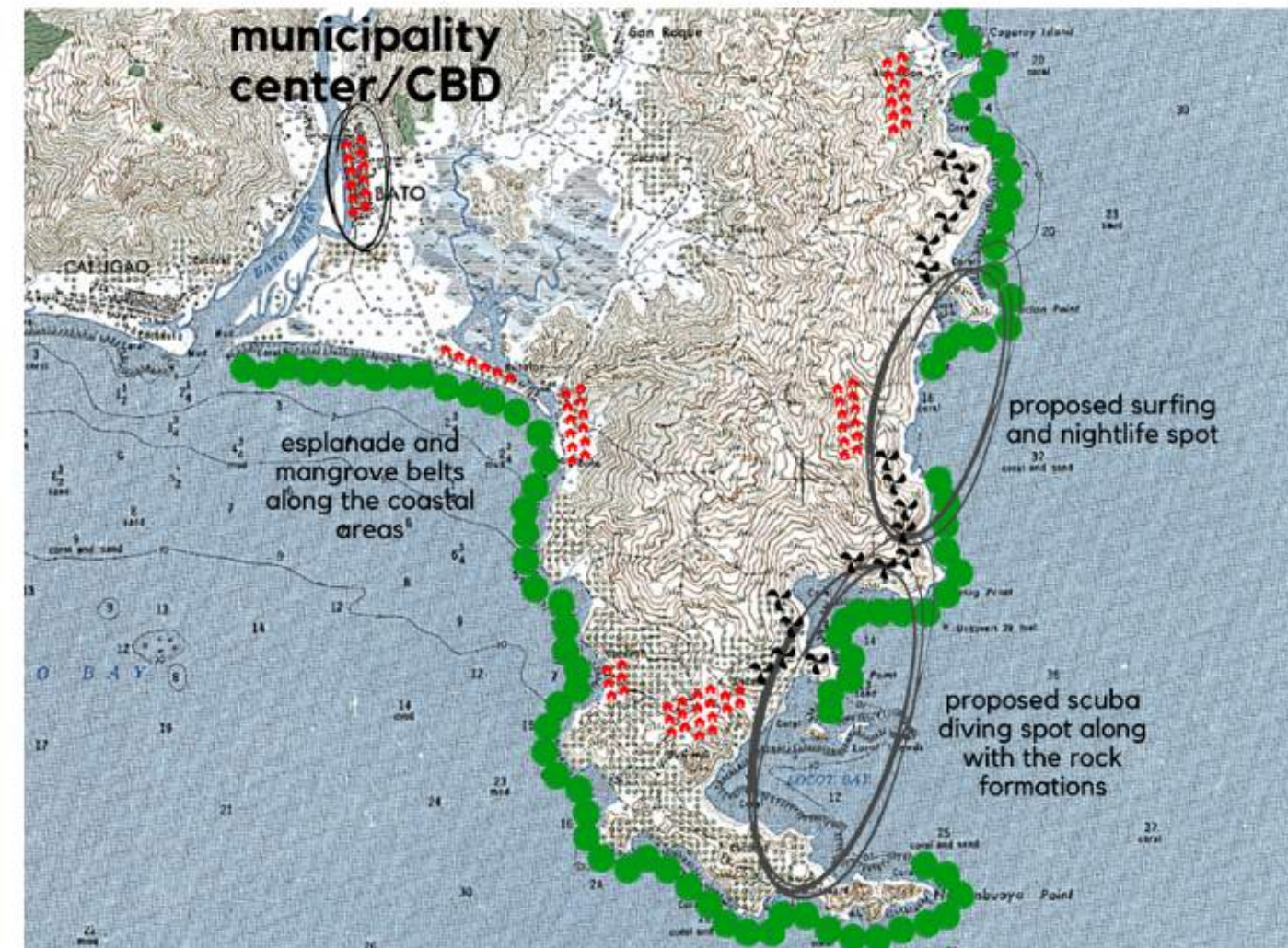


REDESIGNING BATO, CATANDUANES

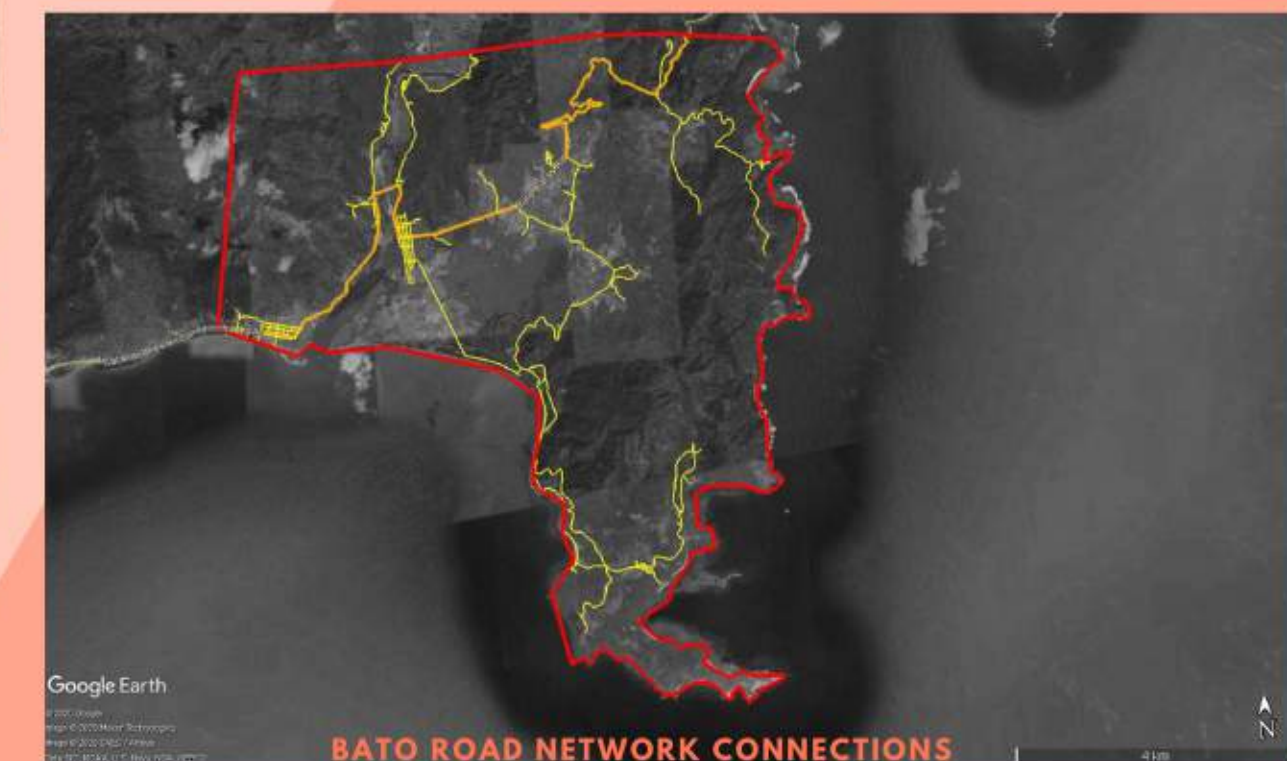
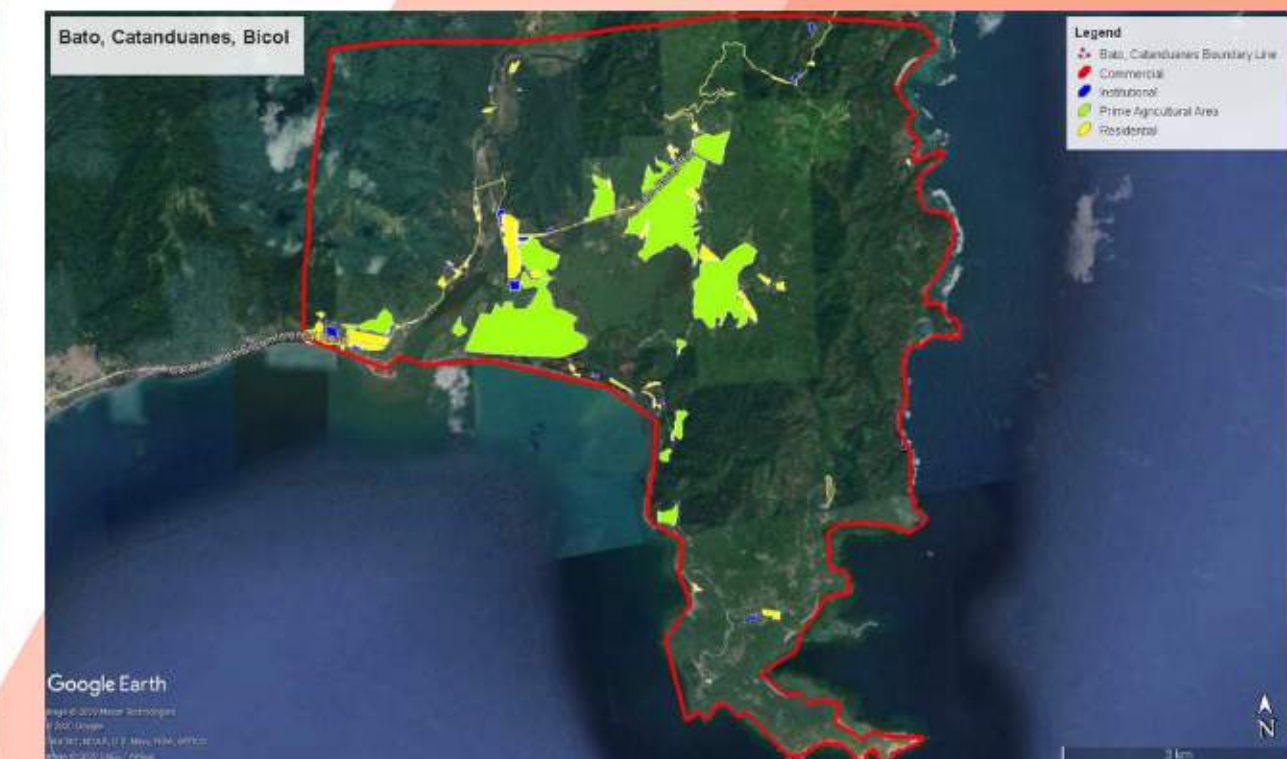
DUZON, MALE, NEPOMUCENO, SAN PEDRO



Since Bato, Catanduanes is located within the typhoon belt, it is **highly vulnerable to natural calamities and damages brought about by floods and typhoons**. Due to the recent Typhoon Rolly and Typhoon Ulysses, Bato experienced severe flooding throughout the city as most houses were found near water. With that, most structures, if not all, were left in extremely poor conditions. In addition, Bato is also found to be abundant in natural features that could serve as tourist attractions.



According to the City Profile of Bato, Catanduanes the topography of the place ranges from sea level to seven hundred (700) meters above sea level. As for the existing land use in the municipality, it is evident that the majority of the land is used for agricultural purposes. Another is, beside these agricultural spaces are the residential areas which shows that agriculture is one major source of livelihood.



PROJECT OBJECTIVES

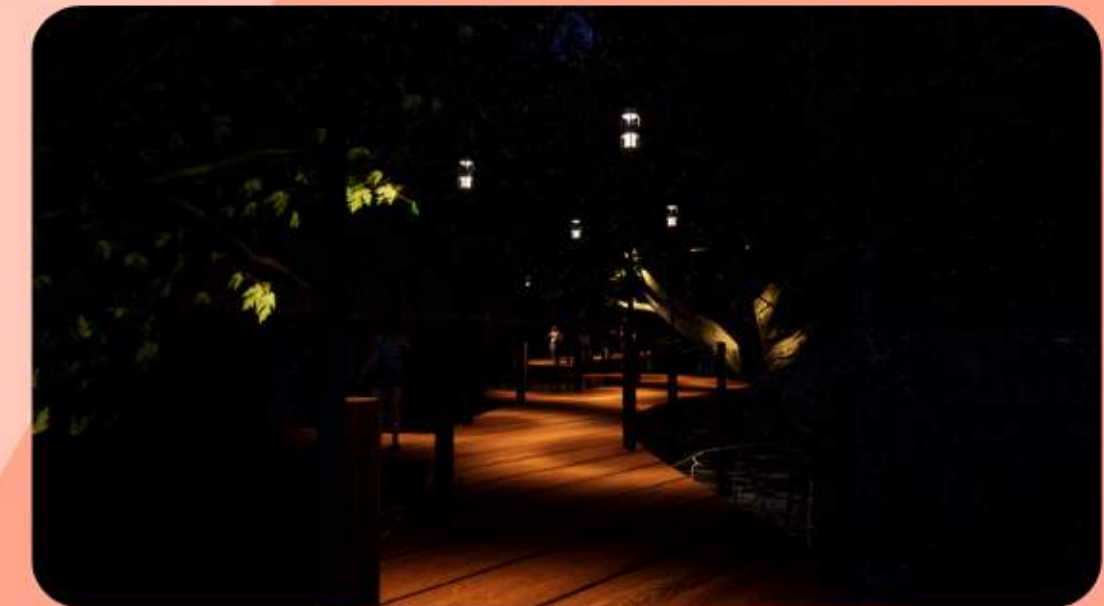


- To redesign Bato, Catanduanes in order for it to become more resilient to natural disasters through the use of proper urban planning.
- To be able to provide enough resources to sustain the livelihood of the residents and tourists of Bato, Catanduanes by maintaining the natural resources and making a good economic profit from it.



LiDAR Surveys and Flood Mapping of Bato River (2017), estimates over 5,000 structures located in flood prone areas. The 25-year rain return flood depth map estimates that 2-5 meters of flood can be expected.

MANGROVE BELT FOR COASTAL DEFENSE



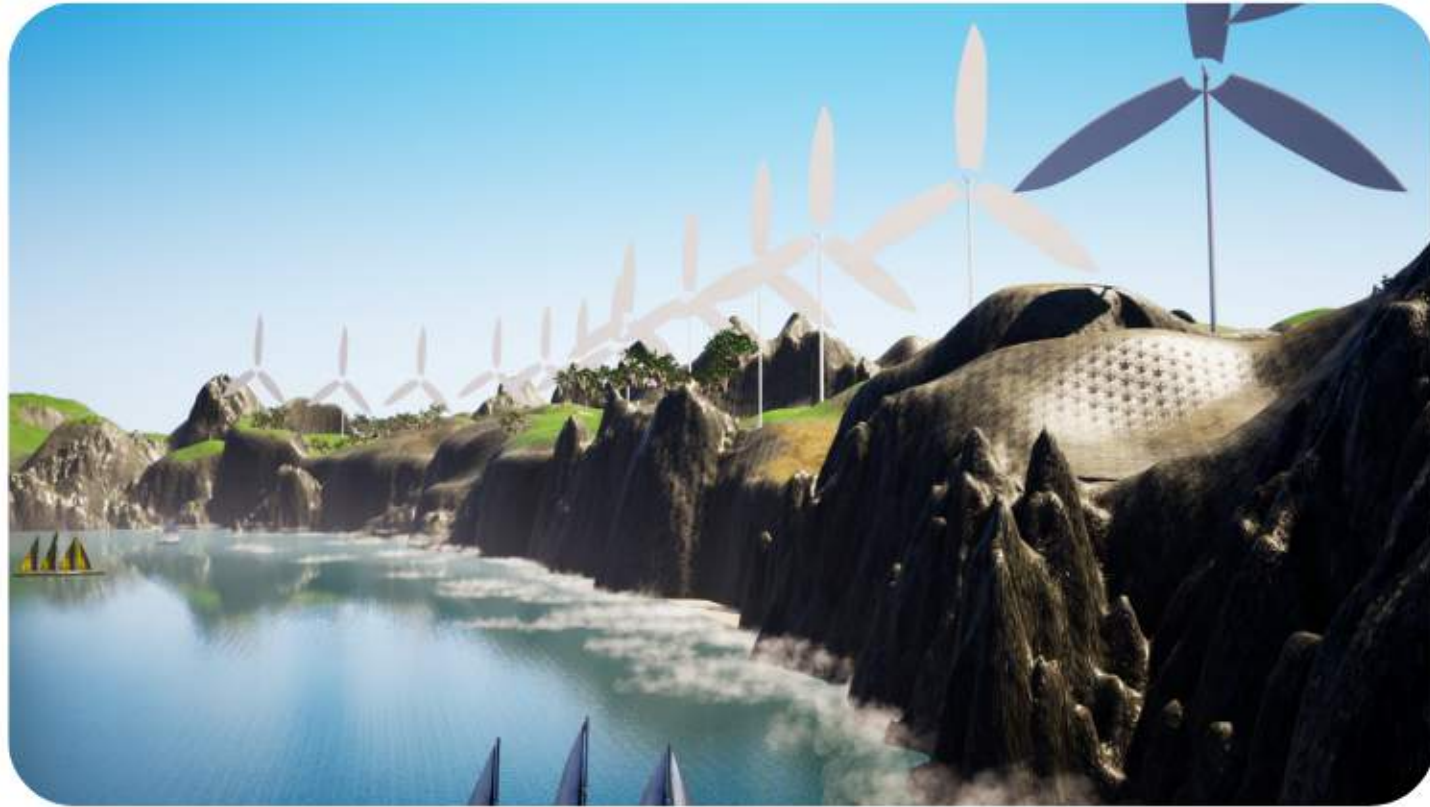
Bato, Catanduanes is vulnerable to typhoons, storm surges, and tsunamis. Given this, planting mangroves along its coast will form a natural barrier to lessen the impact of floods, strong waves, and winds on the community. Another benefit worth noting, is that mangroves provide breeding grounds for aquatic life. Furthermore, this will have an economic benefit towards the community for one source of livelihood in the area is fishing. As for socio-economic benefits, mangrove belts are areas for recreation.

TOURIST ATTRACTIONS AND ACTIVITIES



Bato consists of mountainous landforms, sea attractions, and rock formations. The attractions in Bato are the **Sakahon Beach**, **Locot Islands**, **Poseidon Rock Formations** and the **Mountains of Bato**. A walk along the beach is sure to soothe the tired muscles, to relax and take in the beauty of Catanduanes. The beach can serve as a **scuba diving** and **surfing spot** because of the abundant corals, the beautiful underwater view, and the big waves coming from the pacific ocean.

PROVIDING RENEWABLE ENERGY RESOURCES FOR ELECTRICITY GENERATION

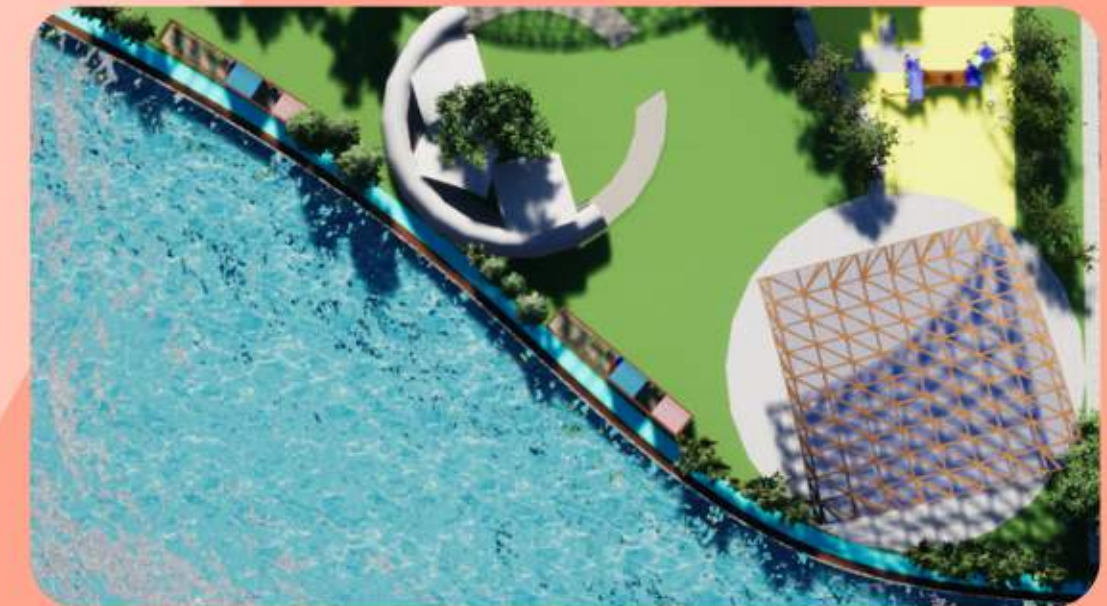
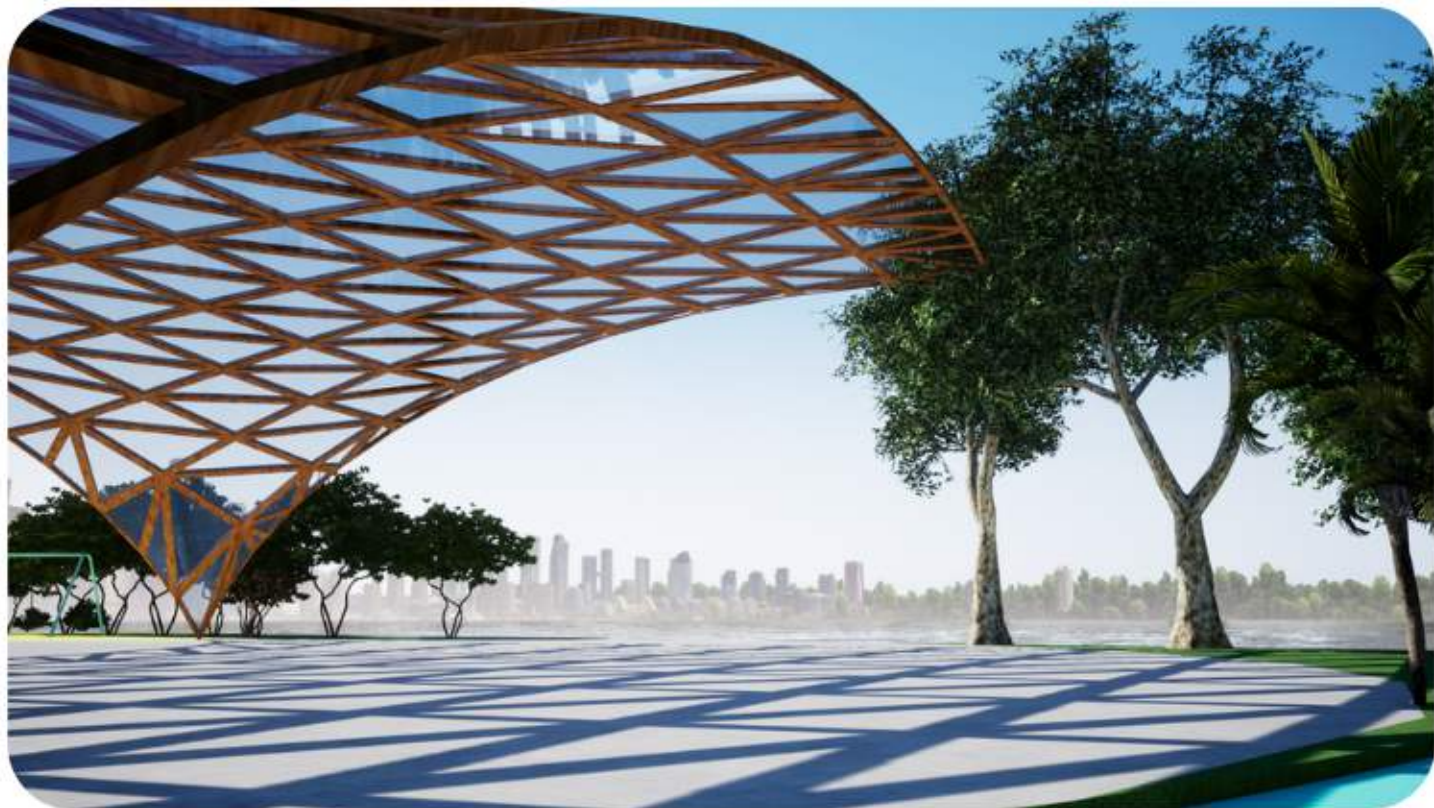


ACCORDING TO THE ENVIRONMENTAL IMPACT OF WIND ENERGY (2011), THE DEMAND FOR ENERGY WILL ONLY CONTINUE TO RISE IN THE NEXT COUPLE OF YEARS.

WINDMILLS - Wind turbines can be built on farmlands and especially on rural areas where winds are the strongest.

SOLAR PANELS - These are to be integrated into street lights to reduce the overall consumption, maintenance, pollution, and even accidents as the use of electrical wires are minimized.

ESPLANADE AS A COASTAL BUFFER AND OPEN SPACE



Since the residential area in Bato is situated near the coast, it is found to be extremely vulnerable to its tides. Providing an esplanade to serve as a coastal buffer will help alleviate this recurring issue as it elevates the city and distances its community structures from the coastal area.

CITY PLANNING OF BATO, CATANDUANES



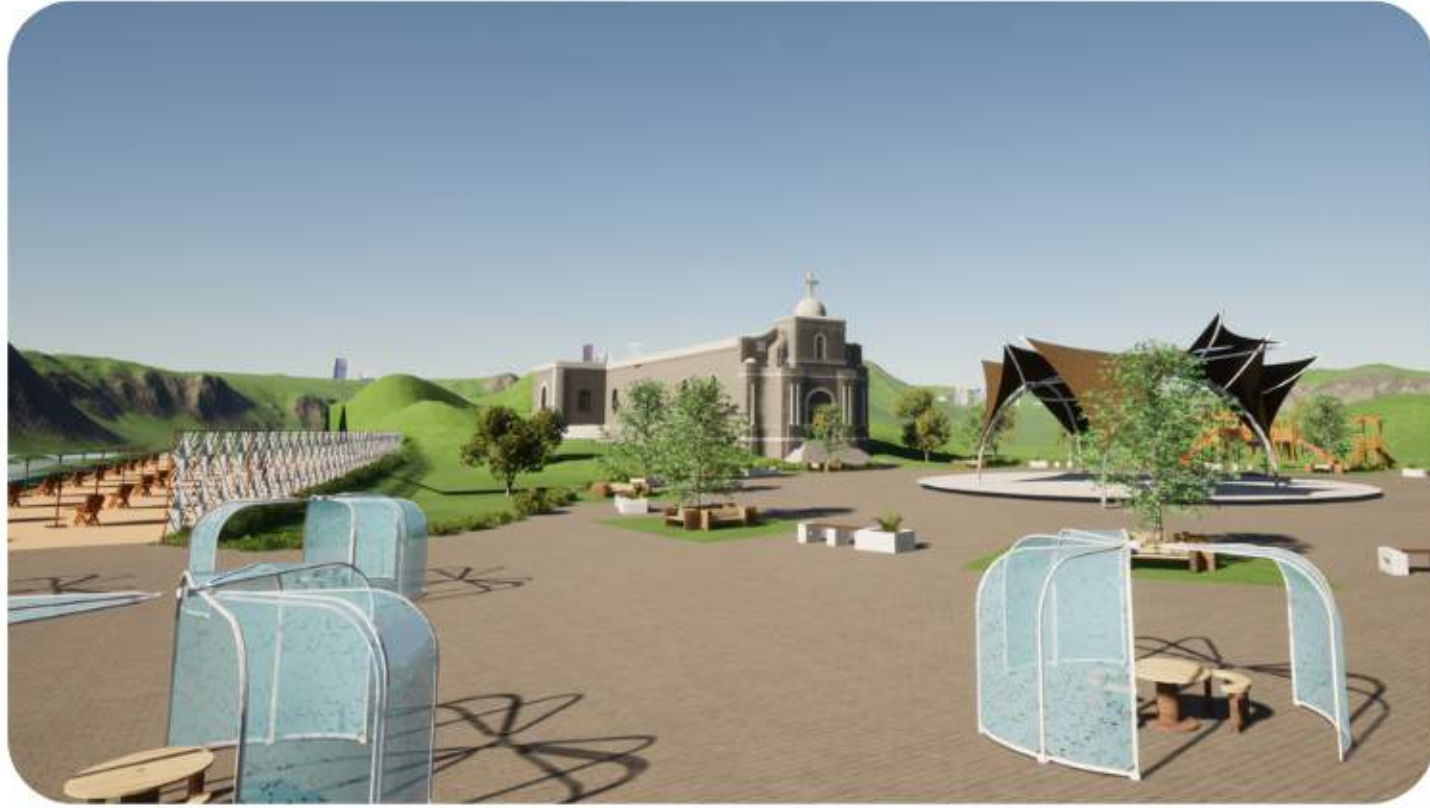
Both major and minor road networks have been affected heavily by the past typhoons, causing difficulty in terms of moving from place to place. The municipal city hall, however, which is currently located beside the Bato Church, is to be relocated to the center of their residential areas. This increases the accessibility of residents, specifically those with concerns, in contrast to having to travel a long distance. The marketplace along with various shops and restaurants can also be found near the municipal city hall so that all important offices are in one area.

CREATING A CENTRAL MARKETPLACE



Having a central marketplace is efficient for people as this is where they could have an experience of everything and anything all at the same time. This will also increase its value and may attract tourists. This would also give an opportunity for its locals to have more jobs. When a central market is placed, its locals will be able to sell and share their own produced products and profit from it. Exportation could also be expected when these businesses grow.

PROVIDING A PLAZA NEAR THE BATO CHURCH



Incorporating a plaza beside the church is a way to encourage both the locals and tourists to unwind and enjoy nature, the plaza will also be considered as an attraction and will also give the Bato Church its time in the sun, highlighting the beauty and its craftsmanship in spite of its age.