!



This practice was already introduced in Balaoan, The Public Market was installed with a rain harvester. Other schools also benefit with this kind of project DMMMSU Paraoir National High School, Almeida, Bulbulala, Central and Patpata Elementary School Funded by DPWH. LGU-Balaoan is looking forward to educate other establishments with this kind of project.



C. CROP ROTATION





CROP ROTATION is the practice of growing a series of different types of crops in the same area in sequenced seasons. It is done so that the soil of farms is not used for only one set of nutrients. It helps in reducing soil erosion and increases soil fertility and crop yield.

Major crop in Balaoan are as follows rice from the month of June to October followed by corn and tobacco from November to May. Vegetable crops are in line with rice and some during tobacco season.

Production of vegetable to that of the municipality's requirement, the municipality have no problem on vegetable supply because the municipality is producing more than what it can consume and also backyard farming is a big help to the populace of Balaoan, which is one of the municipality's go green program for every barangay. As to the other products, we really need to import products from outside the locality.



URBAN DESIGN

I. INTRODUCTION

URBAN DESIGN principle applied to a town can enhance appearance, transportation, public space along streets between the private property lines and location decisions about specific civic and private land uses. Property values should increase as well.

Urban design principle especially emphasizes what is apt to be called the public space. This public realm includes the street, sidewalk as well as civic buildings, parks and green ways.

Urban Design tends to be defined in terms of objects, patterns, textures, repetition, themes and disparate elements that one might observe from street.





II. RATIONALE

Sustainable urban development plays a vital role in developing the Municipality of Balaoan. Not only it enhanced the physical design (architectural landscape) of the town but helps the people understand how it is done.

The municipality is composed of thirty six (36) barangays. Barangays Antonino, Cabua-an Oeste, Dr. Camilo Osias and Nalasin are considered as urban barangays while the remaining thirty-two (32) barangays are considered rural. Presently, the contiguous built-up portions of the urban barangays are the center of urban activities in the municipality.



Per NSO Data 2015, the urban barangays have 5,360 population comprising 14 % of the total municipal population and an average household size of about four (4) persons.



With this densely populated area, the increasing need of urban design is highly recommended. With the participation of authorized Municipal professionals and stakeholders, urban development design will be discussed thoroughly that will deliver excellent design and planning and other types of methods relative to development design will be discussed thoroughly that will deliver excellent design and planning and other types of methods relative to urbanization. Discussion in urbanization will include, but not limited to:

1. Reconstruction of dilapidated and obsolete structures.
2. Re-assessing and re-designing the traffic management to assure 100% economic activities.
3. Identify and enhance the role of the public space for development.
4. Mitigation measures to sustain the urban development.

Through the years, urbanization is a link towards the development of one Municipality. It is a tool in alleviating the lives of the community and its people. It provides not only economic development to the town but to the social structure as well.



III. GOALS AND OBJECTIVES:

Balaoan’s vision is “Balaoan shall be a major agri-tourism destination in La Union sustained by a progressive economy, steered by dedicated leaders with an empowered and resilient community in an ecologically-balanced and safe environment.”

With this vision, urban planning and design can assist the Municipality in achieving its goal towards urban development and green growth. In the current state the Municipality aims to:

- Improve production of the existing urban barangay.
- Improve provision on infrastructure.
- Utilize with a sustainable design the urban land used.
- Incorporate urban environment to the existing and proposed urban areas.
- Improve the traffic management in the central business district.
- Alleviate the existing poverty incidence in the urban area
- Incorporate and adapt disaster resiliency design in all urban areas.





IV. METHODOLOGY:

Achieving such goals and objectives will be not be easy. Specific methods or study for each goals are needed in completing these tasks. Such methods are, but not limited to:

1. Urban problems and intervention:

Knowing the issues on each urban areas is winning half the battle. Assessing the current situation and the degree of social impact in the urban setting will help the planning team design a more suitable community.

2. Suitable and unsuitable urban areas for urban land use:

Using latest technology and different applications, the planning team will be able to delineate and differentiate suitable to unsuitable land areas for development. With its current topographical characteristics, Balaoan is a ridge-to-reef municipality. The four urban areas have the same characteristics where it has a flat terrain. Using the QGIS mapping and datas from DENR-MGB, the MDRRMO where able to illustrate areas with susceptibility to flooding.



3. Future urban land requirement:

Demography data illustrate the central business district, barangay Nalasin, is currently have the highest population density among the 4 urban barangays. From the NSO/PSA population data of 2015, it shows that the population density in this area is at 44 persons per hectare. Using the geometric method provided by the Housing and Land Use Regulatory Board (HLURB) and projecting future population, the population density of this barangay will increase to 49 per hectare within 10 years. Surely, the need for another urban area will be required in the future.

4. Urban Needs Assessment:

a. The Urban Character

By definition, urban character is mostly the criteria used when urbanites seek to compare and identify the most livable city places. City/Municipality public elements that are establish the city/municipality's unique style and which promote health, access, knowledge and culture contribute to the admirable character of places. Some of these elements are:

- **Parks, plazas and greenbelts:**

Spaces that are uncluttered offers a wide range of possibilities. It can be use and provision as a space for water management, sports and recreation, infrastructure development or just simply preservation of its natural habitat and use it for eco-tourism.





COMPREHENSIVE LAND AND WATER USE PLAN

Special Study Areas

The Municipality's Panagyaman Festival is being held at the Balaoan Farmers Civic Center. The Civic Center has an area of 3,000 square meters and base from the standard ratio of 500 sq.m. per 1,000 population, the plaza can accommodate at 6,000 at one time.

To date, at least 43 basketball courts have been accounted for in the Municipality. This recreational facility can also be use as gathering station during barangay fiestas. The Balaoan Farmers Civic Center houses the only covered basketball court and also use for any indoor gatherings or festivities.

Another great thing about Balaoan is that it is an agricultural Municipality. It has at least 56.33% of the total land area dedicated to farming alone. It also have a Demo-Farm that can enhance and train farmer with the latest technology and knowledge in natural and organic farming.



MUNICIPALITY OF BALAOAN, LA UNION

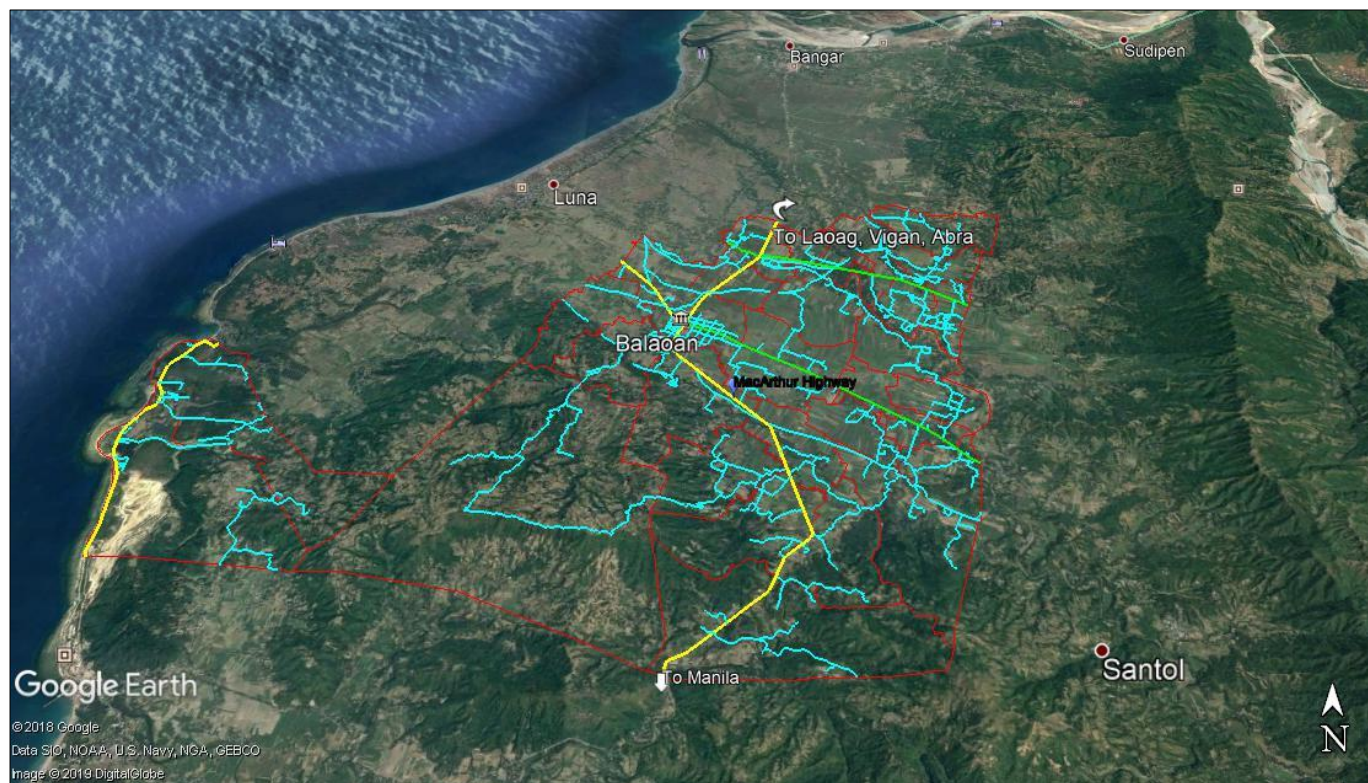
CY 2018 - 2028



- **Accessibility:**

Road accessibility is very vital in any city/municipality's productivity and development. It dictates how fast and efficient transporting any products of any individual, group or corporation.

Balaoan is geographically located 300 kms North of Manila and the MacArthur Highway is the main thoroughfare of anyone who will travel down North. It is the main access road of Balaoan going in and out of Manila and Ilocos Province.



To date, these are only the following routes to whomever want to visit or live in Balaoan.

- Balaoan – Manila, Cubao, Pasay (vice-versa) via MacArthur Highway
- Balaoan – Laoag, Vigan, Abra (vice-versa) via MacArthur Highway



b. Existing Land Use Evaluation

Balaoan has at least 87% uncluttered space which comprises of Forest, Farm and Pasture Lands. Some of this open spaces are ideal for the expansion of development thrust of the Municipality, but conversion of such lands should be controlled. The National Water Code of the Philippines dictates that there are specific easement and no build zone provisions along the river banks of Balaoan River and its tributaries. Rather than creating built-up areas, trees and mangroves should be planted instead to conserve and preserve its natural resources.

The central business district (Nalasin) of the Municipality is the densest urban barangay thus development or construction of additional buildings are no longer advisable. Building code of the Philippines should be strictly followed to prevent degradation of the environment and prevent loss of lives. To date, strategic development should be applied and maximize the other urban barangays or develop and add urban Barangays for expansion.

- **Economy:**

To date, you can spot the difference of the central business district years ago. Even private individual have competed with the public market and constructed their own building for other entrepreneurs.

Unregulated and sprouting vendor are very visible in the market area resulting traffic congestion in the inner streets of Balaoan. Access roads are clogging due to delivery vans and public transportation who park their vehicles along the busy streets. This result could have been avoided if only public control are planned and organize with the cooperation of all stakeholders as well.

Community decision that should be taken in account as well are education, social welfare programs and public information for awareness.



- **Peace and Order:**

Peace and Order is vital in continuing economic growth, social order and political stability. Crime rate in the municipality is low. This is the result of the joint efforts of the local police and barangay council of the central business district and its neighboring barangay. Peace and Order condition reflects the growth of economy in the Municipality thus resulting to more employment opportunities and enticing entrepreneurs to invest in Balaoan.

Economic development is a sustainable decisions of policy makers and communities from which promotes the standard living and economic health of the Municipality. It is but obvious that the central business district have come a long way in terms of economic growth and stability. Police visibility in the area created a peace of mind for all individuals and made it very viable for investors.

5. Urban Problems:

- **Waste Disposal**

The Sanitary landfill of the Municipality has a land area of at least 6 hectares which is more than enough land demand for the next ten years base the projected population and WACS data computed by the Solid Waste Management Officer. As per Republic Act 9003, Balaoan is now into waste segregation and only those residual waste are being collected except at the public market.



- **Traffic Management**

Due to the economic development of the central business district, public transportation demand has increase. Tricycle is the mode of transportation within the interior roads of the Municipality. With this increasing number of public utility vehicle within the town, terminals, parking zone and traffic have been an increasing issue. Interventions have to be made and proposals have been design to sustain not only the economic growth but the traffic management as well.

- **Insufficient Parking Area/Zone**

With the increase of public transportation, parking area in the central business is an increasing concern not only for the people of Balaoan but also for the neighboring townspeople who wishes to either buy their daily sustenance in the public market. Tuesday, Friday and Sunday are the market day in the Municipality and during these days where volume of vehicles are heaviest.

- **Housing**

Barangay Nalasin is the central business district of the Municipality. Base from the geometric method in computing the projected population, it projected population at 2028 is at 1,621 individuals from the base year of NSO/PSA 2010 data. Its land area is at 33.05 hectares only. With this data the projected population density is at 44 individuals per hectare which makes it the densest urban barangay. In addition, there are recorded 2 informal settlers in the barangay alone. This population are part of the housing needs projected by the planning team.



6. Urban Design and Management

Commerce and Trade:

The Municipality of Balaoan actually has 4 neighboring towns, but the closest are the Municipality of Luna, Bangar and Santol. The other neighboring Municipality is Bacnotan.

Balaoan has an average income of Php 138,445,445.34 for the past five years. There are currently 1,005 recorded commercial establishment in the Municipality including 2 resorts and 2 gasoline stations. To date, the San Pablo and Calliat Multi-Purpose Cooperative are the only recorded cooperatives in Balaoan.

For products and services, please refer to the Profile section of the Municipality.

An automated Teller Machine (ATM) of the Land Bank of the Philippines is available and situated at the Municipal Hall. Other services such as vulcanizing shops, motorcycle shops, air-condition and electrical shops as well as car workshop are available within Balaoan.

7. Creating a Sustainable Municipality



COMPREHENSIVE LAND AND WATER USE PLAN

Special Study Areas

Sustainable Development is defined meeting the human development goals while sustaining the ability of the natural systems to provide the natural resources and ecosystem services upon which economy and society depends.

In simplest term, Sustainable Development is providing the needs of community and it demands while preserving and conserving the natural resources within the community.

Sustainable Development is and will always be a growing concern to any city or municipality. Study showed that, to date, one have to sacrifice a sector to achieve any development in the Philippines.

Balaoan aims to achieve its goal in becoming the Agri-Tourism and Agri-Business center of the Province of La Union without sacrificing and sector in attaining it. With its peace loving and environmental friendly community, Sustainable Development is every Balaoanians perspective.





COMPREHENSIVE LAND AND WATER USE PLAN

Special Study Areas

Future Development Project in the Municipality of Balaoan:

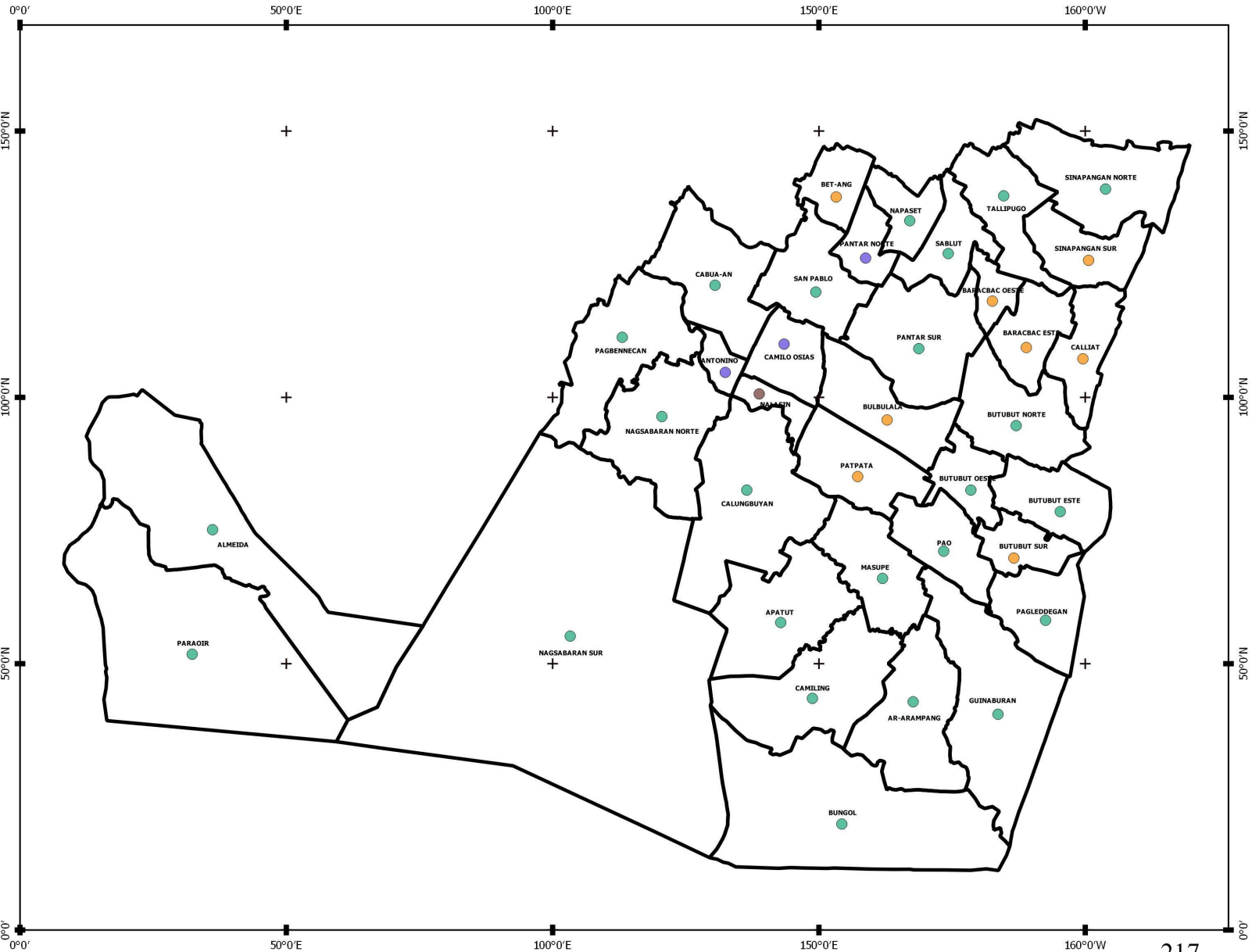
Future is indeed looks brighter for Balaoanians. Entrepreneurs and investors see potential growth in Balaoan. Living up with sustainable development growth of the Municipality, the following are the future development projects:

- Rural Health Unit Building 2
- Municipal Evacuation Center
- New Childrens Park
- Convenience Store, Fast Food Restaurants and Gasoline Stations
- Philippines National Police and Bureau of Fire Protection Office Building.
- Municipal Motor Pool
- Satellite Markets



This are some important projects to look forward to in the next 10 years and possible more, especially investors who would want to risk and give Balaoan a try.

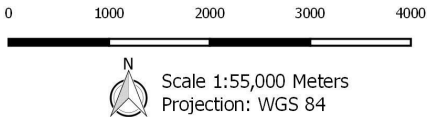
Annex 1



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

**COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028**

POPULATION DENSITY MAP



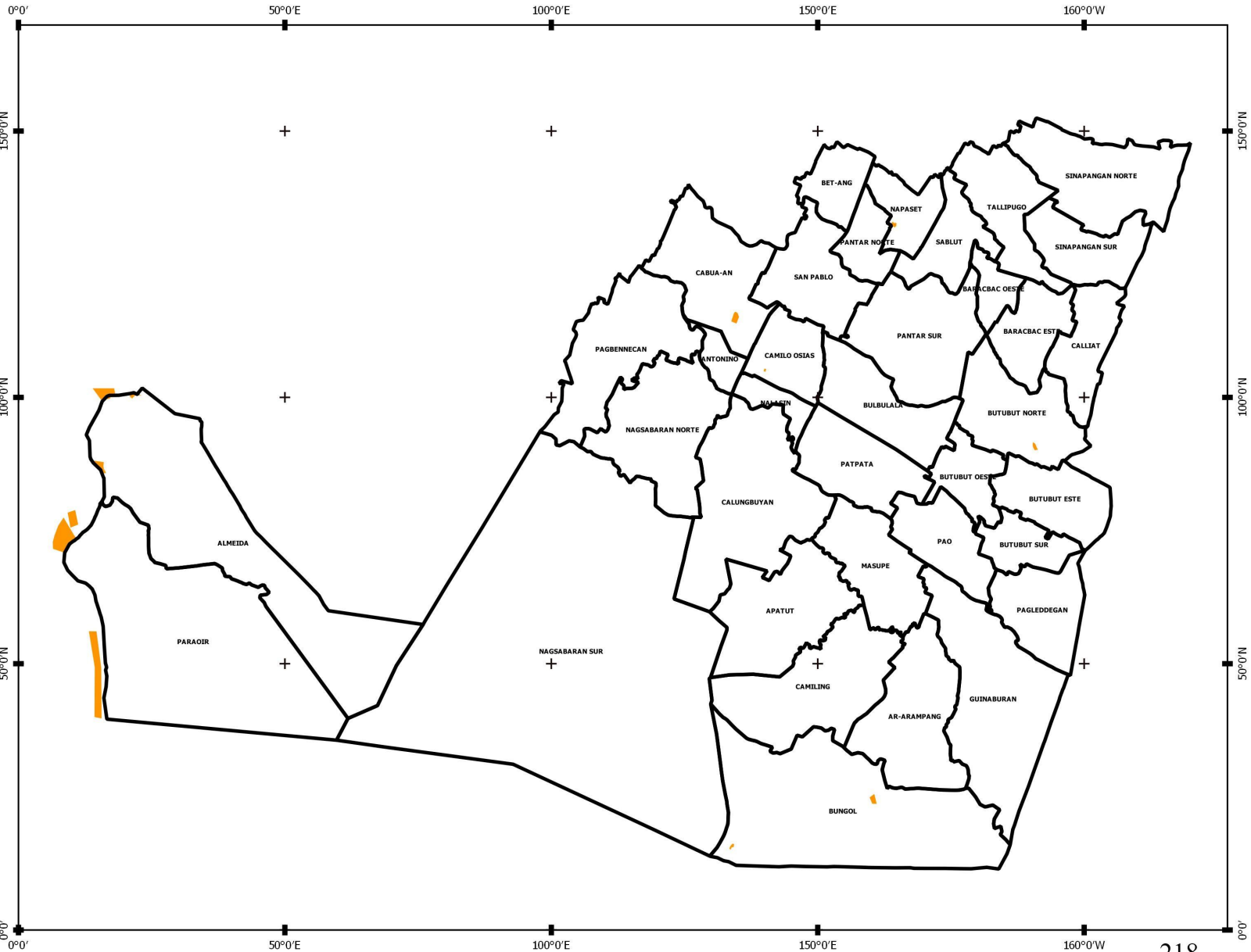
Legend

- Barangay Boundaries
- 0 to 10 persons per hectare
- 10.1 to 20 persons per hectare
- 20.1 to 30 persons per hectare
- 30.1 to 40 persons per hectare
- 40.1 to 50 persons per hectare

Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

Annex 2



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028

EXISTING TOURISM LAND AND
WATER USE MAP

0 1000 2000 3000 4000



Scale 1:55,000 Meters
Projection: WGS 84

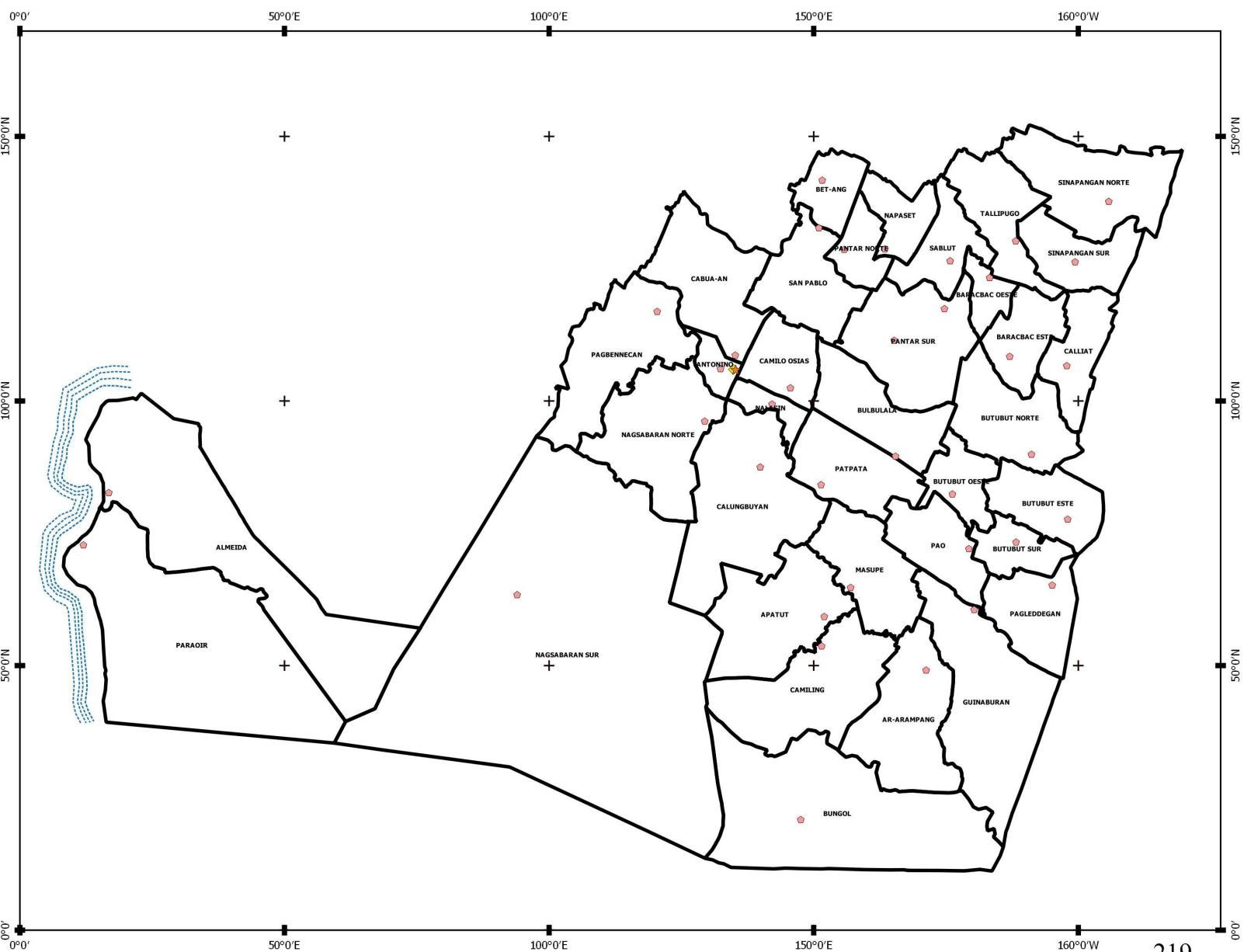
Legend

- Barangay Boundaries
- Tourism Area

Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

Annex 3



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

**COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028**

**SOCIAL SERVICES FACILITIES
LOCATOR MAP**

0 1000 2000 3000 4000

Scale 1:55,000 Meters
Projection: WGS 84

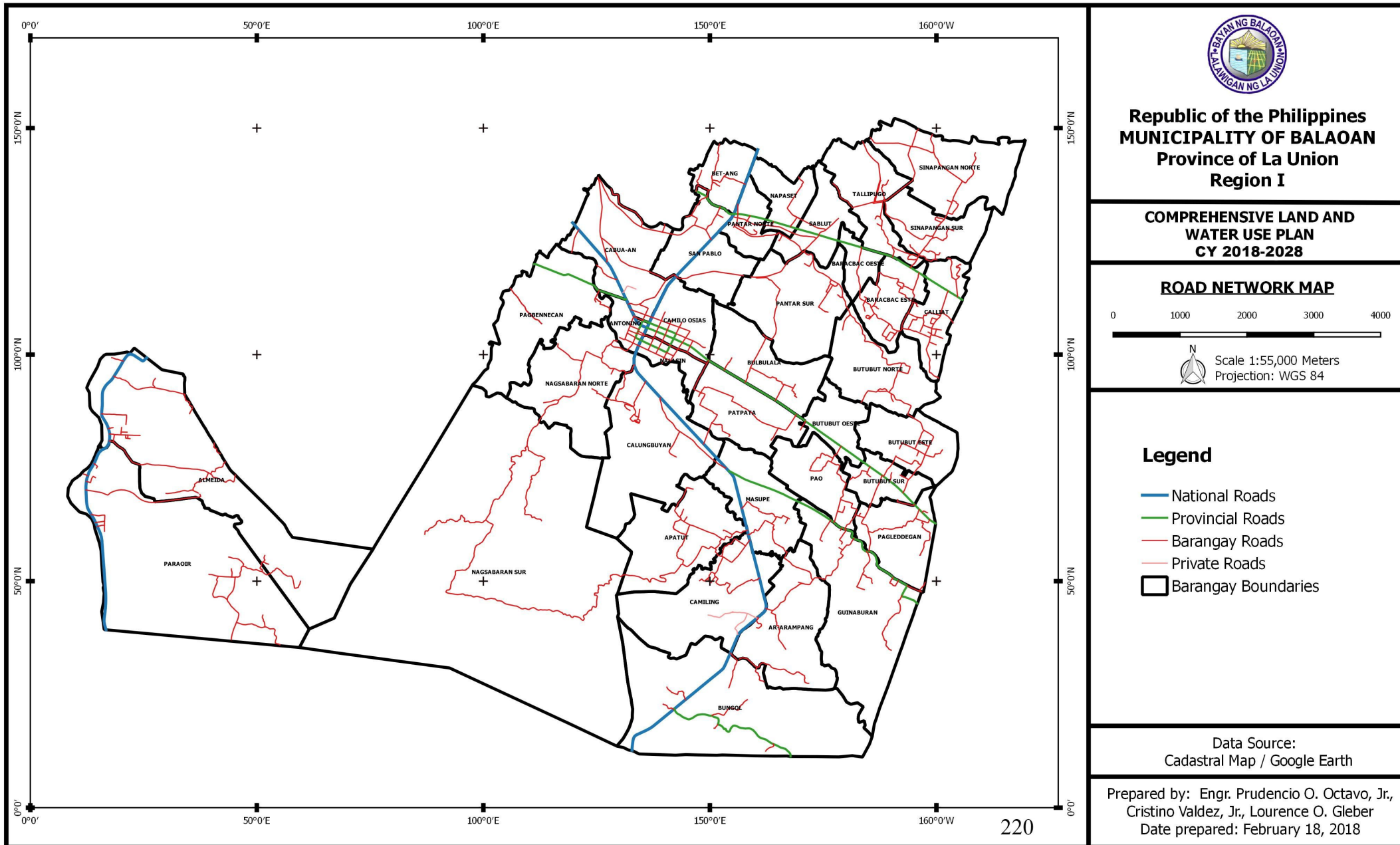
Legend

- Barangay Boundaries
- Municipal Hall
- Day Care Centers
- Senior Citizen Center Senior
- West Philippine Sea

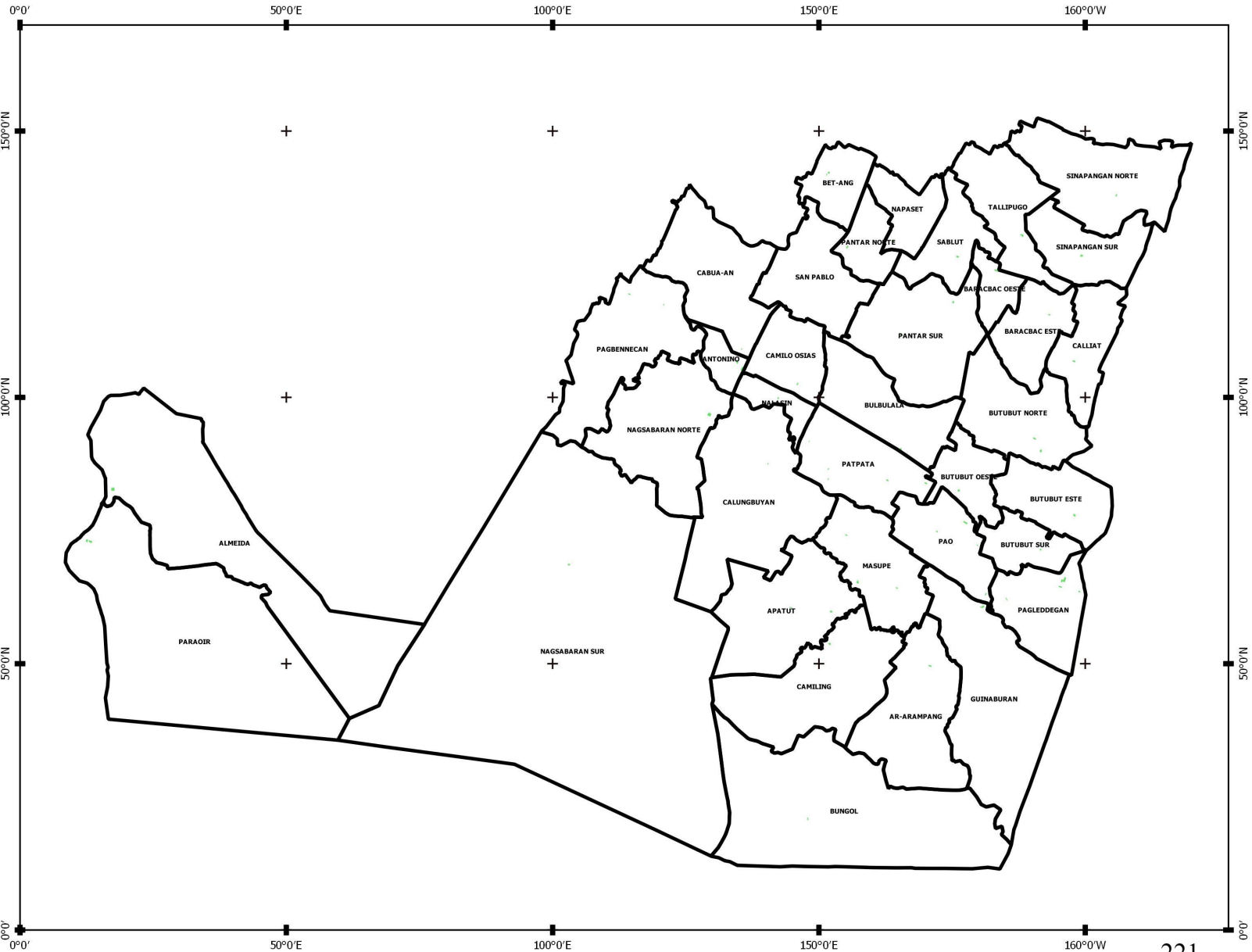
Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

Annex 4



Annex 5



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

**COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028**



**EXISTING PARKS & RECREATION
LAND USE MAP**

0 1000 2000 3000 4000



Scale 1:55,000 Meters
Projection: WGS 84

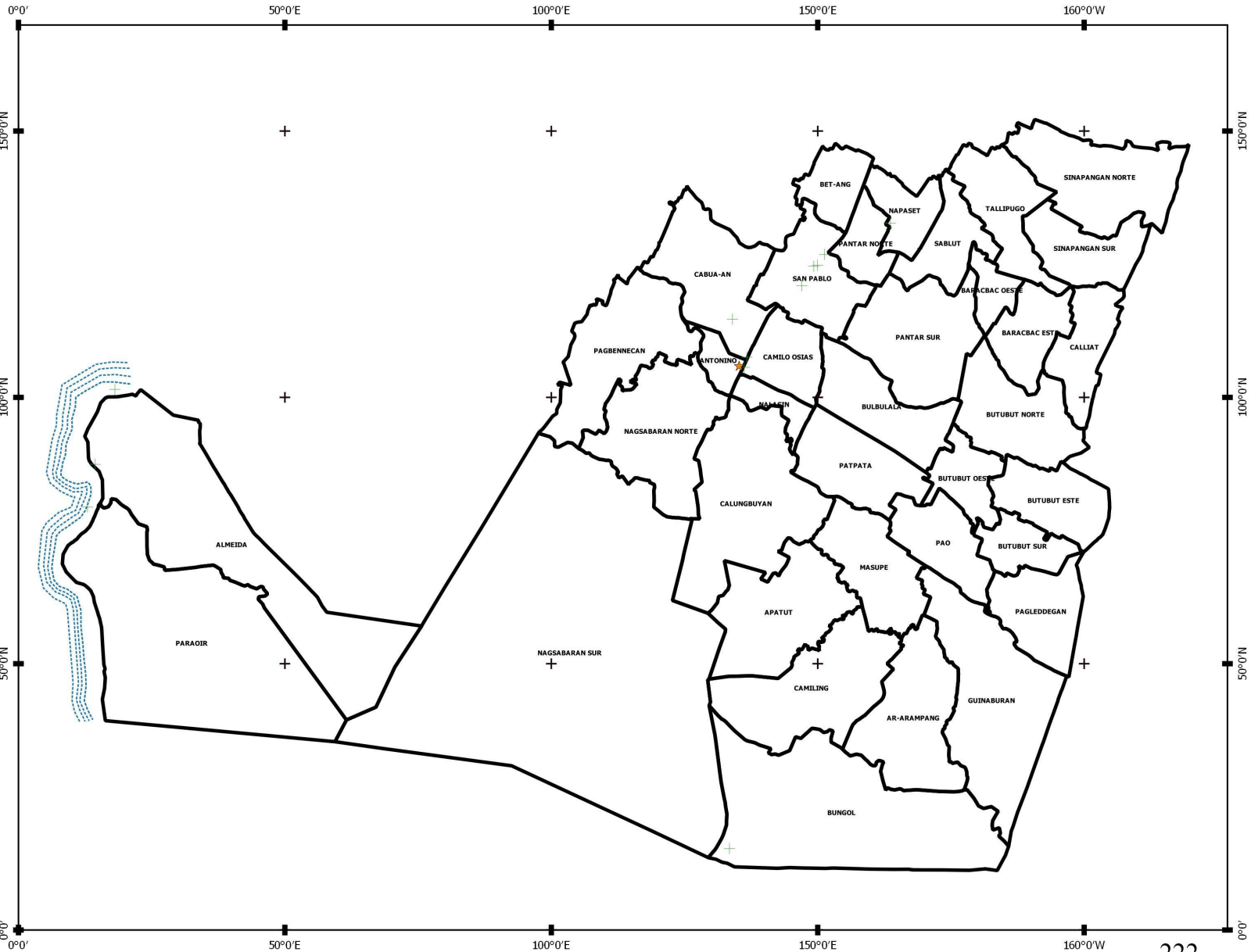
Legend

-  Barangay Boundaries
-  Parks and Recreation Area

Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

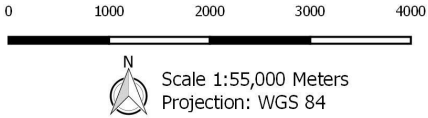
Annex 6



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028

LOCATOR MAP:
TOURISM SITES AND ESTABLISHMENTS



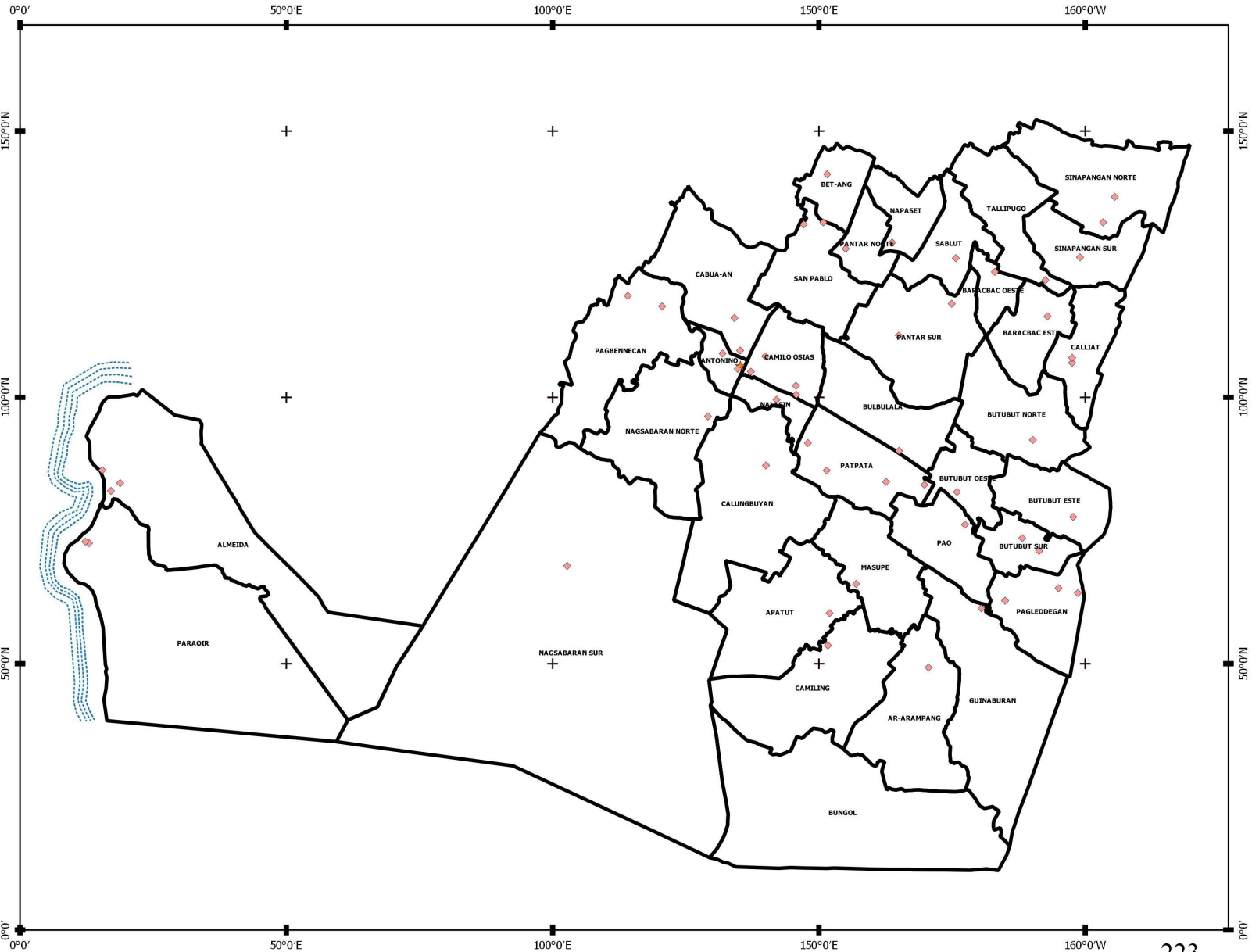
Legend

- Barangay Boundaries
- Municipal Hall
- Tourism Sites and Establishments
- West Philippine Sea

Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

Annex 7



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028

LOCATOR MAP:
SPORTS AND RECREATION FACILITIES

0 1000 2000 3000 4000



Scale 1:55,000 Meters
Projection: WGS 84

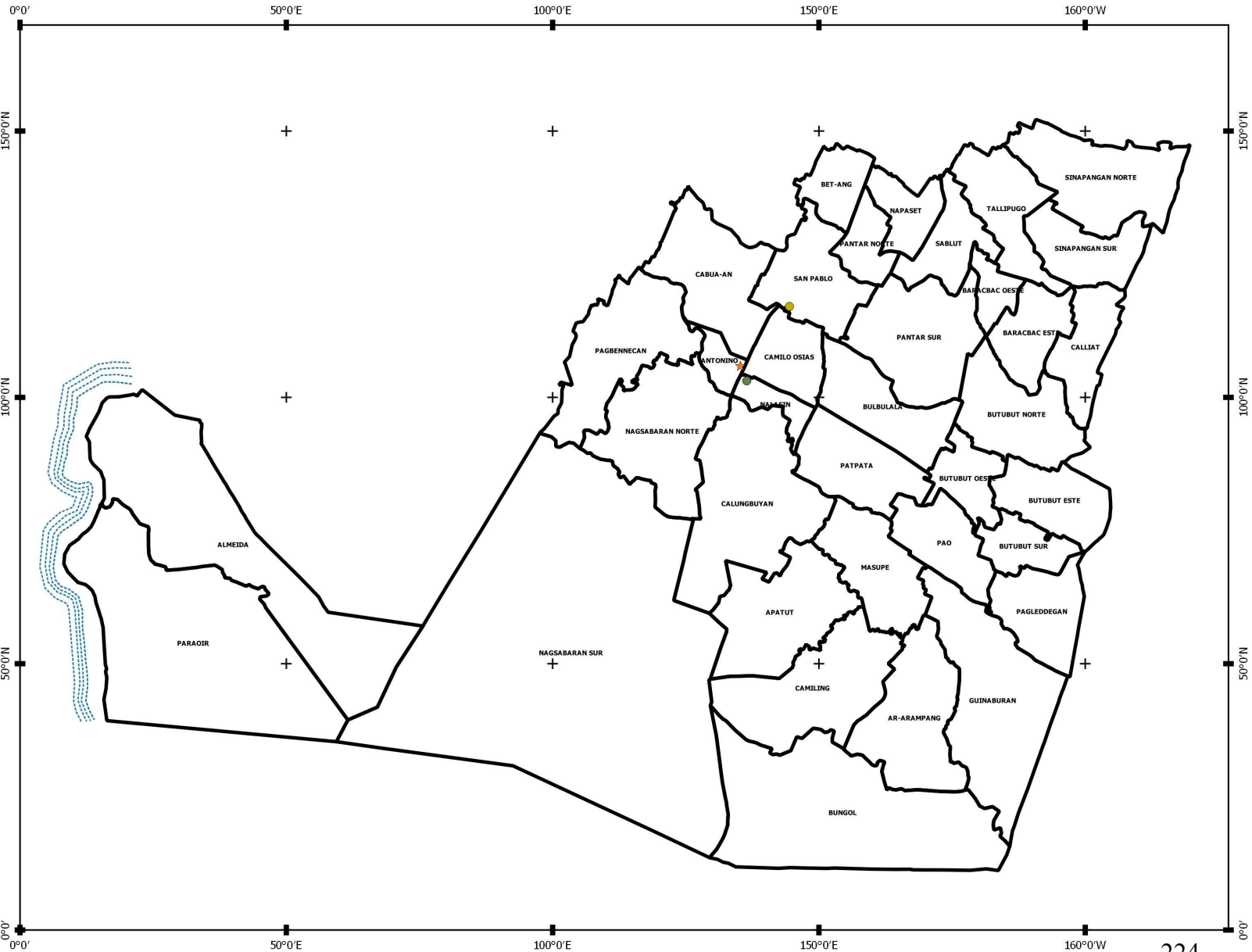
Legend

- Barangay Boundaries
- Municipal Hall
- West Philippine Sea
- Sports and Recreation Facilities

Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

Annex 8



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

**COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028**

**LOCATOR MAP:
SLAUGHTER HOUSE & PUBLIC MARKET**

0 1000 2000 3000 4000



Scale 1:55,000 Meters
Projection: WGS 84

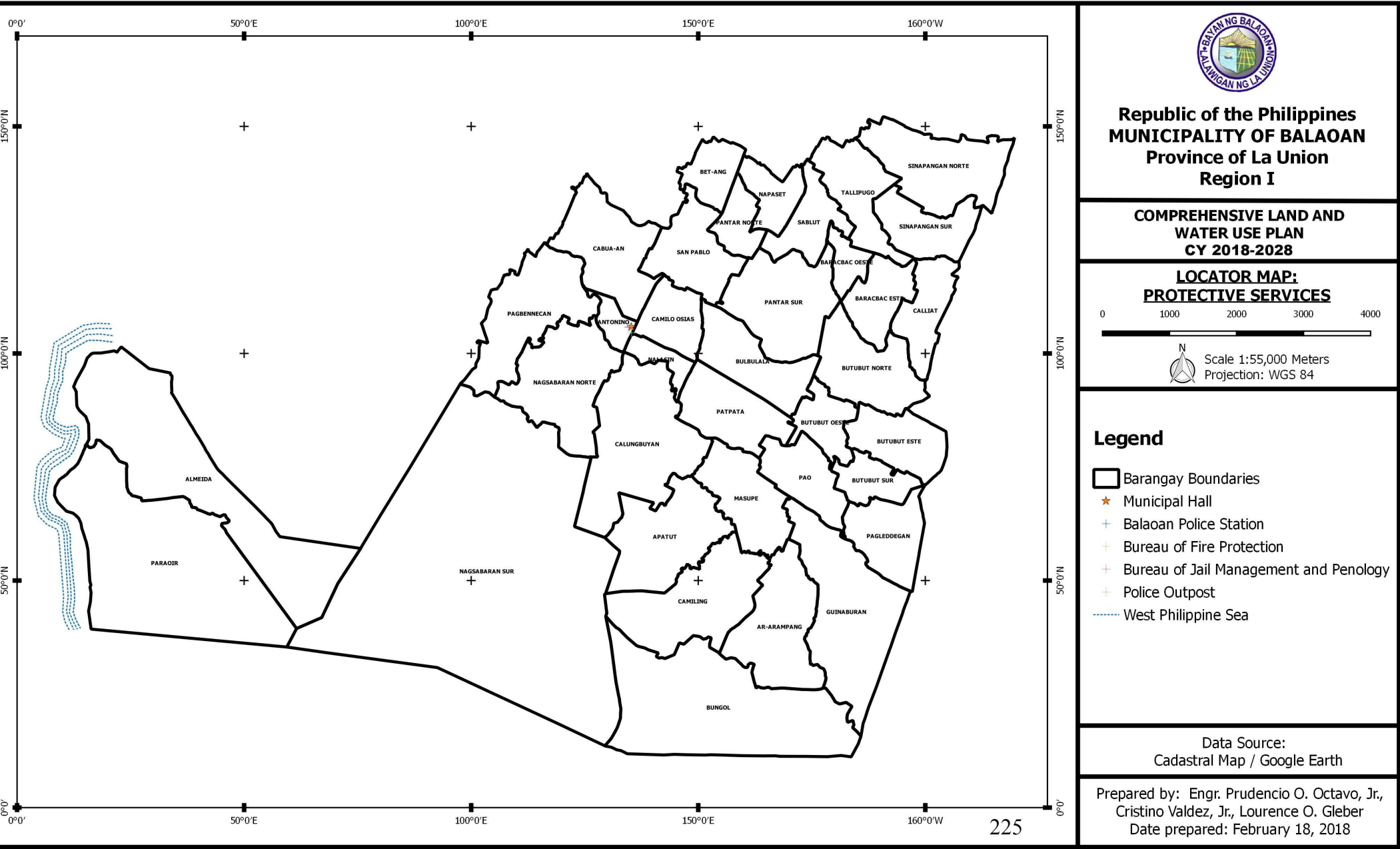
Legend

- Barangay Boundaries
- Municipal Hall
- Slaughter House
- Municipal Public Market
- West Philippine Sea

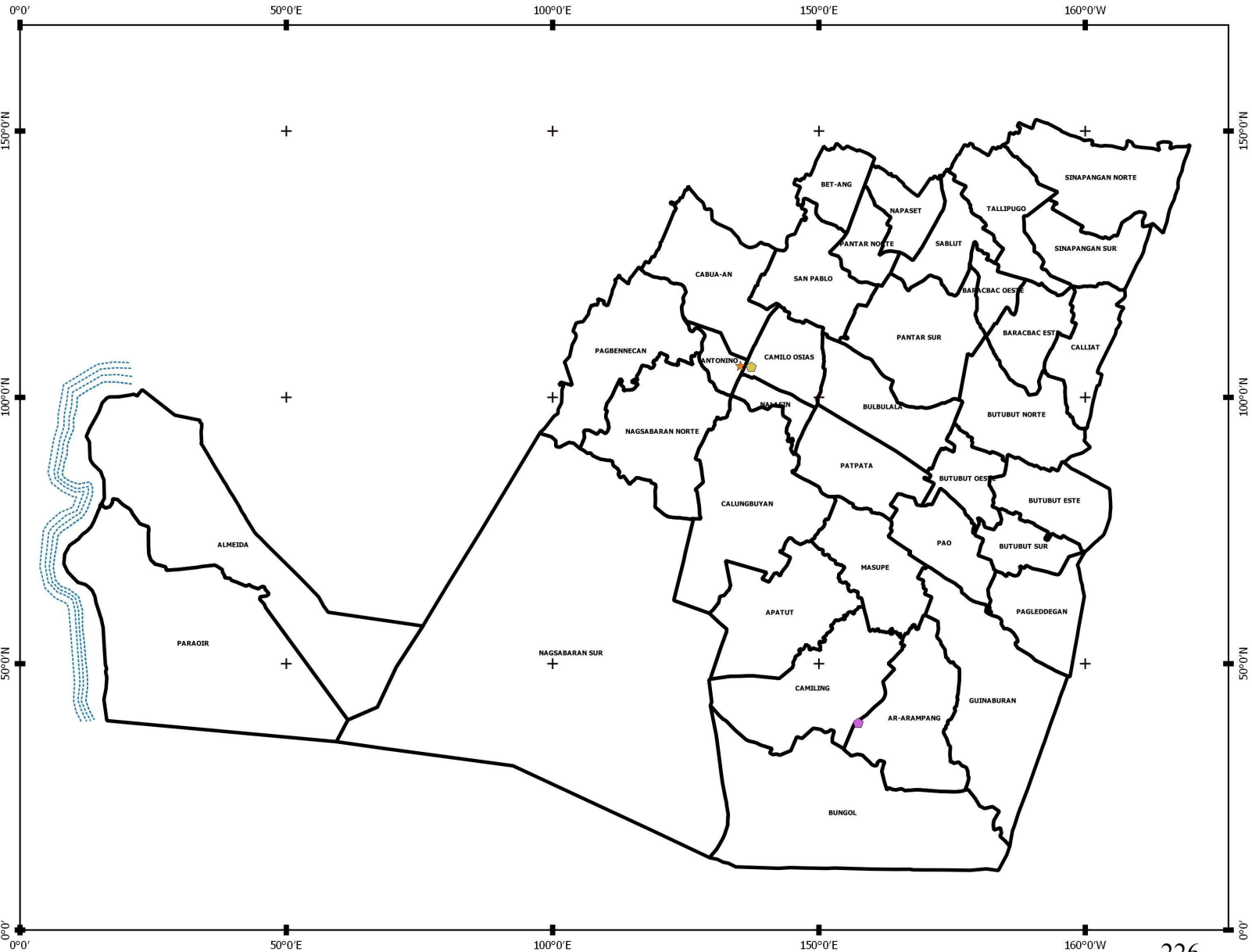
Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

Annex 9



Annex 10



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028

LOCATOR MAP:
INFRASTRUCTURE (POWER)

0 1000 2000 3000 4000



Scale 1:55,000 Meters
Projection: WGS 84

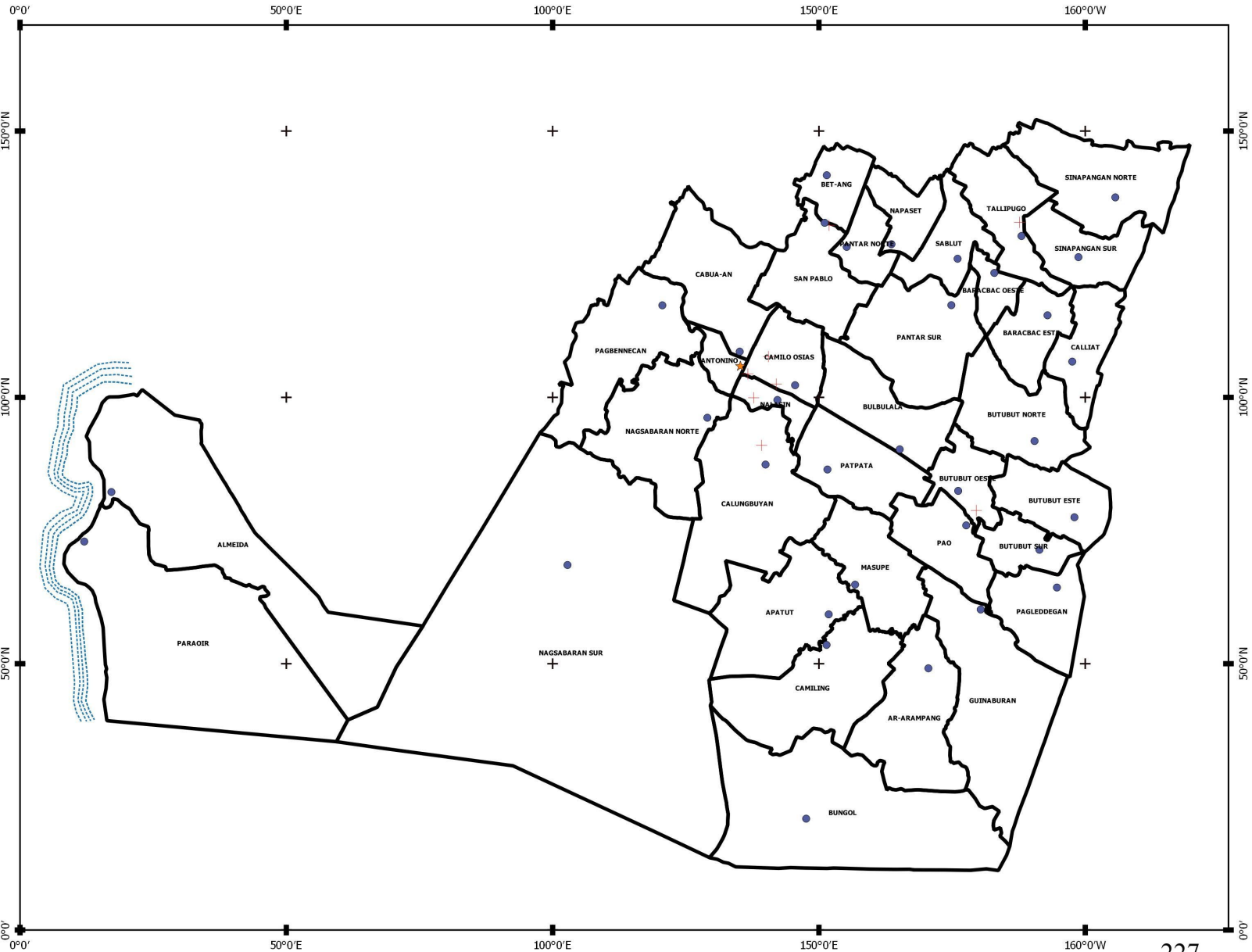
Legend

- Barangay Boundaries
- LUELCO Office
- LUELCO Substation
- West Philippine Sea

Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

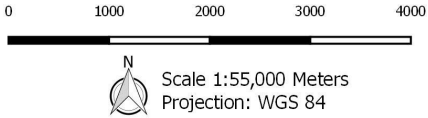
Annex 11



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

**COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028**

**LOCATOR MAP:
INSTITUTIONAL FACILITIES**



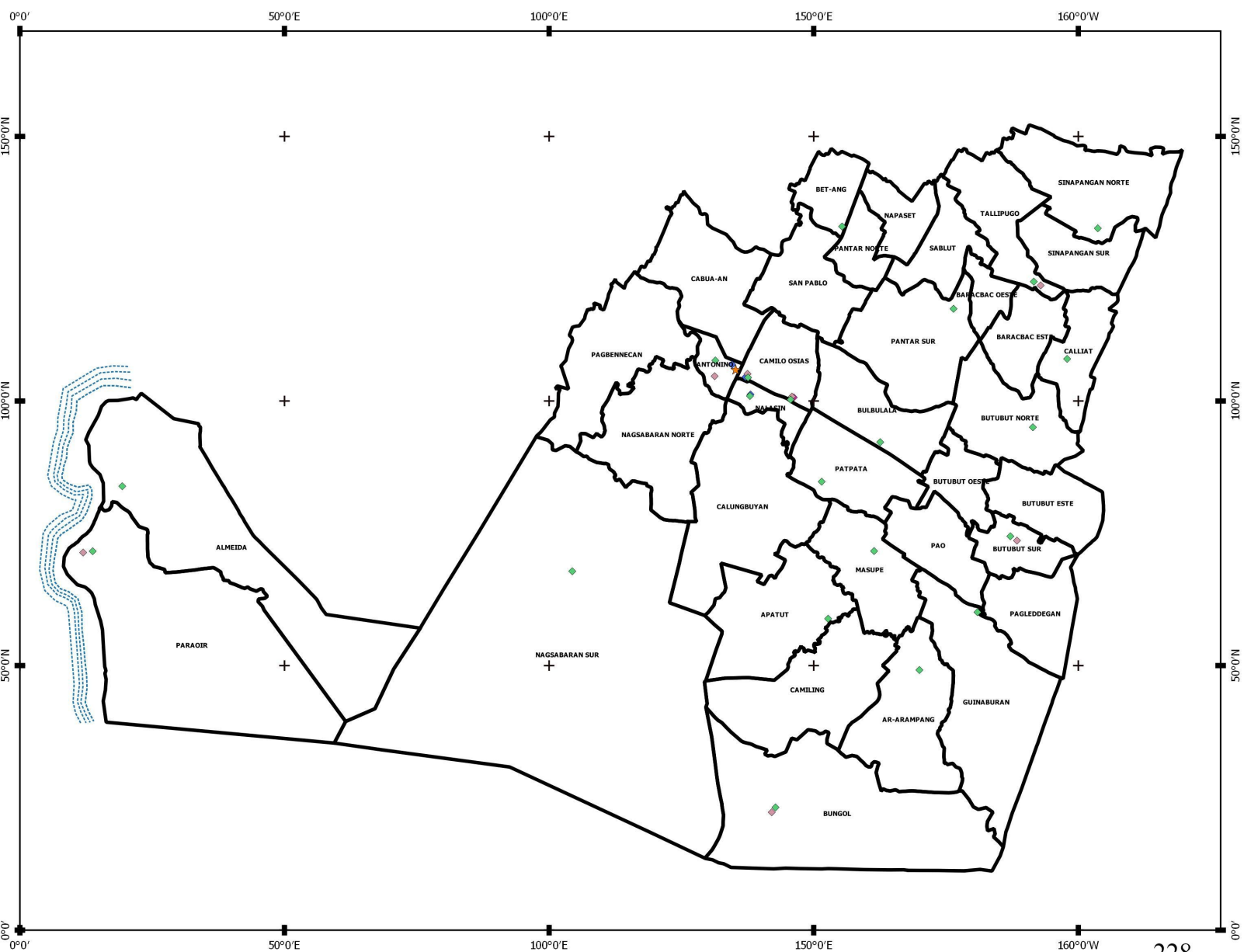
Legend

- Barangay Boundaries
- Municipal Hall
- Barangay Halls
- Churches and Religious Facilities
- West Philippine Sea

Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

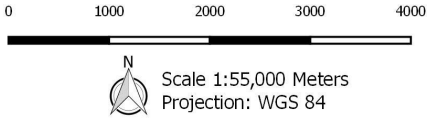
Annex 12



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

**COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028**

**LOCATOR MAP:
EDUCATION**



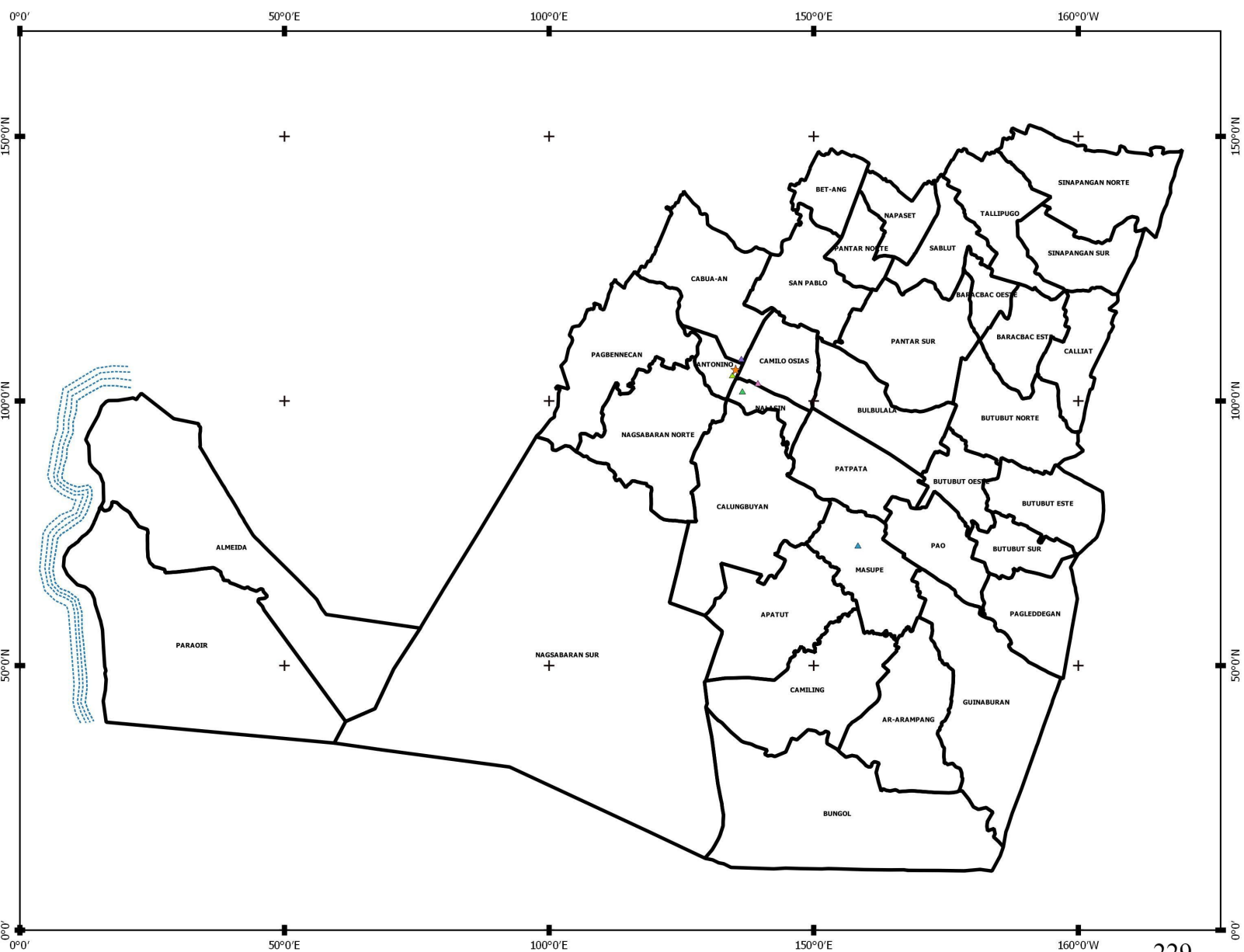
Legend

- Barangay Boundaries
- Municipal Hall
- Tertiary School
- Secondary Schools
- Elementary Schools
- Preparatory Schools
- West Philippine Sea

Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

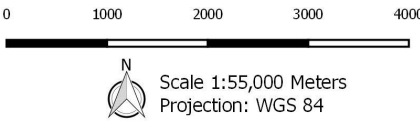
Annex 13



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

**COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028**

**LOCATOR MAP:
INFORMATION & COMMUNICATION FACILITIES**

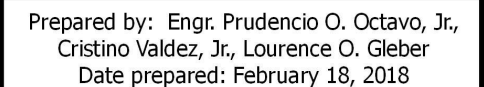


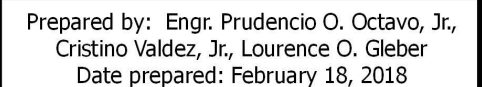
Legend

- Barangay Boundaries
- Municipal Hall
- Post Office
- Globe Cellsite Camilo Osias
- Digitel Cellsite Nalasin
- Digitel Cellsite Masupe
- Smart Cellsite Cabua-an
- West Philippine Sea

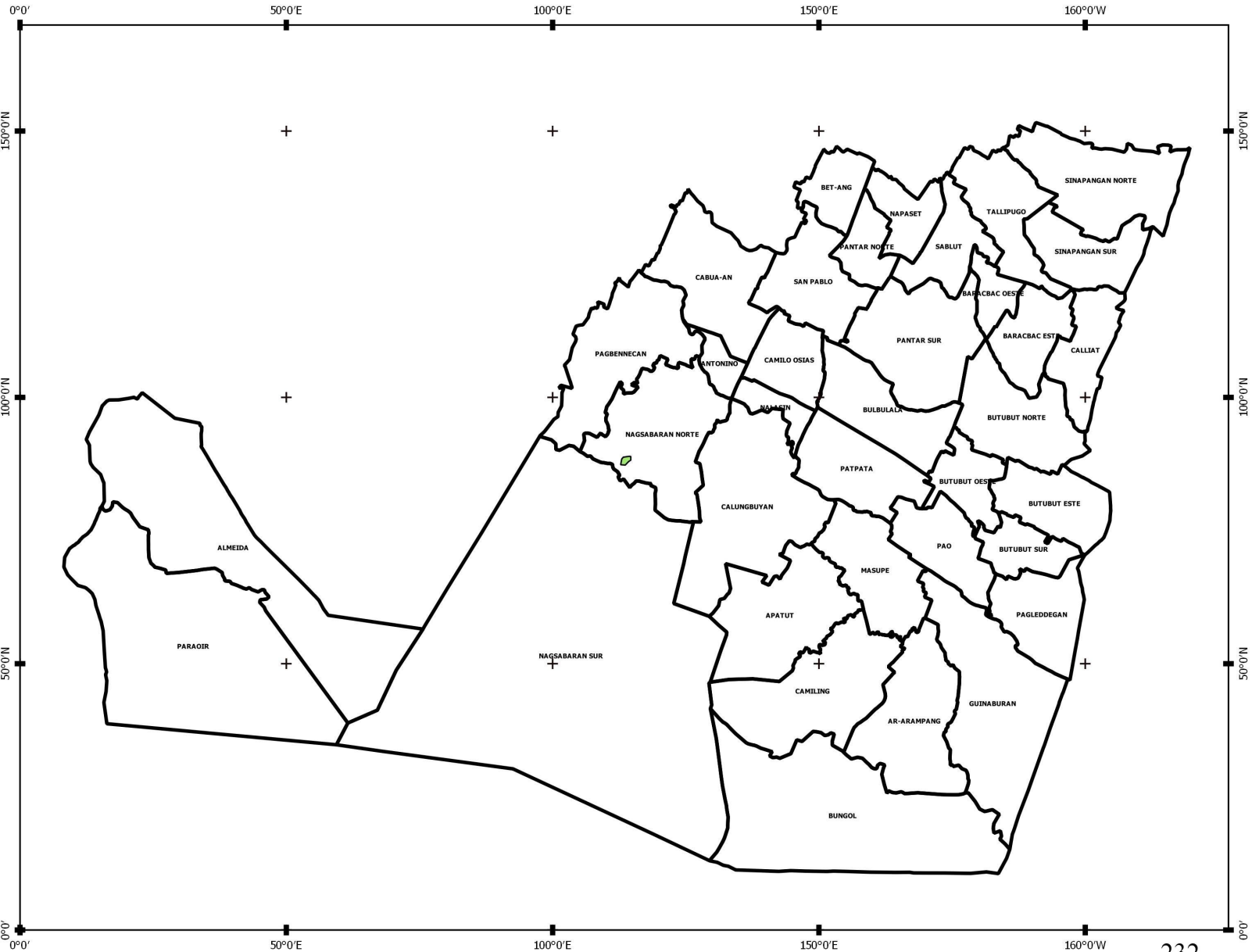
Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018





Annex 16



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

**COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028**

LANDFILL AREA MAP

0 1000 2000 3000 4000



Scale 1:55,000 Meters
Projection: WGS 84

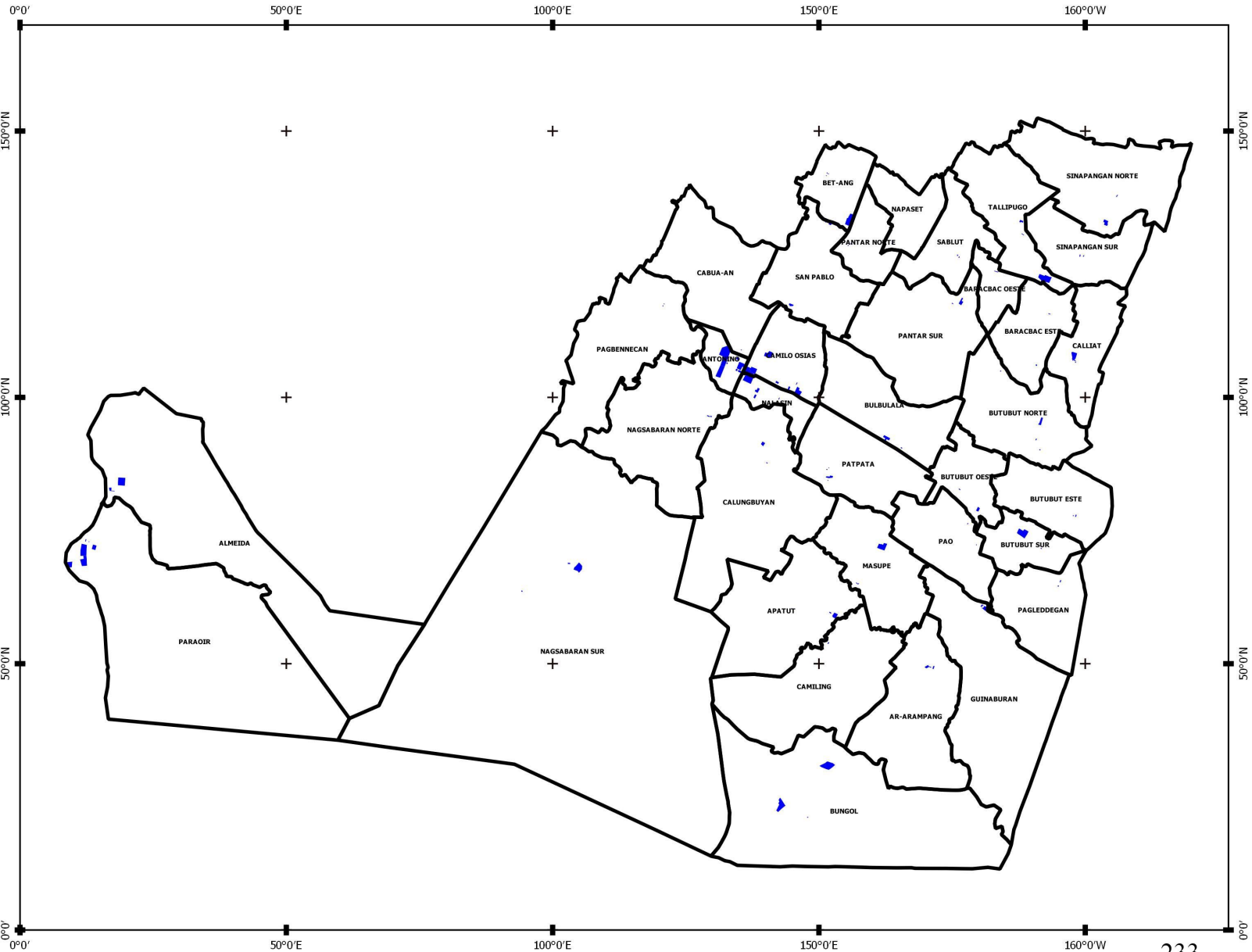
Legend

- Barangay Boundaries
- Municipal Sanitary Landfill

Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

Annex 17



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

**COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028**

**EXISTING INSTITUTIONAL LAND
USE MAP**

0 1000 2000 3000 4000



Scale 1:55,000 Meters
Projection: WGS 84

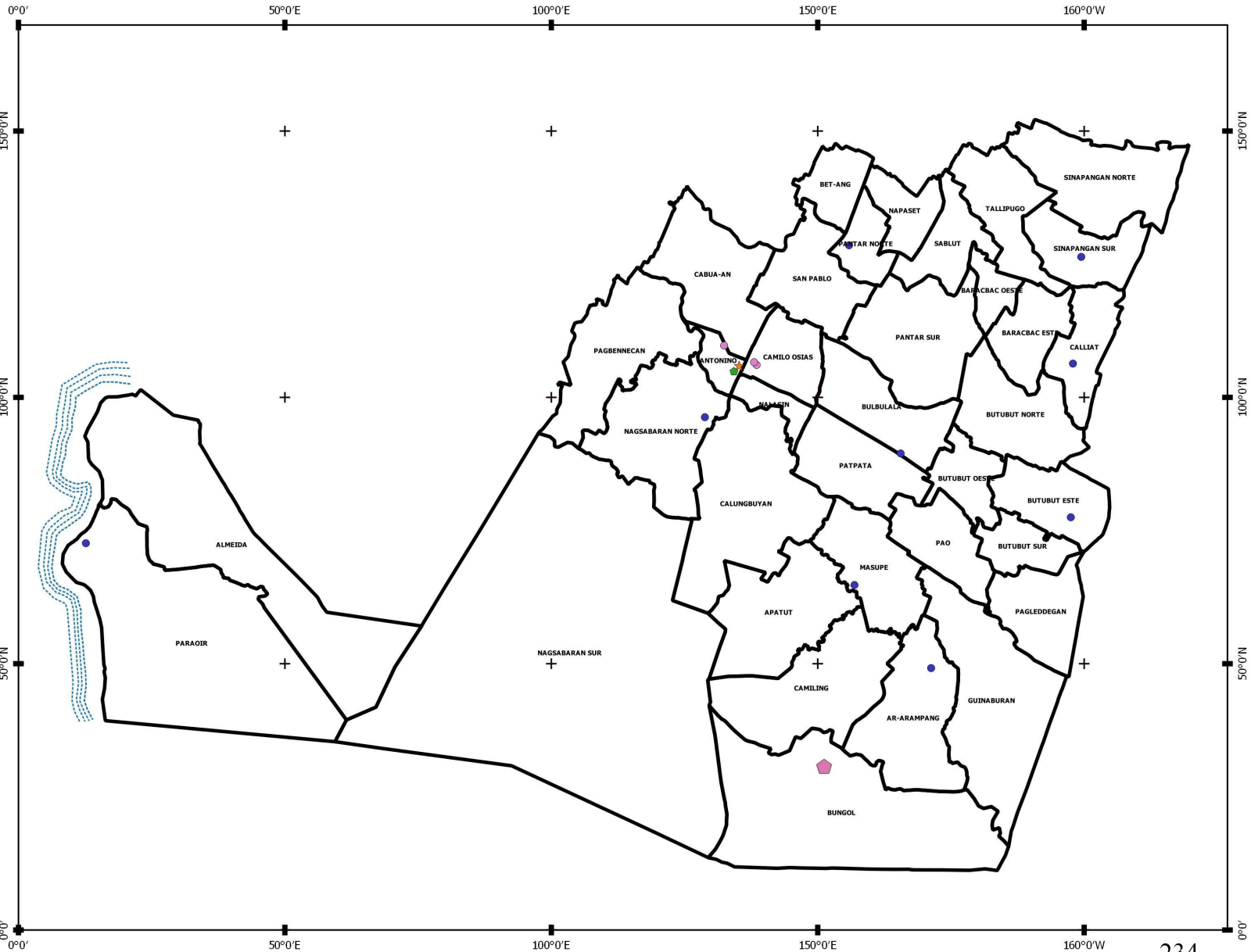
Legend

- Barangay Boundaries
- Institutional Area

Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

Annex 18



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028

HEALTH SERVICES FACILITIES
LOCATOR MAP

0 1000 2000 3000 4000



Scale 1:55,000 Meters
Projection: WGS 84

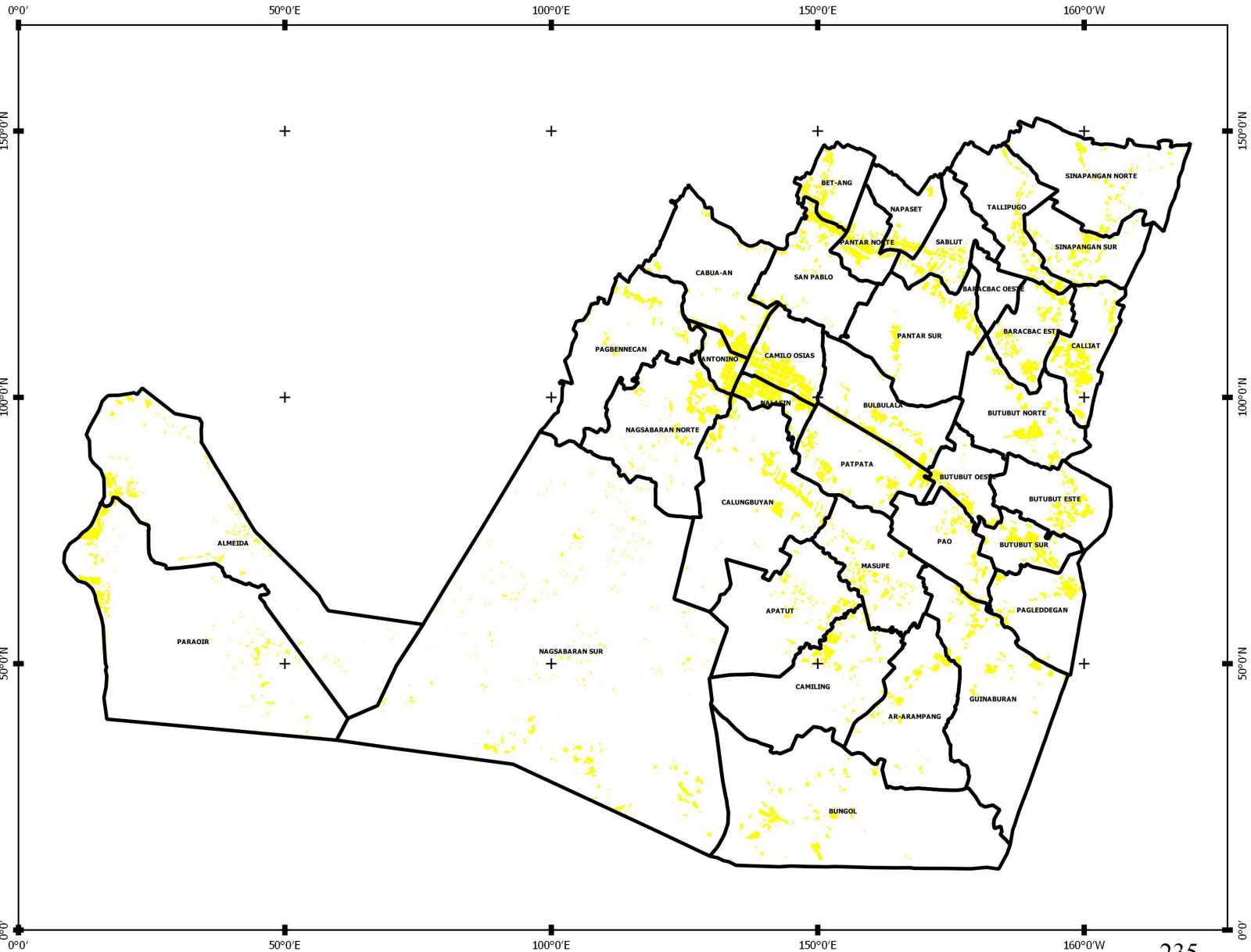
Legend

- Barangay Boundaries
- Municipal Hall
- Bungol District Hospital
- Municipal Health Center
- Barangay Health Stations
- Private Health Facilities
- West Philippine Sea

Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

Annex 19



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

**COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028**



**EXISTING RESIDENTIAL LAND USE
MAP**

0 1000 2000 3000 4000



Scale 1:55,000 Meters
Projection: WGS 84

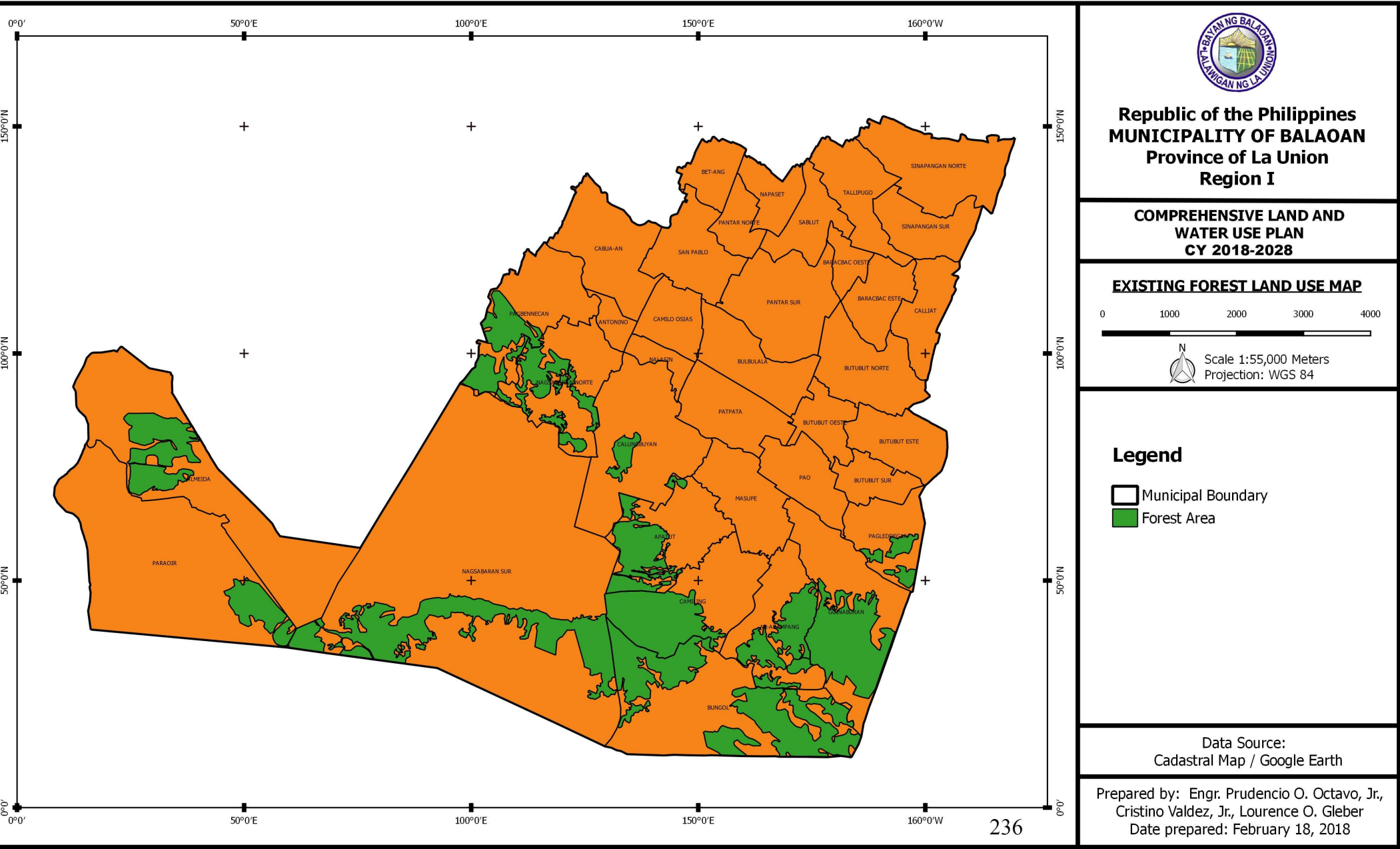
Legend

-  Barangay Boundaries
-  Residential Area

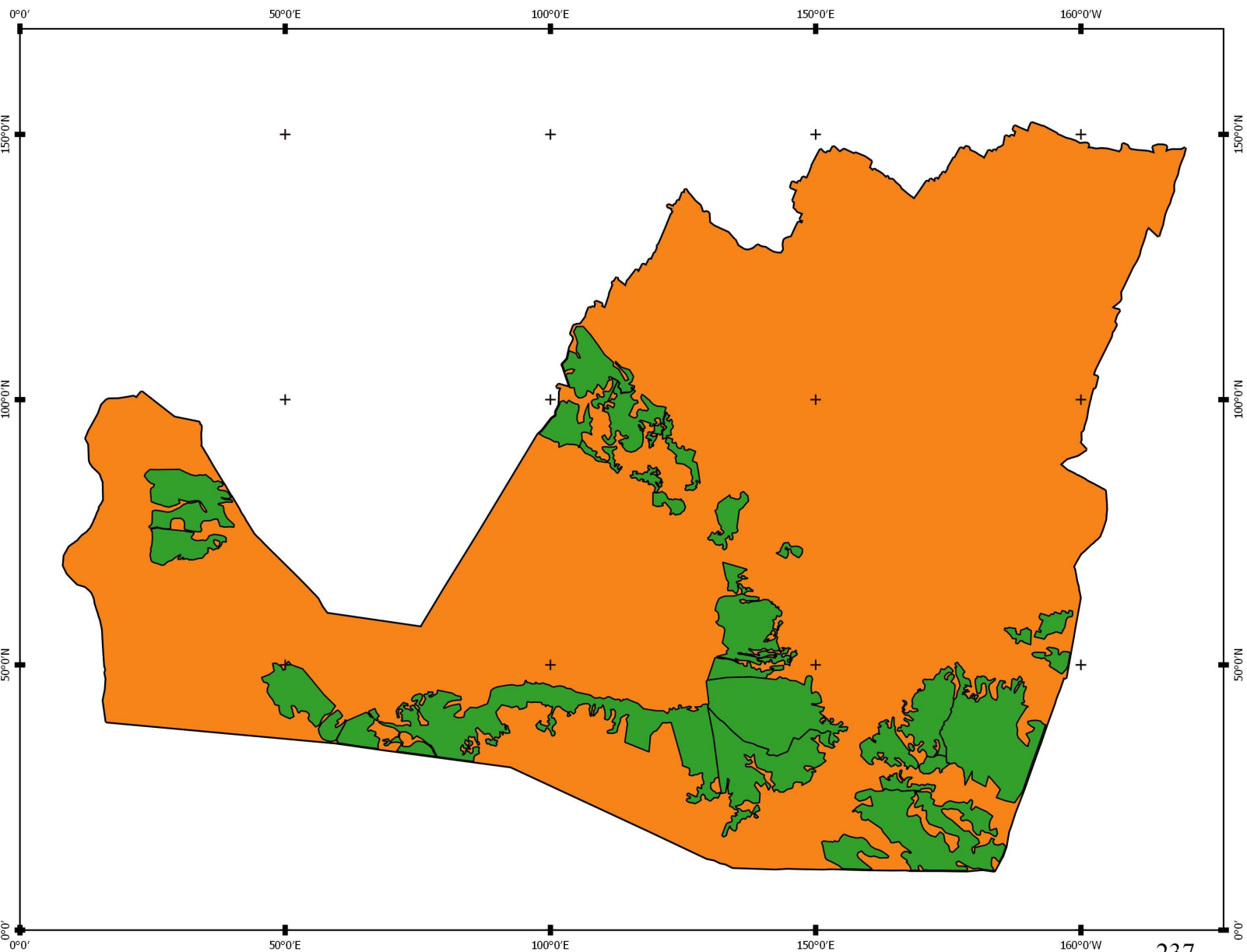
Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018

Annex 20



Annex 21



Republic of the Philippines
MUNICIPALITY OF BALAOAN
Province of La Union
Region I

**COMPREHENSIVE LAND AND
WATER USE PLAN
CY 2018-2028**

ALIENABLE AND DISPOSABLE MAP

0 1000 2000 3000 4000

Scale 1:55,000 Meters
Projection: WGS 84

Legend

- Municipal Boundary
- Forest Area
- Alienable and Disposable Area

Data Source:
Cadastral Map / Google Earth

Prepared by: Engr. Prudencio O. Octavo, Jr.,
Cristino Valdez, Jr., Lourence O. Gleber
Date prepared: February 18, 2018