SAMAL ISLAND-DAVAO CITY CONNECTOR PROJECT Project Description Report



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1. BASIC PROJECT INFORMATION

1.1 Project Information

Name of Project	Samal Island - Davao City Connector (SIDC) Project
Location	Barangay Hizon, Davao City, Barangays Caliclic and Limao, Island Garden City of Samal
Nature of Project	Bridge Construction
Project Category	Category A: Environmentally Critical Project Roads and Bridges Bridges and viaducts (including elevated roads), new construction

1.2 Proponent's Profile

The Department of Public Works and Highways (DPWH), the main proponent of the project is the lead engineering and construction agency of the Government, tasked in ensuring and designing infrastructure developments such as national highways, bridges, flood control and other related public works.

DPWH has appointed Ove Arup and Partners Hong Kong Ltd (Philippines Branch), "Arup", as the lead consultant for the Feasibility Study of the Samal Island-Davao City Connector (SIDC) Project. Arup is a multinational firm which provides engineering, design, planning, project management and consulting services for all aspects of the built environment.

The Galerio Environmental Consultancy (GEC) was hired by Arup as its sub-consultant to do the Environmental Impact Assessment (EIA) including the social aspects such as conduct of public consultation, Information and Education Campaign (IEC), perception survey, among others for the SIDC Project.

Proponent name	Department of Public Works and Highways (DPWH)
Address	Bonifacio Drive Port Area, 652 Zone 068, Manila, 1018 Metro Manila, Philippines
Authorized signatory/ representative to apply for ECC	Emil K. Sadain, CESO I Undersecretary for UPMO Operations and Technical Services Department of Public Works and Highways Room 211, 2nd Floor, DPWH Main Office, Bonifacio Drive, Port Area, Manila, Philippines
Recommending Approvals	Sharif Madsmo H. Hasim Director Department of Public Works and Highways Roads Management Cluster II (Multilateral) Unified Project Management Office (UPMO)
	Soledad R. Florencio Project Manager III Department of Public Works and Highways Roads Management Cluster II (Multilateral)

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2. PROJECT DESCRIPTION

2.1 Project Location and Area

The proposed Samal Island – Davao City Connector (SIDC) Project will be linking the two cities in the northeastern section of Davao City and the northwestern side of Samal Island. This connection will be roughly located within the geographic coordinates of 7°6'16.03"N, 125°38'41.28"E at Davao City side in WGS 1984 datum. Along the western coast of Samal Island, the bridge will be connecting around the point 7° 5'56.52"N, 125°40'3.56"E.

Table 1. Geographic coordinates

	Davao	Samal
Latitude	7°6'16.03"N	125°38'41.28"E
Longitude	7° 5'56.52"N	125°40'3.56"E

2.1.1 Impact Areas

The directly impacted communities (DIC) along the proposed bridge are barangay Vicente Hizon in Davao City and barangay Caliclic and Limao in the Island Garden City of Samal (IGaCoS).

The Davao City on land portion of the bridge will fall within the political jurisdiction of Barangay Vicente Hizon Sr., which contains a mix of different land use including residential and industrial. Commercial establishments can also be encountered near the main road of the National Highway which leads to the proposed connector project.

Figure 1 shows the direct and indirect impacted areas of the alignment. The boundary of properties colored in red are the directly impacted areas. The Samal Island on land section of the SIDC lies within a predominantly resort developed areas within the southern section of Barangay Caliclic and close to the border of the adjoining Barangay Limao. The alignment of the project will be positioned between the Paradise Island Park and Beach Resort, and Costa Marina Beach Resort, as well as proximal to the Mercado Subdivision which are the indirect impact areas in IGaCoS. In Davao City, the indirect impact areas are Azuela Cove and South Bay Lumber Co. Inc. that are located south of the proposed alignment. The properties directly affected by the alignment are the Rodriguez Clan Property from the IGaCoS side while on Davao City's side, those directly impacted are Modern Times Enterprises Inc.



Figure 1. Google Earth image of the direct and indirect impact areas

2.2 Project Rationale

During the World Economic Forum (WEF) on the Association of Southeast Asian Nations held in Cambodia, Philippine President Rodrigo Roa Duterte presented the administration's 0 to 10-point socioeconomic agenda. The 4th agenda aims to accelerate annual infrastructure spending to account for 5% of the gross domestic product with Public-Private-Partnership (PPP) playing a key role. In line with this, the administration intends to spend 8-9 trillion pesos from 2017-2022 solely for infrastructure. These infrastructure projects will allow the recipient communities to have an easy access going to work, businesses, markets, education and other services. According to the project administration manual of the Asian Development Bank, for the infrastructure preparation and innovation facility, the impact of underdeveloped public infrastructure in the Republic of the Philippines will impede the potential of businesses and economic opportunities in the country.

Hence, the Samal Island - Davao City Connector (SIDC) Project is one of the 75 big-ticket flagship projects under the "Build, Build, Build" program of President Rodrigo Roa Duterte in the Philippines. This was first conceptualized in the year 1970 or about 40 years ago. The project team from DPWH and Ove Arup presented the results of the Stage I of the Feasibility Study to the Regional Development Council (RDC) XI during its 1st quarter meeting on March 26, 2019. After the said meeting, RDC endorsed Option 4, from among the four alignment corridors proposed.

The proposed project will link the existing road networks of Davao City and IGaCoS enhancing the economic activity in both cities. The benefits of the project include a resilient and solid transportation, access to education, employment and business opportunities as well as other services the two cities

can and will offer. Through this proposed bridge, IGaCoS may even become one of the world-class tourist destinations in the long run. In general, the proposed project will support the growth of Davao Region through an enhanced internal circulation, mobility and external linkages.

2.3 Project Components

The proposed bridge has a length of approximately 3 km from Davao to IGaCoS, with a width of 25-30m. The marine portion of the crossing is approximately 1.6 km long with a varying seabed depth up to 40 m deep. Two bridge navigation bridge types, Extradosed and Suspension, are under study to comply with the navigation clearance requirements of vessels and the airport height limits imposed by the Francisco Bangoy International Airport. Both options will consist of various components, including interchanges with the existing road network, viaducts over sections of land, typical viaducts and approach bridges over marine area, and the main navigation span bridge. An overview of the two schemes is shown in the figure below.









A = Navigation bridge

- B1 = Approach bridge
- B2 = Marine viaduct
- C = Land viaduct/ approach ramps and interchanges

Figure 2. Overview of bridge scheme and associated components

2.3.1 Bridge Types

2.3.1.1 Extradosed Bridge

Extradosed Bridge is frequently adopted in situations where there are height restrictions. This type of bridge is considered as "in-between" girder bridges and cable-stayed bridges. In a cable-stayed bridge the loads (permanent as well as live loads) are globally carried predominantly by the stay cables. In a girder bridge, loads are carried by shear and flexure of the girder and internal prestressed or post-tensioned cables which produce permanent stresses that act opposite to those produced by self-weight and moving loads.

An Extradosed bridge is generally composed of pylon, girder and pier. For a seismic region like the Philippines, the longitudinal displacement of the deck is minimized by using a rigid connection. Moreover, this connection does not require a temporary support or fixing during balanced cantilever erection which is most commonly used for Extradosed bridges.

2.3.1.2 Suspension Bridge

Suspension Bridges are best suited for longs spans. They are quite efficient structures using less materials than other bridge structures considering the spans it achieves. It relies on tensile cables to support the bridge deck. These primary cables are anchored in each abutment and pass on top of the bridge towers. Equal suspenders are attached to the primary cables to offer support to the deck below. Suspension bridges are constructed sequentially by adding deck units supported from the primary cables. The depth of the deck varies depending on the functional requirement.

2.3.2 Bridge Components

Navigation bridges – The main structure that provides the necessary navigation clearance for safe operation of shipping at the project site.

Approach bridges to main navigation span – The bridge structures that are adjacent to the main navigation span bridge. This may be different from the typical marine viaduct as the water is likely to be deeper adjacent to the navigation span. The pier columns will also be taller. Longer spans may be more beneficial in this case.

Marine viaducts – The typical viaduct structures which will be constructed above sea water. Depending on the depth of the water, shorten spans that used for the Approach bridges to the main navigation bridge may be more efficient.

Interchanges and viaducts on land – These are the viaduct structures which can be constructed on land and provide the connection to the existing road network.

Approach ramps – The parts of the road that go up from existing ground level towards to approach bridge.

2.4 Project Alternatives

2.4.1 Project Category

The proposed SIDC bridge under infrastructure projects is an Environmental Critical Project (ECP) under category A as declared through Proclamation No. 2146 (1981) and Proclamation No. 803 (1996) within the scope of the EIS System. The project is technically defined under an area which will traverse water bodies tapped for domestic purposes, within the controlled and/or protected areas declared by appropriate authorities and which support wildlife and fishery activities.

2.4.2 Siting / Location

To date, **Figure 1** shows the most feasible option location for the proposed bridge. It is proposed to be passing Barangay Vicente Hizon in Davao City and Barangay Limao and Caliclic in IGaCoS taking into consideration the airport height restrictions, water depth and marine cables underwater in Pakiputan Strait, geotechnical conditions and constraints on environmental and social aspects.

Below table shows other possible alternatives coming from the proposed alignment options provided by Arup. These options are just near the perimeters of the alignment as shown in **Figure 1**.

Davao City	IGaCOS
Along Lizada barangay road	Between Paradise Island and Costa Marina
Property of So Peng Kee and Azuela Cove	Property of Costa Marina
Along Lizada barangay road	Between Paradise Island and Costa Marina

2.4.3 Process /technology

2.4.3.1 Construction Phase

Provided below are brief discussion of construction methods that the project may employ.

• Navigation Span Bridge

For the span length required for the navigation span bridge, balanced cantilever is the only practical construction method for superstructure erection of a box girder. Typically, it would be efficient to use precast segments, but for very long spans requiring very deep sections at the piers, these would pose major challenges to be precast and lift into place. Therefore in-situ construction would be preferable. For a more modest span length, precasting would be favoured.

Balanced antilever construction involves casting or erecting precast segments sequentially from the piers outwards in a balanced manner – i.e. a pair of segments, one on each side. Prestress is then applied to hold these segments in place so that construction can move onto the next pair. The segments under construction / erection would be supported by travelling formwork for in-situ construction, or by lifting frames which pick up the precast segments from barges below. A span is completed by stitching the ends of two cantilevers together. Typically, the deck and piers are monolithic except at the end spans.



Figure 3. Typical In-situ balanced cantilever construction of the Skye Bridge, Scotland

• Extradosed Bridge

The structural system of an extradosed girder has the combined characteristics of an externally prestressed structure and a cable-stayed structure. Moreover, the relative stiffness of the superstructure gives a structural behaviour tending to the externally prestressed structure.



Figure 4. Construction of Himi Bridge in Japan

• Balanced Cantilevers

Launching girders could be used to lift segments into place instead of lifting frames. The main advantages of this erection method are:

- The segment size can be tailored for ease of transportation such that existing road networks may be used.
- The small size of segment also allows the use of smaller barges in the shallow waters.
- \circ $\;$ The segments can also be transported on the already constructed deck.
- Compared to span-by-span and full span launching methods, longer spans can be achieved.

The main drawbacks are the end spans are typically shorter than internal spans. For long viaduct, the spans would look uneven and not as aesthetically pleasing.

Balanced cantilever construction allows a greater span length to be achieved. An example of this is the Tuen Mun - Chek Lap Kok Link in Hong Kong with typical spans of 75 m, and main spans of up to 200 m, see **Figure 5** below.



Figure 5. Tuen Mun - Chek Lap Kok Link, Hong Kong

• Span-by-span Erection by Launching Gantry

In this method, each box girder comprises several precast concrete segments. A launching gantry is used to erect the girder on a span-by-span basis. Precast segments can be transported on either barges or on the already constructed deck. All segments in a span are hung from the gantry, posttensioned and locked together and the whole span then lowered onto temporary bearings. The gantry can then be launched to erect the next span. To make the individual spans continuous, a concrete stitch can then be cast between the ends of two spans after the gantry has left. The decks will be jacked up such that temporary bearings can be replaced by permanent bearings with the desired articulation. Typically, a 50 m span can be erected every 4 days.

A typical span length for this would be about 40 - 50 m. While gantries are more widely available for the shorter spans of around 40 m, gantries for longer spans are becoming available. A recent example is Penang Second Bridge in Malaysia, which has typical spans of 55 m, as shown in **Figure 6**.

The same construction method has been used in many bridge projects in urban areas in Hong Kong, as shown in **Figure 7**.



Figure 6. Gantry Construction of Penang Second Bridge, Malaysia



Figure 7. Gantry Construction of Viaduct, Hong Kong

2.4.3.2 Operations Phase

There are no process or technology involved during project operation.

2.4.4 Resource Utilization

2.4.4.1 Electricity

In place of the primary supply, diesel generator sets will serve as an alternative source of energy. A UPS system will cover the power demand of the vital functions during the time it before turning over to the back-up source.

2.4.4.2 Water

A drainage system will collect rainwater on the ramp sections before it goes to the tunnel and directed to the pump sump below the tunnel portal, from where it can be released to the sea following cleaning by oil and separator and sand trap.

2.5 Project Phases

The project components will be implemented according to the Department of Public Works and Highways (DPWH) Standard Specifications, Volume II: Highways, Bridges and Airport (the Blue Book) 2004 edition.

2.5.1 Pre-construction/Pre-operational Phase

The pre-construction phase involves planning and design, obtaining ROW and necessary permits, prequalification of contractors and awarding of contracts, and mobilization for construction.

During the pre-constructional phase, the contractor(s) will mobilize equipment and supplies to the project site, erect temporary facilities for workers and field office, storage sheds and workshops required for the management and supervision of the project. Construction management staff and workers, including local labor, will include women. Casting yard, which will also serve as a dry dock, will be set up where precast concrete and steel segments such as girders, beams and caissons will be casted.

The Road Right-of-Way (ROW) and compensation process will be completed before the start of construction.

There may be minimal disruption to road users in the vicinity of the project site during the construction phase. may be required to be constructed prior to the commencement of construction. Any required road closures or detours will be clearly marked to ensure that there are no safety risks for road users.

During bridge construction, a navigable channel will be maintained, as required, to ensure safe and convenient passage of fishing boats and sea-craft in the vicinity of the project area. The design plans will integrate required clearances for unobstructed passage of vessels under the bridges.

2.5.2 Construction/Development Phase

Bridge construction will involve the following activities:

2.5.2.1 Casting Yard Preparation

The casting yard is where all the precast concretes and steel segments will be fabricated. The yard will have its own delivery and storage areas, concrete batching plant, and assembly area. It will also have a dry dock to have access to the shores of Davao City. After the segments are completed, it will be transported to the construction site via land and sea.

2.5.2.2 Foundation

For the structures on land such as abutments, retaining walls and bridge structure, the site will be excavated for the footing foundations and the completed structures will be backfilled. All excavated materials will be disposed of properly or reused for backfilling, if applicable. Work will also include the furnishing and placing of approved foundation fill material to replace unsuitable material if encountered below the foundations of structures.

For the marine viaducts, large diameter concrete bored piles will be adopted. These require steel casing to be first driven into the sea bed. The material will then be excavated from withing the casing. Steel reinforcement cages, and finally concrete will be poured into the excavation to form the final foundation structure.

For the navigation bridge, prefabricated caissons will be immersed until it rests on the sea bed. Before placing the caisson, the sea bed will be prepared to prevent undue settlements. The soil layer or pad underneath the caisson may be created by soil improvement (jet grouting / deep soil mixing) or with inclusion piles.

2.5.2.3. Bridge Approach Construction

The construction work will involve embankment fill and sub-grade preparation before placing the aggregate sub-base material. The sub-base materials will be spread and compacted to the required thickness. Aggregate base course material will be placed and compacted on the prepared sub-base, and a Portland Cement Concrete Pavement (PCCP), as required per the design will be constructed on the prepared base according to specifications. Road shoulders of the bridge approaches will be protected from erosion by installing grouted riprap for slope protection, as required.

2.5.2.3.1. Bridge Structures

The construction of the land and marine viaducts and navigation bridge will involve the following activities:

- Erection of Columns and Girders
- Cast in place approach slab, deck slab and road curb/barriers
- Installation of storm drain system
- · Apply bitumen wearing coarse
- Installation of lighting/signal system
- Marking of roads and traffic signages

2.5.3 Operational Phase

The bridges and roads are part of a National Highway system and will be maintained by the DPWH-Central in coordination with the DPWH Region XI District Engineering Office in Davao. Road Traffic Management will be coordinated with the concerned local government units.

2.5.4 Demobilization Phase

The demobilization activities will proceed after the construction phase. This will include demobilization of construction barracks and other temporary facilities structures, and removal of all equipment. Construction areas will be cleared and cleaned of any construction waste or debris. Demobilization and restoration work will comply with the accepted procedures and standards prescribed in the approved civil works contract, per DPWH standards.

2.6 Key Environmental Aspects, Issues and Built-in Measures during Pre-construction, Construction and Operation Phases

Key Environmental Aspects	Issues	Built-in Measures									
	Pre-construction Phase										
Land	ROW land acquisition	 Proper compensation and/or relocation of the affected residents and/or land owners 									
	Co	nstruction Phase									
Land	Landscape modification, soil erosion or loss of top soil due to vegetation clearing	 DPWH are required to prepare and implement a material handling program or a site protection and rehabilitation program Immediate compaction of the all-weather road by means of a road roller to prevent any splash and soil erosion 									
	Increase in solid waste generation	 Regular and proper clean-up, collection and disposal of construction wastes in the city disposal area or sanitary landfill Orient construction workers on proper waste disposal Re-use/recycle construction waste as much as possible Provide waste bins in various strategic points within the construction area. 									
	Potential damage to existing roads	 Communicate with DPWH before project construction so that damage on existing roads are taken note of and be repaired 									
	Loss of trees during clearing operations for the alignment	• Proponent will replace the trees cut during the construction phase. Provision of corresponding number of tree seedlings and planting procedure will be coordinated by the proponent with CENRO.									
Water	Oil leaks and accidental spill of construction materials may damage habitats of aquatic life	Locate motor-pool area at least 500 meters away from any body of water									
	Domestic wastes from construction base	 Provision of temporary toilets (portable toilet) and connect to government sewage Wastewater generated by the project should be collected and handled properly by a third-party collector accredited by DENR-EMB 									
	Changes in channel beds and impacts on fish and aquatic life resulting from demolition,	• Strict observance and implementation of Site Protection and Rehabilitation Program and materials handling which provide for soil erosion control measures.									

Table 2. Key Environmental Aspects, Issues and Built-in Measures

	excavation, pile driving and bridge structure construction.	0 • (Observe best practices in proper construction procedures that promote care and minimal disturbance to the existing environment.
Air	Fugitive dust pollution from equipment use	 F G G	Provision of buffer zones and tree planting sites Regular and adequate sprinkling of water should be done in the premises to alleviate the dust particles generated. Drivers of the equipment passing within this vicinity to slow down in order to minimize the dust particulates n the air.
	Increase in noise generation	 H H	Heavy equipment should have muffler and silencer. Instruct drivers of heavy equipment operators to use their engines properly, avoid pumping of the fuel and use of horn. Limit the construction time based on standard operating hours, or limit night work to avoid distraction of nearby communities.
People	Increase in employment opportunities	 [t c (r 	DPWH to adopt strict policy requiring the contractor to source out workforce from qualified locals and develop scheme of prioritization in local hiring. Contractor to orient workers on desirable working relationships with one another.
	Increase in traffic congestion	• (s r	Coordinate with LGUs of affected barangays, specifically, the ones in charge of traffic management.
	C	pera	tion Phase
People	Increase in traffic congestion	• F	Putting up of clear and appropriate directional signs.

2.7 Project Cost

The initial estimated total project cost of the proposed SIDC project is 30.5 Billion PHP. The project is still in the early stages of study. Therefore, at this stage, a factor of +50% and -20% should be applied to the total project cost.

2.7 Project Duration

Presented in **Table 2** below is the schedule of activities to be undertaken.

 Table 3. Gantt Chart for SIDC Activities

Option 4C																								
Activities	YEAR																							
Activities		2019				2020			2021			2022				2023				2024				
	Q 1	Q 2	Q 3	Q 4																				
Detailed Design and Independent Check																								
Pre-construction																								
IEC and FGD, Public Scoping, Public Hearing																								
EIA and Application for ECC																								
Site Investigation (GI, wind measurement, etc)																								
Securing of the necessary approval/permits from the government and regulatory agencies (i.e. Barangay clearance)																								
Complete Property Appraisal and Parcellary Survey																								
Right of Way Acquisition																								
Tender Documentation																								
Contractor Prequalification																								
Construction Contract Tender																								
Assessment and Award																								
Construction																								
Demobilization																								

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Appendix 1. Pictures of the Sites where the Bridge will be Constructed

Davao City



Caption: Along Azuela Cove Coordinates: 7°6'0" N, 125°39'2"E Date: May 8, 2019

Island Garden City of Samal



Caption: Inside Lizada Village Coordinates: 7°6 '11.79" N, 125°38' 58.56" E Date: July 3, 2019



Caption: Beside National Road, Samal Coordinates: 7°5'46" N, 125°40'4"E Date: May 8, 2019



Caption: Barangay Limao, Samal Coordinates: 7°5'48" N, 125°39'53"E Date: May 8, 2019

Appendix 2. Summary of Minutes of the Information and Education Campaign (IEC)

Project	:	Samal Island – Davao City Connector Project
Activity	:	Information and Education Campaign
Venue	:	Barangay Vicente Hizon, Davao City
Date and	:	May 21 and 24, 2019 8:00 AM & 5:00 PM
Time		

Issues Raised by	Issues/Concerns Raised	Response
Mrs. Natividad		Robeen Gerodiaz,
Gamis (Resident)		Project Coordinator of Galerio
		Environmental Consultancy
	What will happen to the	They protected by law, and according to
	affected households and	RA 10752, there are three (3) choices in
	titled lots?	case you are affected by a certain
		project of the government. First is
		through donation that is if you donate
		your property for the government use
		Second is through just compensation as
		remedy for those who own titled land
		The value of land is based on the current
		fair market value, not by the city
		assessors' recommendation as the
		market value is much higher compared
		to zenal and DID values. The last
		to zonal and Bir values. The last
		remedy is through expropriation. Those
		who do not want to be relocated could
		flie a case in court. The disadvantage of
		expropriation is that while the case is
		pending, the project can still proceed. As
		for the informal settlers, the tenants can
		avail relocation, but they shall meet the
	How much is the	requirements needed. The DPWH will
	compensation?	partner with the LGUs in the relocation
		plan. The factor being considered is the
		distance from home to school or
		workplace.
		In addition to just compensation, the
		value of land, house materials, structure,
		fruits and trees will be paid.
Mr. Sonny Intero		Robeen Gerodiaz
(Resident)		Project Coordinator of Galerio
		Environmental Consultancy
	How many lanes are there in	The bridge shall have 4 lanes plus part
	the bridge?	of the design is a provision for
		bicycle/sidewalk lane.
	 Is there a toll fee? 	
		• To be announced by DPWH with regard
	What is the exact distance	to putting a toll fee or not.
	side by side?	

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	 Does the people in Samal agree about the project? There is an existing sanctuary in the affected 	 27 meters. Yes, as we have conducted an IEC in Brgy. Limao, Samal, the project is acceptable for them because of the traffic that they experience. All of their daily business transactions would become much easier once the bridge is operational. As the EIA preparer, it is our job to help
	area, and we hope to divert the structure or put a buffer zone.	find a balance between protection and development.
Mr. Sonny Intero (Resident)		Robeen Gerodiaz Project Coordinator of Galerio Environmental Consultancy
	Where does the borderline start?	• This is still under study. Once all the data are gathered, the design team can decide where to put it in.
	Would the residents be automatically displaced?	• No, there will be negotiations prior to that. And as what President Duterte said, there will be no demolition if there is no relocation.
Mr. Niño Gemarino (Resident)		Robeen Gerodiaz Project Coordinator of Galerio Environmental Consultancy
	Would there be affected households?	• Yes there would be, but the number is still unknown.
Mr. Felix Chagas (Resident)		Robeen Gerodiaz Project Coordinator of Galerio Environmental Consultancy
	• Is it possible to locate the project far from the community? Can the government transfer it to a place that is not populated? We don't have any objections to this government project provided that it won't cause disturbance to the community.	• It will depend upon the results and primary data that we gather. Rest assured that we will transmit your concern to the project proponent.
		Robeen Gerodiaz Project Coordinator of Galerio
	 As purok president, I am also concerned about welfare of the people. Is this project already coordinated with the 	Environmental Consultancy Actually, we have already conducted an IEC & FGD on May 21, 2019 with the help of BHWs in disseminating the information. Azuela were one of the attendees during

	Azuela? I want to know if they agree on putting the bridge there. And if they don't agree, why are we the one to get compromised? Why is it that we are forced to accept while those private entities are given considerations?	the consultation and there were only few who were from this purok. Their concerns were also noted. We can guarantee that this is not the last public consultation. We will have to conduct Public scoping and Public Hearing together with the proponent and concerned government agencies.
Mr. Sonny Intero (Resident)	• For us, the best option is to	Robeen Gerodiaz Project Coordinator of Galerio Environmental Consultancy We will relay your concern to the
	coastal road.	proponent.
Mr. Gregorio Bustamante (Resident)		Robeen Gerodiaz Project Coordinator of Galerio Environmental Consultancy
	• Whatever the decision of the government will be, we will support the project provided that there is relocation.	We are grateful for your support. This project has been formulated 40 years ago and one of the 75 big ticket flagship projects under President Duterte.
Mrs. Natividad Gamis (Resident)		Robeen Gerodiaz and Alliza Marie Lao Galerio Environmental Consultancy
	 What were the reactions of the Azuela during the IEC? 	They also wanted to know the project's landing area, but it is not yet final so we can't give a final answer. They don't have any positive or negative reactions yet since there is no final location as to the landing area of the bridge.
Mr. Sonny Intero (Resident)		Robeen Gerodiaz Project Coordinator of Galerio Environmental Consultancy
	• What are the pre-determined locations and how long will it take to be confirmed? Does the project already have a budget?	It is yet to be determined. Pre-construction phase will take four years to finally come up with the exact location. The different studies/assessments must also be completed and permits be secured. As of now, the project is still under the approval of Regional Development Council and NEDA since they are the ones who will approve for the budget. And yes, the budget for the study is funded by Asian Development Bank (ADB).
Mr. Eddie C. Fernandez (Resident)		Robeen Gerodiaz Project Coordinator of Galerio Environmental Consultancy

	 How much is the estimated compensation for the affected households? 	This will be assessed based on current fair- market value. We have no idea as to the exact amount. Your question can be raised during public scoping.
Mr. Renben D. Alfaro (Resident)		Robeen Gerodiaz Project Coordinator of Galerio Environmental Consultancy
	 For clarification, where is the final entrance and landing site of the said project? 	• In the feasibility study, the involved barangays of the proposed project is Brgy. Limao in IGaCOS and Brgy. Hizon in Davao City. The option for the proposed landing spot is within this area but once again, it is not yet final.
	• We have heard before that the landing spot for the bridge will be located in Cuaco but why did it transfer here in our barangay?	• We have no idea about putting the bridge in Cuaco but we can ask the proponent to confirm about your concern.
Mrs. Jennifer Lauron (Resident)		Robeen Gerodiaz Project Coordinator of Galerio Environmental Consultancy
	• Our land is titled and we are here first before barangay Hizon. This land has a sentimental value to us. Cuaco is available, there is no family residing and there is available wide area.	We will take note of this issue. But for the government project, there is a fair market value that will be given to affected land owners.
	 Suggested to put the project to Cuaco or connect to Coastal Road instead. 	
Lucia del Mundo (Purok Leader of Purok 3)		Maricel Dagooc Galerio Environmental Consultancy Technical Staff
	 What would happen if Cuaco is affected? We are unsure of that, but we know there's no resident along the coastal road. We hope the project will be located there also, it is nearer in Samal compared here in our place. 	We assure you that this is not the last public consultation. All your concerns can be raised again during the next meeting where DPWH, Arup and other government agencies will attend. Your concerns regarding property values, relocation sites can be directed to them.
Kapitan Erico R. Talili (Brgy. Captain)	Message and Last words to the Residents	Maricel Dagooc Galerio Environmental Consultancy Technical Staff
	The team presenting the project are the one	We would like to extend our gratitude to those of you who came here especially to our incoming Brgy. Captain, for welcoming

	commissioned to process the ECC. But we hope, the issues and concerns of my constituents will be given attention through this IEC you facilitated. We hope to give importance on human	us in your barangay and showing support to this project. We would also like to thank God for hearing our prayers that this IEC have come to an end before the rain. Thank you and good evening.
	consideration. It is very difficult if people are the ones to get displaced compared to buildings and structures. Davao City is populated now and if these people will be relocated, I'm afraid it will be far from here.	
	 I heard the people in this barangay are panicking because of the news. Some of the residents did not come today because they do not want to be worried. Others are quarrelling for truth but little do they know the project is still on its first stages and it has not yet started. Lucky are you who are here because you were informed that the project is still undertaking studies and assessments which will take a lot of time. Whatever projects the government will have, we can do nothing about it. But since this project is yet to start, we are hoping for human consideration. That's all. 	
Mares M. Nuera		Leonila P. Galerio Galerio Environmental Consultancy
	Who will fund the project?	 The Asian Development Bank (ADB) will fund the study of the project.
	• Where exactly in Barangay Hizon is the landing area of the proposed bridge since it is possible it will be along the areas of So Peng Kee and the Azuela Cove.	• The property of So Peng Kee and Azuela Cove are possible areas. There is still issues with Azuela Cove since there is a protected area that might be affected.
	• Please inform us if there is an exact landing area for the proposed bridge.	• Yes, it is noted. We will be in contact with you.

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Kagawad Eufracio		Leonila P. Galerio
Uy		Galerio Environmental Consultancy
(Kagawad of		
Barangay Hizon)	Is there a relocation for those	• Yes, relocation is required by the ADB
	who will be affected by the	and NEDA.
	project?	
	Is there already an allocated	 There is still no designated area for
	relocation area for those who	relocation but we will be seeking help
	will affected?	from the LGUs regarding this matter.
	• Will there be free housing?	There are qualifications which will be
	This is a concern since 30	based on the ROWSA. However, if you
	percent of the households	are a renter, usually you are not
	are renters.	qualified.
Kagawad Gilbert		Leonila P. Galerio
Pahain	Suggestion: The coastal road	Galerio Environmental Consultancy
(Kagawad of	should be separated from the	
Barangay Hizon)	bridge because it will cause	As to the exact location and design, it is still
	more traffic.	not final because the feasibility study is still
		ongoing.
Dennis Cabrera		Leonila P. Galerio
(Resident)		Galerio Environmental Consultancy
	Is it possible to shorten the	Secretary Villar is making sure to fast track
	time table of the project by	the project. We will forward this comment to
	2025? It takes too long to	the project proponent.
	finish	As of now, the location will also depend on
		the traffic study
	Is there an update on the	
	details regarding the location	
	of the bridge?	
Joy Tinambacan		Leonila P. Galerio
(Barangay Health		Galerio Environmental Consultancy
Worker)		
	Purok 2 and 3 are the ones	Yes, we will be conducting another IEC on
	that might be affected by the	⊢riday, May 24, 2019.
	proposed project. We would	
	like to request that an IEC will	
	be conducted near their area.	
Mary Anne Cayawan		Leonila P. Galerio
(Barangay Health		Galerio Environmental Consultancy
Worker)		
	Is there an allocated lane for	I here is a provision for a bicycle lane. You
	the people?	than 3 kilometers.

Project	:	Samal Island – Davao City Connector Project
Activity	:	Information and Education Campaign
Venue	:	Barangay Limao, Island Garden City of Samal
Date and	:	May 21, 2019 1:00 PM
Time		

Issues Raised by	Issues/Concerns Raised	Response	
Hon. Teddy Batoon (Barangay Captain)	 How big is the area that will be affected by the project? Will ships be able to cross under the bridge? There will be land owners who will be affected by the project such as owners of Blue Waters and Costa Marina. Will the project proponent process these titles? Will there be a public scoping? 	 Leonila Galerio General Manager of Galerio Environmental Consultancy There is still no final design since the feasibility study is ongoing but the project might cover 40 meters more or less. Yes, the DPWH will process titles during land acquisition and they will be present in the public scoping. 	
Chairman Mario Laureta (Resident of Purok 7-A)	 I have about 150 square meter land with title which might be affected by the proposed project. Now, the current value of the land in our barangay is 15 million per hectare, will the value be based on this? 	Leonila Galerio General Manager of Galerio Environmental Consultancy A third party private appraiser, approved by the BIR will assess the value of your land per square meter which is based on the current fair market value. Another basis for the appraisal is the surrounding development of your property.	
Rose Almendras (Resident of Purok 1-B)	• We fear that terrorists will have an easier access here in Samal because of this project, is this still part of your study?	Leonila Galerio General Manager of Galerio Environmental Consultancy This is part of our study which is tackled in the security measures and rest assured, the local government unit will not allow the terrorists inside your city. As you can see, there are military personnel in your area to check the people who enter in Samal.	
Ligaya Benitez (Resident)	 Will there be a toll fee when crossing the bridge? 	Leonila Galerio General Manager of Galerio Environmental Consultancy This is still being decided by the DPWH and the government. The toll fee might help in the protection and maintenance of the bridge. If there will be a toll fee, this might just be equal to the amount that	

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		you pay when riding the barge. Inclusive of the toll fee would be the time you saved in traveling from Davao to Samal or vice versa. In addition, the design includes a bicycle lane / side walk.
Kurt Marcellones		Leonila Galerio
(Resident)		General Manager of Galerio
		Environmental Consultancy
	• Is there an assurance that the	
	project proponents would hire	Yes, barangay Limao is the affected
	manpower from the locals? Are	community of the project. Thus, the
	we really going to be the priority	residents will become the priority when
	during hiring?	looking for local employees. This is part
		of President Duterte's agenda, to create
		jobs, jobs, jobs.

Project	:	Samal Island – Davao City Connector Project
Activity	:	Information and Education Campaign
Venue	:	Barangay Caliclic, Davao City
Date and Time	:	June 4, 2019 9:00 AM

Issues Raised by	Issues/Concerns Raised	Response		
Mrs. Yolanda Ramirez (Resident of Purok 54)	Suggested about the decign	Lilibeth Rico Project Manager II of DPWH		
	and style of the bridge if possible they prefer the Extra- dosed Bridge which is safe for the commuters.	 We finded Arup from hongkong, which is an international designer (consultant). Arup is still undergoing the feasibility study and will eventually determine the proposed design of the bridge. 		
		• The Samal- Davao Bridge with a course of a study includes two restrictions. First is, we are near the airport in Davao City, they have restriction in height and we are not allowed to put a maximum tower that will exceed in abbreviation system, thus CAAP clearance is needed. In addition, we have considered the navigation clearance of the Philippine Port Authority that's why we need to increase the bridge height.		
Mrs. Yolanda		Lilibeth Rico		
-Resident of				
Purok 5A	 If the bridge will push through, will the toll fee be free? 	• The bridge has a maintenance cost, the Feasibility Study will determine if it is possible to apply for toll fee.		
		• If there will be a toll fee, the people will only pay to a private sector whom the government will hire to maintain cleanliness in the bridge.		
Brgy. Ruvielyn C.	Concern:	Lilibeth Rico Project Manager II of DPW/H		
(Barangay				
Secretary)	 We recommend having a bicycle and pedestrian lanes 	• The DPWH will consider that also.		
	 on the bridge The people are concerned about the volume of garbage, and peace and order in their barangay once the bridge is constructed. Our barangay has become a dumpsite for wastes thrown away by daily by-passers. We 	 The barangay will strengthen itself and adheres to implementation of RA 9003 Solid Waste Management of 2000. That is the reason why there are environmental studies to give remedial measures on that matter. Leonila Galerio 		

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	are only few in our barangay	General Manager of Galerio
	and we lack manpower to	Environmental Consultancy
	clean all litters.	
		Once the bridge will operate, the
	• There are garbage dumps in	implementation of the Ecological Solid
	our baranday	Waste Management Act (RA 9003)
	our barangay.	must be strengthened in your barangay
		Penalties must be imposed. Moreover
		the situ stready has a conitary landfill to
		the city alleady has a samilary landing to
		accommodate the wastes generated.
		• Every resort already has their own solid
		waste management, however, it should
		be strictly implemented inside the
		resort's premises. One simple way in
		disposing waste is to bring your own
		trash Further you can raise your
		concern during Public Scoping so all
		your concerns will be given attention
		your concerns will be given allerition.
Jaime Palma Gil		Lilibeth Rico
(Brgy. Kagawad)		Project Manager II of DPWH
	Would there be a	• The FS will study about the effect of the
	compensation for the affected	project specifically the disturbance of
	properties?	bridge and the DPWH will cater the
		payment for those affected residence or
		property.
		• The FS also will study as to how much
		will be paid for the affected residents.
		We hope for the support and willingness to collect the data from you
Kan Anno		Liliboth Rico
Nap. Anne Dalumpines		Project Manager II of DDW/H
(Barangay		
Captain)	• In relation to project design if it	• The DPWH has a connection to Davao
	is possible to connect the	City Water District we are considering if
	nower line along the bridge?	that is possible
	The electricity line is	
	aubmorged underwater	
		ARLIP as the general technical
		consultant will study if that will be
	• They are experiencing scarcity	foosiblo
	baranday, and the source of	เลงเมเล.
	water comes from doop wells	About nower line, the least utilities will
	water comes from deep-wells,	About power line, the local utilities will request about that and far the future
	water comes from deep-wells, and today they are using	About power line, the local utilities will request about that and for the future
	water comes from deep-wells, and today they are using submarine pump.	• About power line, the local utilities will request about that and for the future plan it is possible that the pipeline will
	water comes from deep-wells, and today they are using submarine pump.	• About power line, the local utilities will request about that and for the future plan it is possible that the pipeline will be connected along with the bridge.
	water comes from deep-wells, and today they are using submarine pump.	 About power line, the local utilities will request about that and for the future plan it is possible that the pipeline will be connected along with the bridge. Harold Wayne Cruz

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		 Globe and PLDT will also coordinate with us since they also want to link their lines on the bridge.
Martin Valles		Lilibeth Rico
(Resident)		Project Manager II of DPWH
	When will the construction of the bridge start?	• We are also studying historical data about the bridge and we determined according to news that it has been planned since 1979. Hoping that before 2024 the bridge will start.
Christian Michael		Lilibeth Rico
(Resident)		Project Manager II of DPWH
	• When the project commences, would the affected residents be relocated in other barangays, or they would remain in barangay Caliclic?	• There are many ways in the Right of Way acquisition. We have financial assistance, and the DPWH will give you compensation. If the requirements we asked for is provided, you will be justly compensated and you decide as to where you will transfer.

Appendix 3. Proof of Conduct of IEC

Project	:	Samal Island – Davao City Connector Project
Activity	:	Information and Education Campaign
Venue	:	Brgy. Caliclic, Samal Island
Date and Time	:	June 4, 2019 9:00 AM

Project Presentation



Jecar Dela Cerna, GEC staff, leads the opening prayer.



Hon. Anne O. Dalumpines, Barangay Captain in Barangay Caliclic, formally opens the consultation.



Marciel Dagooc, GEC staff, presents the Environmental Impact Assessment process

Open Forum



Yolanda Ramirez, a resident, provides suggestions on the design and style of the bridge.



Ruvielyn C. Buscas, barangay secretary, raises concerns on the improper waste disposal of tourists.



Jaime Palama Gil, a resident, raises concerns on the properties to be affected.



Hon. Anne O. Dalumpines extends his concern about experiencing scarcity of water supply.



Martin Valles, a resident, asks about the start of construction.



Christian Michael, a resident, asks about the relocation of affected residents.

Project	:	Samal Island – Davao City Connector Project
Activity	:	Information and Education Campaign
Venue	:	Brgy. Limao, IGaCOS, Davao del Norte
Date and Time	:	May 21, 2019 1:00 PM

Project Presentation

Hon. Teddy Batoon, Barangay Captain, formally opens the consultation.



Maricel Dagooc, GEC staff, presents the Environmental Impact Statement report of the proposed project.

<u>Open Forum</u>



Chairman Mario Laureta asks about the affected area.



Robeen Gerodiaz of GEC explains the land acquisition process.
Project	:	Samal Island – Davao City Connector Project
Activity	:	Information and Education Campaign
Venue	:	Brgy. Vicente Hizon, Davao City, Davao del Sur
Date and Time	:	May 21, 2019 9:00 AM

Project Presentation



Alliza Lao, GEC staff, leads the opening prayer.



Alliza Lao, GEC staff, presents the Environmental Impact Statement report of the proposed project.

Open Forum



Kagawad Gilbert Pahain gives his thoughts and insights about the project.



Mary Anne Cayawan, barangay health worker, asks whether there is an allocated pedestrian lane.



Joy Tinambacan, barangay health worker, requests for an IEC near the affected areas.

Project	:	Samal Island – Davao City Connector Project
Activity	:	Information and Education Campaign
Venue	:	Brgy. Vicente Hizon, Davao City, Davao del Sur
Date and Time	:	May 24, 2019 5:00 PM



Jecar Dela Cerna, GEC Staff, leads the opening prayer.



Maricel Dagooc, GEC Staff, explains the Environmental Impact Assessment.

Open Forum



Natividad Gamis, a resident, asks what will happen to affected land owners.



Jennifer Lauron, a resident, suggests connecting the proposed bridge to Coastal Road.

Appendix 4. List of Invitees

Dava	o City
Mayor	Hon. Sara Duterte-Carpio
City Administrator	Atty. Zuleika T. Lopez
City Assessor	Engr. Jaime G. Adalin
City Health Officer	Dr. Josephine J. Villafuerte
City Planning	Mr. Ivan C. Cortez
City Engineer	Atty. Joseph Dominic S. Felizarta
City Agriculturist's Office	Mr. Leo Brian D. Leuterio
City Environment Development Office	Mr. Juluis Adrian A. Oxales
	City Cooperative Development Officer
City Environment and Natural Resources	Engr. Marivic L. Reyes
Office City Tourism	Doging Dogo D. Toppon
City Tourism	Director Doub C. Alverez, Jr
Commission on Higher Education XI	
Department of Agriculture	Dil. Joseph H. Ohia
Department of Agriculture	Dic- Director Ricardo M. Onete
	Dir. Alberto T. Escobarte
NEDA AI	Director Menual L. Langzo
	OIC Director Fally S. Aliaar
	OIC-Director Felix S. Alicer
DENR-EMB Region XI	Wilson L. Trajeco
Department of Health XI	Dir. Abdullan B. Dumama, Jr.
Department of Labor and Employment XI	Dir. Joffrey M. Suyao
	Dir. Roberto P. Alabado III
	Regional Coordinator Angelita A. Basa
	Dir. Gomer J. Dy
Presidential Management Staff	Regional Field Officer Riz Francesca A. Castanaga
TESDA XI	Dir. Gaspar S. Gayona
Energy Sector	Danel C. Aboitiz
Labor Sector	Dolores R. Alegarbes
Housing/Construction Sector	Evan Glece M. Casas
Academe Sector	Jimmie-Loe P. dela Vega
IP/Cultural Communities Sector	Elmer A. Dianga
Business Sector	Vicente T. Lao
Forestry/Mining Sector	Joseph K. Palanca
NGO/Cooperatives Sector	Andre Maria Patricia M. Sarenas
Small Farmers / Fisherfolk Sector	Virgilio D. Tagnipez
Agribusiness/Industry Sector	Valente D. Turtur
Tourism Sector	Alma L. Uy
BARANGAY	KAPITAN
Vicente Hizon	Hon. Ralph O. Abella
BUSINESS OWNERS	
Modern Times Enterprise Inc	Mr. So Peng Kee (President and CEO)
Lanang Aplaya Resort	Mr. Alexander N. Valoria (President and CEO), Anflo Management and Investment Corporation

Azuela Cove	Mares M. Nuera and Dennis Cabrera

Island Garden City of Samal (IGaCOS)				
Mayor	Al David Torres Uy			
City Administrator	Atty. RoseMarie B. Garde, CPA, EnP			
City Assessor	Engr. John Kenneth Enumerables, REA			
City Social Welfare and Development Office	Abundia A. Lariosa			
City Environment and Natural Resources Office	Edgar F. Arellano, LAG, MSERM, EnP			
City Health Officer	Dr. Dennis Carlos Flores			
City Planning	Engr. Mario S. Pacaldo, MSERM			
City Engineer	Engr. Darwin S. Arig			
City Legal Officer	Aty. Nimrod V. Ogatis			
City Tourism	Jennfier D. Cariaga, CPA, MPA			
Indigenous People Mandatory Representative	Hon. Alfonzo V. San Juan, Sr.			
BARANGAY	KAPITAN			
Caliclic	Hon. Anne O Dalumpines			
Limao	Hon. Teddy Batoon			
BUSINESS OWNERS				
Blue Waters	Jasmine Mercado (Owner)			
Costa Marina	Pilar Rosario Rodriguez (owner)			
Paradise	Narciso L. Rodriguez (Manager)			

Appendix 5. Draft Invitation Letter

____, 2019

Subject: **PUBLIC SCOPING/CONSULTATION**

____:

We would like to solicit your participation together with other stakeholders in the public scoping process of the **Department of Public Works and Highways** for the proposed **Samal Island – Davao City Connector Project.**

This Public Scoping is being conducted in connection with the application for an Environmental Compliance Certificate (ECC) of the aforementioned project in the Environmental Management Bureau Central Office (EMB-Central Office) of the Department of Environment and Natural Resources (DENR).

Related thereto, you and your constituents are hereby invited to attend the Public Scoping on (date) at (time) to be held in (venue).

We look forward to your support and valuable participation.

For more details, please do not hesitate to contact us. Thank you!

Sincerely yours,

Engr. Esperanza A. Sajul Chief-EIAMD

Appendix 6. Draft Presentation of the Project during Public Scoping







Project Informa	ation
Name of Project	Samal Island – Davao City Connector Project (SIDC)
Location	Samal to Davao
Nature of Project	Bridge
Project Proponent	DPWH
Contact Number	+63 2 304 3608
Project Head	Lilibeth Rico



Pres. Rodrigo Roa Duterte



Secretary Mark Villar



Mayor Inday Sara Duterte-Carpio

Project Rationale

>Lessen travel time of passengers

Lessen traffic congestion by providing alternative access road

Accelerate economic growth of Island Garden City of Samal, Davao City and neighboring cities and municipalities

Create more job opportunities for people during the construction and operation phase of the project





 Other supporting infrastructures (i.e. Electrical substation, Maintenance Depot, Adminstration Building)





≻Php 18 to 33.7 Billion						
PROJECT I	DURA	TION				
	2019	2020	2021	2022	2023	2024
Pre-construction						
Construction						
Operation						

Key Environmental	Issues	Built-in Measures
Aspects		
	Pre-construction Ph	ase
Land	ROW land acquisition	Proper Compensation and/or relocation of the affected residents and/or land owners
	Construction Phas	se
Land	Landscape modification, soil erosion or loss of top soil due to vegetation clearing	DPWH are required to prepare and implement a material handling program or a site protection and rehabilitation program Immediate compaction of the all-weather road by means of a road roller to prevent any splash and soil erosion
	Increase in Solid waste Generation	Regular clean-up, collection and disposal of construction wastes in the city disposal area or sanitary landfill Orient construction workers on proper waste disposal Re-use/recycle construction waste as much as possible Provide waste bins in various strategic points within the construction area.
	Potential damage to existing roads	Traffic Management Regulation of traffic movements
	Loss of trees during clearing operations for the alignment	Provision of corresponding number of tree seedlings for planting will be provided by the proponent in coordination with CENRO

Key Environmental Aspects	Issues	Built-in Measures
Air	Fugitive Dust Pollution from Equipment Use	Provision of Buffer zones and tree planting sites Regular and adequate sprinkling of water should be done in the premises to alleviate the dust particles generated. Drivers of the equipment passing within this vicinity to slow down in order to minimize the dust particulates in the air.
	Increase in Noise Generation	Heavy equipment should have muffler and silencer. Regular and adequate sprinkling of water should be done in the premises to alleviate the dust particles generated. Heavy equipment should have muffler and silencer. Instruct drivers of heavy equipment operators to use their engines properly, avoid pumping of the fuel and use of horn. Limit the construction time based on standard operating hours, or limit night work to avoid distraction of nearby communities.

Key Environmental Aspects	Issues	Built-in Measures
	Oil Leaks and Accidental Spill of Construction Materials may damage habitats of aquatic life	Locate motor-pool area for at least 500 meters away from any bodies of water
Water	Domestic wastes from construction base	Provisions of temporary toilets (portable toilet)
	Changes in channel beds and impacts on fish and aquatic life resulting from demolition, excavation, pile driving and bridge structure construction.	Strict observance and implementation of Site Protection and Rehabilitation Program and materials handling which provide for soil erosion control measures. Observe best practices in proper construction procedures that promote care and minimal disturbance to the existing environment.



Appendix 7. Results of Perception Survey

Perception Survey of The Affected Barangays for the SIDC Project

Introduction

The Samal Island - Davao City Connector (SIDC) Project is one of the 75 big-ticket flagship projects under the "Build, Build, Build" program of President Rodrigo Roa Duterte in the Philippines. The landing points of the proposed approximately 2.70 km-bridge are in between the Barangay Vicente Hizon Sr. in Davao City, and the Barangay Caliclic and Limao in the Island Garden City of Samal (IGaCoS).

The construction of this bridge aims to reduce travel time and to promote ease and access for tourists, both local and international coming from Davao City and going to IGaCos and vice versa. Further, it also aims to reduce road network congestion in and around ferry terminals as well as to support IGaCoS economic development and diversification through better links to industry, commerce and trade, among others.

Before this project could proceed, there are several government requirements that have to be accomplished such as securing an Environmental Compliance Certificate (ECC) of which the submission of an Environmental Impact Statement or EIS report is needed. Public Scoping and conduct of Information and Education Campaign (IEC) are also required.

Perception survey about the project had to be conducted in order to know the concerns and perceptions of the households living within the barangays. Hence, this perception survey.

Objectives of the Perception Survey

- To determine the socio-demographic profile of the respondents in the barangays which will be affected by the project including their education, livelihood sources, tenure status over their house and lot, materials of their house, frequency of travel, among others;
- To gauge the perception and social acceptability of the project;
- To investigate their social, environmental, economic and political concerns about the project; and,
- To provide baseline data on possible compensations that is due to the affected families.

Survey Methodology

Research Locale

This survey covered three barangays namely: Vicente Hizon Sr. in Davao City; and Caliclic and Limao in IGaCos.

Questionnaire

A pre-designed survey questionnaire was prepared to gather data from the respondents coming from the randomly selected households of Barangays Hizon, Caliclic and Limao. The questionnaire was divided into several parts namely: respondents' profile; perceptions about the project, concerns about the project, degree of importance of concern, agreements or disagreements on statements provided and acceptance of the project.

To assess the reliability of the survey questionnaire, a pre-test to 20 respondents was conducted. Cronbach's alpha was used to measure reliability (Cronbach, 1951). According to Nunnally and Bernstein (1994), an alpha of at least 0.70 or higher is considered highly reliable. As a result, an alpha of 0.805 was attained which indicates that the survey questionnaire is reliable.

In terms of survey implementation, a pre-survey briefing with the different teams was conducted. The Barangay Health Workers (BHW) in every barangay was also tapped to help in data gathering. Prior to dispatch in their areas of assignment, they were thoroughly briefed to ensure understanding and uniform interpretation of items in the survey questionnaire (see **Appendix 11** for the copy of the questionnaire).

Population and Sampling

To provide a more precise estimates of the perception, a stratified random sampling was conducted. Moreover, sample size was computed based on Cochran (1963) sample formula with a desired level of precision 0.05, estimated proportion of 0.5, and confidence of 95% (Lohr, 1999).

$$n = \frac{n_0}{1 + \frac{n_0 - 1}{N}}$$
$$n_0 = \frac{z^2 p (1 - p)}{e^2}$$

Where,

 n_0 is Cochran's sample size recommendation;

z is the z-value in standard normal distribution

p is the estimated proportion of the population which has the attribute to the question

e is the desired level of precision

N is the population size;

n is the new, adjusted sample size

From 3,728 households in Barangay Hizon, Limao, and Caliclic, a total of 349 was computed as the number of sample size for the research. Then, the sample was proportionally allocated to provide an ample representation of all the barangays involved in the research.

$$n_{stratum} = \frac{N_{stratum}}{N_{pop'n}} \times n$$

Presented in **Table 1** is the allocation of sample in each barangay. Also, the number of responses in each barangay are presented.

Barangays	Total Number of Households	Sample Size Allocation	Total Number of Response	Response Rate
Hizon, Davao City	2,685	251	202	80%
Limao, IGaCos	553	52	75	144%
Caliclic, IGaCos	490	46	67	146%
Total	3,728	349	344	99%

Table 1. Sample Size Allocation

Statistical Treatment

While the overall response rate is good, due to the low response rate at Barangay Hizon in Davao City, a post-stratification technique (Westfall, 2011) was used in calculating the overall project perception to adjust the effect of underrepresentation of Barangay Hizon. Furthermore, an adjusted sampling weights was implemented on per barangay perception estimates of the mean.

Due to the continuous nature of interpretation of the Likert scales, the research assumes that each level of the scale is equally spaced, thus, a computation of the mean is feasible. This applies to data interpretation pertaining to levels of concern of respondent on various issues including social, economic, environmental and political aspects; and general acceptability of the project. **Table 2** below presented the scale and data interpretation for the research.

Scale	Range	Interpretations		
5	4.50 - 5.00	Very High Concern/Very High Importance/Very High Acceptance		
4	3.50 - 4.49	High Concern/Highly Important/ High Acceptance		
3	2.50 - 3.49	Moderate Concern/Moderate Importance/Moderate Acceptance		
2	1.50 – 2.49	Low Concern/Low Importance/Low Acceptance		
1	0.50 - 1.49	Very Low Concern/Very Low Importance/ Very Low Acceptance		

Table 2. Scale and Data Interpretation

SUMMARY OF FINDINGS

Demographics

Almost 2/3 of the respondents are females. This implies that females are the most available when the survey was conducted.

The highest number of the respondents are within the age group 46-55 while the lowest number belong to age group 16-25 years old. Only ten percent of the total respondents belong to age group 60 and above. This suggests that a greater majority of the respondents are still within their working age. Further, 8.2 percent of the respondents are comprised of those who belong to age group 12-25 years old which implies that some of the respondents are still students.

Employment

More than half of the respondents are unemployed and less than ¼ are employed. Interestingly, a portion or 8.2 percent of the respondents are also self-employed. There are more females who are unemployed compared to males.

The highest number of respondents who are employed are working in Davao City. Most of those employed in Barangays Caliclic and Limao work just within their respective barangays. However, there are also few respondents from these barangays who work in Davao City. No respondents from Barangay Hizon, Davao City work in any part of IGaCos.

Education

The highest number of the respondents are high school graduates; followed by those who were able to study up to college level; and, the college graduates. Based on gender disaggregated data, there are more male than female college graduates. However, there is only a very slight difference between male and female high school graduates as well as those who have studied up to high school level.

Tenure Status for House and Lot

Majority of the respondents revealed that they own their house and they have a title for their lot. Less than 20 percent are renters while some are unsure of their land tenure status. They claimed that they have a Certificate of Ancestral Domain Title (CADT), but upon checking with the National Commission on Indigenous Peoples (NCIP), there is no CADT issued in the area yet.

Further, there are less than ten percent of the respondents who build their house in an untitled lot. A few own their house that are built on a rent-free lot with consent from the owner.

In general, while majority of the respondents have title for their lot but there are also few informal settlers that can possibly be affected by the project.

House Materials

Construction materials used for the external wall of the house are also considered in the determination of house/structural compensation. The highest number of respondents used concrete for the external walls of their houses, followed by those who used light materials such as bamboo or wood.

Almost all of the respondents used galvanized iron for their roof. Very few used palm/leaf and makeshift or reused materials.

Frequency of Travel

In terms of frequency of travel from IGaCoS to Davao City and vice-versa, the highest number of respondents travel from and to IGaCos once a month. However, based on gender-disaggregated data, more females travel once a month than the males. There are also more males who travel 2-3 and 4-5 times a week. This implies that males travel more than females.

There are more respondents from Barangay Hizon who travel once a month to IGaCos and vice-versa compared to respondents from Barangays Caliclic and Limao who travel from IGaCos and vice-versa. Respondents from Barangay Limao registered highest in terms of traveling 2-3 times a week from and IGaCos while respondents from Barangay Caliclic registered highest travelling from and to IGaCos 4-5 times a week.

Perception About the project

Most of the respondents have an idea about the project. The highest number of respondents revealed that they are excited about the project; followed by those who are thankful; and, a few, said they are worried.

Segregating the result by gender, it can be inferred that more males have an idea about the project compared to females. Majority of the females are willing to attend the public consultation compared to males.

The top three topics that the respondents want to be discussed by the project implementers are the following: work opportunities, communities affected by the project and impacts of the project on the environment and economic activities of people.

Social, Economic, Environmental and Political Related Concerns

Social concerns are topics, issues and values that are most prevalent in the minds of the community. The respondents have high to very high social concerns about the project. They have a very high concern on the equal representation of men and women during public consultation and that public consultation must be conducted with affected communities. This implies that the project implementers have to make sure that women are well represented during consultations.

Furthermore, the respondents have high concerns on resettlement, acquisition of land at low price, destruction of property improvement such as fences without compensation, social disintegration, distance from work and schools in case of relocation, inconveniences to domestic activities, disruptions and safety issues during construction, issues on right of way and so on. This implies the need to further discuss these concerns to the residents and LGUs of the affected barangays.

The respondents have high economic concerns. Their highest concern is the non-prioritization of local residents, both males and females, in job hiring-in case they are qualified. Based on gender disaggregated data, females have higher economic concerns compared to males. Most of the males and females are willing to work for the project, if there are opportunities for them.

The respondents have high environmental concerns during the construction phase of the project. Their top three highest environmental concerns are: air pollution due to dust and gas emission during construction; followed by the absence of Environmental Compliance Certificate; and, solid waste due to construction. Further the respondents are also concerned about uncontrolled noise during construction, contamination of ground and sea water and change of landscape in the place, among others.

The respondents also have high environmental concerns during the operational phase of the project. Their highest concern is the increase of solid waste due to the possible influx of both local and foreign tourists when the bridge will be operational. It can be assumed that once the travel time going to and from IGaCoS and vice-versa are shortened and traffic congestion are addressed, the number of tourists will eventually increase. Further, the respondents are also concerned about the shortage of water supply in the area and the weak enforcement of environmental laws which may result to serious environmental concern like that of Boracay. This result suggests that the respondents are not only concerned about the environment, but they are also concerned about their health. For example, uncontrolled noise can have effects on their health as it can disrupt their sleep and may cause stress. This poses a great challenge to both the Local Government Units (LGUs) and the concerned agencies to come up with activities and projects to avoid environmental problems in the future.

Political concerns refer to the set of activities associated with the governance of an area or a project. The respondents have high political concerns. They disclosed that the LGUs should constantly monitor progress of the project; followed by the need for proper coordination among the agencies governing the project; and, the need for barangay officials' participation and involvement in meetings and project planning. The participation of barangay officials in meetings can assure the residents of the area that their concerns will be heard because they have representatives during meetings and project development. Barangay officials are one the sources of reliable information on project implementation in their respective areas.

The respondents perceived that the environment is their highest concern, followed by their economic and social concerns. They perceived the importance of political concerns as moderately high only.

Knowledge About the Project

The respondents are already knowledgeable about the benefits they can get from the project. When asked whether they agreed or disagreed with certain statements about the project, respondents agreed most with the following: development of complete construction signages containing work schedules and rules to avoid untoward accident (92.3%); prioritization of locals, both men and women, in job hiring (92.7%); that the bridge will cut travel time of locals and tourists to and from the Island (92.4%); and endorsement of the project from the local officials is very important (92.4%).

83.40% agrees with selling their property when given the right compensation. There are few respondents who are not willing to sell their properties (12.2%) even when offered right compensation. Hence, in case these residents will be affected by the project, further negotiations have to be done to avoid involuntary relocation.

Overall, 90.9% agrees with the construction of the bridge.

Project Acceptability

Generally, both male and female respondents highly accept the project. On a per barangay basis, it shows that the respondents of barangay Caliclic have a very high level of project acceptance while respondents from barangays Hizon and Limao have high level of project acceptance.

SURVEY RESULT

Profile of the Respondents

Of the total 344 respondents, 216 or 62.8% are females and 126 or 36.6% are males while 0.6% did not respond (**Table 3**). This suggests that the females are more available during the conduct of the survey.

Berengey	Mal	e	Fe	male	No Res	ponse	-	Fotal
Багаngay	No.	%	No.	%	No.	%	No.	%
Caliclic	24	35.8	43	64.2			67	100.0
Hizon	68	33.7	132	65.3	2	1.0	202	100.0
Limao	34	45.3	41	54.7			75	100.0
Total	126	36.6	216	62.8	2	0.6	344	100.0

Table 3. Gender of the Respondents

Table 4 shows the age distribution of the respondents. The highest number of the respondents, equivalent to 22.1%, is within the age range of 46-55 years old, followed by the respondents within the age group 26-35 and 36-45 years old, both with the same percentage of 21.5%. Respondents belonging to age group 50-59 years old is 15.1% and 60 above is only 10.2%. The least of the respondents, equivalent to only 8.4% of the total number of respondents, belong to age group 16-25 years old. This implies that most of the respondents are still within their working age.

Table 4. Age Distribution of the Respondents

	16-2	5 years	old	26-3	5 years	s old	36-4	5 years	old	46-5	5 years	s old	50-5	9 years	s old	60) above	•	No I	Respor	ise		Total	
	Male	Fema le	ST	Male	Fem ale	ST	Male	Fem ale	ST	Male	Fem ale	ST	Male	Fem ale	ST	Male	Fem ale	ST	Male	Fem ale	ST	Male	Fem ale	Total
Caliclic		4	4	5	11	16	8	6	14	3	13	16	6	6	12	2	3	5			0	24	43	67
Hizon	8	14	22	20	27	47	10	32	42	8	23	31	13	18	31	9	18	27	2		2	70	132	202
Limao	1	2	3	5	6	11	10	8	18	13	16	29	2	7	9	2	2	4	1		1	34	41	75
No of Respon dents	9	20	29	30	44	74	28	46	74	24	52	76	21	31	52	13	23	36	3	0	3	128	216	344
%	7.0	9.3	8.4	23.4	20.4	21.5	21.9	21.3	21.5	18.8	24.1	22.1	16.4	14.4	15.1	10.2	10.6	10.5	2.3	0.0	0.9	37.2	62.8	100.0

ST: Sub-Total

Table 5 presented the type of employment of the respondents. More than half of the respondents are not employed (54.0%). Interestingly, there are respondents that are self-employed. Less than ¼ of the respondents are employed.

When disaggregated by sex, there are more females who are unemployed compared to males while the number of females and males who are self-employed are almost the same.

Status of		Cali	clic		Hize	on		Limao			Tot	al	
Employment	Male	Fema le	ST	Male	Fema le	ST	Male	Fem ale	ST	Mal e	Fema le	Tota I	%
Employed	1		1	37	15	52	5	2	7	43	17	60	20.9
Self-employed	15	9	24	9	22	31	8		8	32	31	63	22.0
Unemployed	8	33	41	24	90	114				32	123	155	54.0
NR		4	4		5	5				0	9	9	3.1
Total Respondents	24	46	70	70	132	202	13	2	15	107	180	287	100
%	22.4	25.6	24.4	65.4	73.3	70.4	12.1	1.1	5.23	37.3	62.7	100	

Table 5. Type of Employment of the Respondents

ST: Sub-Total; NR: No Response

The respondents who are working were asked of their place of work. From **Table 6**, it can be noted that most (69.5%) of the respondents did not give answer at all. This is comprised of those who are unemployed and, those who refused to give answer during the interview.

Based on the result, the highest number or 21.2% of the respondents who are employed are working in Davao City, followed by those who work in Barangay Limao with 3.8% and Barangay Caliclic with 2.9%. Very few or 0.6% coming from Barangay Hizon work overseas. Further, most of the respondents in Barangays Caliclic and Limao actually work just within their respective Barangay. There are no respondents from Barangay Hizon, Davao City who work in IGaCos probably because currently economic activities or employment opportunities in that place are limited.

Disaggregating the data, more male (44) respondents work in Davao City compared to females with 29 respondents.

	(Caliclic			Hizon		L	imao			Total		%
PLACE OF WORK	Male	Femal e	ST	Male	Femal e	ST	Male	Femal e	ST	Male	Femal e	ST	
Overseas			0	2		2			0	2	0	2	0.6
Brgy. Caliclic, IGaCoS	2	8	10			0			0	2	8	10	2.9
Brgy. Limao, IGaCoS			0			0	7	6	13	7	6	13	3.8
Darong, Davao del Sur			0	1		1			0	1	0	1	0.3
Davao City	1	2	3	36	25	61	7	2	9	44	29	73	21.2
Within IGaCoS			0			0	4	2	6	4	2	6	1.7
NR (No Response)	21	33	54	31	107	138	16	31	47	68	171	239	69.5
No. of Respondents	24	43	67	70	132	202	34	41	75	128	216	344	100.0
%	6.98	12.50	19.48	20.35	38.37	58.72	9.88	11.92	21.80	37.21	62.79	100.00	

Table 6. Place of Work of the Respondents

Education is widely accepted to be fundamental resource, both for individuals and society. The highest level of education that individuals complete is another common measure of attainment (Roser and Ortiz-Ospina, 2019).

Based on the gender disaggregated data, it can be gleaned that the number of male college graduates (21.1%) are higher than the number of female graduates (15.5%). However, there is only a very slight

difference between the number of male and female High School graduates (0.8%) as well as those who have studied up to high school level (0.2%). On the other hand, more females were able to study up to college level (21.8%) than males (18.0%).

In general, it can be concluded that most of the respondents are educated as evidenced the high school graduates (36.8%), followed by those who have college level education with 20.8% and college graduates with 17.8%.

	Α	В	С	D	E	F	G	Total
Male								
Caliclic	1	7	6	3	6	1		24
Hizon	2		7	25	15	21		70
Limao	4	1	3	19	2	5		34
Sub total	7	8	16	47	23	27	0	128
Male %	5.5	6.3	12.5	36.7	18.0	21.1		100.0
Female								
Caliclic	3	3	8	17	7	3		41
Hizon	6	5	13	52	30	26		132
Limao	5	2	7	10	11	5	1	41
Sub total	14	10	28	79	48	34	1	214
Female %	6.4	4.5	12.7	35.9	21.8	15.5	0.5	100.0
TOTAL	21	18	44	126	71	61	1	342
%	6.1	5.3	12.9	36.8	20.8	17.8	0.3	100.0

 Table 7. Educational Attainment of the Respondents

A- Elem. Level, B- Elem. Graduate, C- High School Level, D- HS Graduate, E-College Level, F- College Graduate, G- No Response

The land and house ownership data of the respondents can be used for the computation of their compensation in case they will be resettled, so these data were gathered during the survey.

In terms of the land tenure status and ownership of the house, 52% or 179 of the respondents from the three Barangays namely Caliclic, Hizon and Limao are the owners of their land and houses. Others rent their house and lot (19.5%). There is only one person (or 0.3 percent) who own his house, but rents the lot. Further, it can also be gleaned that there some respondents who build their house in an untitled lot with 9.0%; own the house, rent free but with consent from the owner with 2.6%.

There are 10.5% of the respondents who revealed they have other tenure for their land such as the Certificate of Ancestral Domain Claim (CADT). However, upon checking with the National Commission on Indigenous People (NCIP), it was found out that there was no CADT issued in IGaCos and also in Hizon, Davao City. It can be perceived that those who said they have other land tenure were actually unsure of their land tenure status. During the conduct of the interview, the respondents were not requested to show a proof of their lot ownership, they were only asked of their land tenure status, hence this result.

6.1% of the respondents provided no answer.

	Α	В	С	D	E	F	G	Total
Caliclic	50	3		4	1	4	5	67
Hizon	86	60	1	18	2	20	15	202
Limao	43	4		9	6	12	1	75
Sub total	179	67	1	31	9	36	21	344

Table 8. Tenure Status for Lot and House

%	52.0	19.5	0.3	9.0	2.6	10.5	6.1	100.0			
A Owner P. Penter (house/let) C. Own house/rent let D. Own house untitled let E. Own house, rent free w/											

A- Owner, B- Renter (house/lot), C- Own house/rent lot, D- Own house untitled lot, E- Own house, rent free w/ consent, F- Other Tenure (CADT), G- No Response

Construction materials used for the external wall of the house are also considered in the determination of house/structural compensation. In **Table 9**, the highest number of respondents (37.2%) used concrete for the external wall for their house, followed by those who used light materials such as wood and bamboo with 36.3% and those who used half hollow blocks/half-light materials with 20.3%. There were a few (4.4%) who used mixed materials while others requested that their response on this be left blank.

The result implies that 36.3% of the respondents used semi-permanent materials for the external wall of their house. Semi-permanent materials such as wood, plywood and bamboo can actually be reused, in case the respondents will be relocated as an effect of the project.

Construction Material used for the external wall of the house	Α	В	С	D	Е	F	Total
Caliclic	24	23		20			67
Hizon	78	23		81	15	5	202
Limao	23	24		27		1	75
Sub total	125	70	0	128	15	6	344
%	36.3	20.3	0.0	37.2	4.4	1.7	100.0

Table 9. Construction Materials Used For the External Wall of the House

A- Light Materials-wood, plywood and bamboo, B- Half Hollow Block/half-light materials, C- Makeshift, D- All concrete, E- Others mixed materials, F- No Response

As presented in **Table 10**, almost all of the respondents (96.8%) used galvanized iron for their roof. Very few used palm/leaf and makeshift or reused materials. It can be noted that galvanized iron can still be reused by the respondents to build their new house, in case they will be resettled.

TYPE OF ROOF	Α	В	С	D	E	Total
Caliclic	64	2		1		67
Hizon	196				6	202
Limao	73				2	75
TOTAL	333	2	0	1	8	344
%	96.8	0.6	0.0	0.3	2.3	100.0

Table 10. Type of Roof

A- Galvanized iron, B- Thatch/ palm/ leaf, C- Sod/Grass/Cogon, D- Makeshift/cardboard/reused materials, E-No Response

In terms of frequency of travel of the respondents from IGaCoS to Davao City and vice-versa, more than half of the respondents (57.8%) travel once a month while 34 respondents (or approximately 10%) travel once a week. Only 4 respondents (or 1.2%) travel more than 5 times a week. Out of the 344 respondents, only 9 of them did not indicate their frequency of travel.

Most of female respondents (62.5%) and fifty percent of the male respondents travel to and from IGaCos once a month. Moreover, there are more males (13.3%) who travel 2-3 times a week compared to females (6.5%). This suggests that males travel more frequently than females to and from IGaCos and Vice-Versa.

Based on number of responses tallied per barangay, it can be gleaned that there are more male (38) and female (92) respondents coming from Barangay Hizon who travel once a week compared to Barangays Caliclic and Limao. No male respondents from Caliclic and Hizon and no female respondents from Limao travel more than five times a week from IGaCos and vice-versa. No male respondents from all barangays travel from and to IGaCos once a year.

The result implies that the frequency of travel of the respondents vary, however, there are also some respondents 10.9% for males and 8.3% for females who have not travelled at all to and from IGaCos.

Frequency of Travel to and from IGaCos	A	В	С	D	Е	F	G	н	I	Total
Male										
Caliclic		4	3	3	11	3				24
Hizon		1	4	6	38	10		10	1	70
Limao	1	1	10	5	15	1			1	34
Sub total	1	6	17	14	64	14	0	10	2	128
%	0.8	4.7	13.3	10.9	50.0	10.9	0.0	7.8	1.6	100.0
Female										
Caliclic	2	2	3	5	18	5	1	1	6	43
Hizon		1	7	5	92	13	11	2	1	132
Limao	1	1	4	10	25					41
Sub total	3	4	14	20	135	18	12	3	7	216
%	1.4	1.9	6.5	9.3	62.5	8.3	5.6	1.4	3.2	100.0
TOTAL	4	10	31	34	199	32	12	13	9	344
%	1.2	2.9	9.0	9.9	57.8	9.3	3.5	3.8	2.6	100.0

Table 11. Frequency of Travel To and From Samal and Vice-Versa

A- More than 5 times, B- 4-5 times, C- 2-3 times, D- once a week, E- once a month, F- never, G- Once a year, H- once in 2 months, I- No Response

Most of the respondents said they have already an idea about the project, while 14.8% said they do not have an idea and 3.5% did not give answer at all. Segregating the result by gender, it can be concluded that more males (86.7%) have an idea about the project compared to females with only 78.7%.

Any idea about Davao-Samal Bridge?		Yes			No			Respons	se	Total			
	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	Total	
Caliclic	19	25	44	5	14	19		4	4	24	43	67	
Hizon	62	108	170	5	20	25	3	4	7	70	132	202	
Limao	30	37	67	3	4	7	1		1	34	41	75	
No of Respondents	111	170	281	13	38	51	4	8	12	128	216	344	
%	86.7	78.7	81.7	10.2	17.6	14.8	3.1	3.7	3.5	37.2	62.8	100.0	

Table 12. Idea or Knowledge About the Project

When asked about how they feel about the project, majority of the respondents revealed that they are excited (67.7%); followed by those who are thankful (13.7%); and, a few who are worried (8.7%). Those who are worried are concerned about their properties, in case they will be affected by the project. Those who are excited and thankful have understood the purpose of the project and the benefits that they can get out of it. Likewise, some are eager of the development that can happen in their area once the project will be operational.

In terms of gender, more males (73.4%) are excited about the project compared to females (64.4%). There is a very slight difference between the males (13.3%) and females (13.9%) who revealed they are thankful about the project. There are 8.6% males and 8.8% females who are worried about the project.

How do you Excited feel about				Worried		Thankful			No	Respon	se		Total		
the project	Male	Female	ST	Male	Female	ST	Male	Female	ѕт	Male	Female	ST	Male	Female	Total
Caliclic	14	24	38	6		6	4	7	11		12	12	24	43	67
Hizon	54	85	139	4	16	20	7	15	22	5	16	21	70	132	202
Limao	26	30	56	1	3	4	6	8	14	1		1	34	41	75
No of Respondents	94	139	233	11	19	30	17	30	47	6	28	34	128	216	344
%	73.4	64.4	67.7	8.6	8.8	8.7	13.3	13.9	13.7	4.7	13.0	9.9	37.2	62.8	100.0

Table 13. Feelings about the project

The respondents were asked if they are willing to attend a public consultation before the project implementation. Majority of the females (50.5%) revealed they are willing to attend the consultation compared to males (48.4%).

There are more females (24.5%) compared to males (16.4%) who revealed they are undecided whether they will attend the public consultation or not. There are more males (11.7%) than females who (4.2%) did not give their response. Generally, it can be concluded that less than half of the respondents are willing to attend the public consultation.

Willingness to		Yes			No			Undecided			No response			Total		
Attend Public Consultation	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	Total	
Caliclic	18	22	40	4	13	17	2	8	10			0	24	43	67	
Hizon	29	56	85	20	31	51	9	36	45	12	9	21	70	132	202	
Limao	15	31	46	6	1	7	10	9	19	3		3	34	41	75	
No of Respondents	62	109	171	30	45	75	21	53	74	15	9	24	128	216	344	
%	48.4	50.5	49.7	23.4	20.8	21.8	16.4	24.5	21.5	11.7	4.2	7.0	37.2	62.8	100.0	

Table 14. Willingness to Attend Public Consultation

Public consultation aims to engage key stakeholders such as the citizens, NGOs, agencies, interest groups to provide input into the planned development especially on those impacts that directly or indirectly affect people's livelihoods. Effective public participation requires that project planners inform and involve interested actors during public consultation; ensure that relevant sectors are represented; comments are explicitly addressed; and concerns as well as inputs, both in documentation and decision making, are considered (IISD, 2016).

Those who are willing to attend the public consultation were asked what topics they wanted to be discussed. The highest number of male (24.5%) and female (23.3%) female respondents said that they want work opportunities to be discussed. This implies that the respondents are expecting that there will be work opportunities for them.

In general, it can be gleaned that the top three topics that the respondents want to be discussed during the public consultation are: work opportunities (23.7%), impacts on affected communities (18.8%) and impacts on the environment (15.7%).

They are also interested on discussions as regards the affected communities, local endorsements and impacts of the project on the environment. All of the male respondents gave their responses, while 6.5% of the female respondents did not give answer at all.

Topics	A	В	С	D	E	F	G	Total
Male								
Caliclic	4	15	7	1	11	16		54

Hizon	18	4	6		1	12		41
Limao	11	11	9	9	13	11		64
Sub total	33	30	22	10	25	39		159
%	20.8	18.9	13.8	6.3	15.7	24.5	0.0	100.0
Female								
Caliclic	3	14	4	1	10	22		54
Hizon	14	21	17	8	11	25	29	125
Limao	16	19	15	15	24	20		109
Sub total	33	54	36	24	45	67	29	288
%	11.5	18.8	12.5	8.3	15.6	23.3	10.1	100.0
TOTAL	66	84	58	34	70	106	29	447
%	14.8	18.8	13.0	7.6	15.7	23.7	6.5	100.0

A-Projects design including exact location, B-affected communities, C-Local endorsement, D-Compliance to government requirements, E-Impacts on environment and economic activities of people, F-Work opportunities, G- No Response

Those who are not willing to attend the public consultation were asked of their reasons. The highest number of male respondents or 46.4% said they have other concerns to do while 41.1% said they have work. On the other hand, the highest number of females or 41.9% did not respond followed by those who said they are busy with household chores with 37.6% and those who are working with 16.1%. Some have other reasons that they do not want to disclose. All males responded to the question, while 41.9% of the females did not respond.

Barangays/Gender	A	В	С	D	Total
Male					
Caliclic			24		24
Hizon	18	3	1		22
Limao	5	4	1		10
Sub total	23	7	26		56
%	41.1	12.5	46.4	0.0	100.0
Female					
Caliclic	1	13			14
Hizon	14	15	4	39	72
Limao		7			7
Sub total	15	35	4	39	93
%	16.1	37.6	4.3	41.9	100.0
TOTAL	38	42	30	39	149
%	25.5	28.2	20.1	26.2	100.0

 Table 16. Respondents' Reasons for Unwillingness to Attend Public Consultation

A-I have work, B-I am busy with household chores, C-Others, D- No Response

Social, Environmental, Economic and Political Concerns about the Project

To gauge the level of concern of respondents to various issues relevant to the project inlcuding social, environmental, economic, and political aspects, the respondents were asked to rate from 1 to 5 each of the issues identified in Table 17 (social), Table 18 (economic), Table 21 and 22 (environmental), Table 23 (political). 1 means very low concern, 2 means low concern, 3 means moderate concern, 4 means high concern, and 5 means very high concern. The researchers then computed for the mean levels of concerns of all respondents.

Due to the continuous nature of interpretation of the Likert scales, the research assumes that each level of the scale is equally spaced, thus, a computation of the mean is feasible. The table below presents the data interpretations.

Scale	Range	Interpretations
5	4.50 - 5.00	Very High Concern/Very High Importance/Very High Acceptance
4	3.50 - 4.49	High Concern/Highly Important/ High Acceptance
3	2.50 - 3.49	Moderately High Concern/Moderately High Importance/Moderately
		High Acceptance
2	1.50 – 2.49	Low Concern/Low Importance/Low Acceptance
1	0.50 - 1.49	Very Low Concern/Very Low Importance/ Very Low Acceptance

Social concerns are topics, issues and values that are most prevalent in the minds of the community. Social concerns when not clarified or answered may cause anxiety. In general, respondents have a high to very high concern to social related concerns. This is evident, such that, regardless of Barangays and sex of the respondents, the mean range of their responses are from 4.19 to 4.47 or High concern. (See legend below the table for interpretation of the mean results).

In totality, social concerns of the respondents are high with a mean of 4.33. Among this, the equal representation of men and women during public consultation is the highest social concern with a total mean of 4.47. This is closely followed by the concern of respondents regarding the conduct of public consultation with the affected community which garnered a mean of 4.46. The lowest mean based on the social concerns is the distance from schools or work in case of resettlement.

When disaggregated by barangay, Barangay Caliclic, on average, has high social concerns with mean ranging from 4.61 to 4.91. This is also consistent when disaggregated by gender. Furthermore, males are highly concerned on resettlement, destruction, congestion of routes, and equal representation of men and women on public consultation-all have means of 5. This may due to the fact, that Barangay Caliclic is the possible open-entrance of the bridge.

On the other hand, Barangay Limao is most concerned on public consultation and representation of men and women with a mean of 4.56 and 4.53, respectively. For Barangay Hizon, most of the social concerns are high. Same with Barangay Limao, public consultation and representation of men and women is their top most concern with a mean of 4.22 and 4.31, respectively. This implies the need for project implementers to clarify and address these issues/concerns of the barangays. Further, public consultations and IEC must be conducted to discuss these concerns.

Resettlement being one of the high concerns of the respondents must be addressed objectively. According to the International Hydropower Association Limited (2016), when resettlement cannot be avoided, it has the potential to add more project complexity to the project, regardless of the number of people to be relocated. Good planning is not enough because successful resettlement program requires effective implementation and long-term monitoring and evaluation of the affected people.

It further stated that resettlement covers a whole lot of effects on the affected families perhaps because of their personal attachment to their current place, neighbors, associations, among others. Resettlement is an aspect of any project development that requires a great deal of expertise and sensitivity, and is often a risk factor in causing project delays. During the project preparation phase, clear resettlement strategies and programs for compensation and improvement of affected livelihood should be designed in partnership with affected people. Generally, the potential risk of resettlement increases with the number of people to be resettled and the risk can have impacts on project cost. If possible, those who will be resettled should be involved in choosing compensation methods (International Hydropower Association Limited, 2016).

In terms of gender disaggregated data, it can be concluded that male and female respondents have high social concern with a mean of 4.36 and 4.28, respectively.

The overall mean obtained is 4.33 which implies that regardless of barangays and gender, the respondents social concern is highly prevalent in the minds of the respondents.

SOCIAL	Caliclic				Hizon			Limao		Total		
CONCERNS	М	F	x	М	F	x	М	F	x	М	F	x
1. Resettlement of houses	5	4.86	4.91	4.04	3.96	3.99	4.09	4.22	4.36	4.38	4.35	4.38
2. Acquisition of land at low price.	4.75	4.53	4.61	3.84	3.98	3.93	4.09	4.2	4.24	4.23	4.24	4.24
3. Destruction of property improvement e.g. fence swithout compensation	5	4.86	4.91	3.91	4.06	4.00	4.24	4.2	4.37	4.38	4.37	4.39
4. Social disintegration	4.79	4.53	4.63	3.99	4.05	4.03	4.06	3.98	4.22	4.28	4.19	4.25
5. Distance from schools or work in case of resettlement.	4.71	4.49	4.57	3.79	3.89	3.85	4.12	4.12	4.18	4.21	4.17	4.19
6. Issues on right of way	4.92	4.65	4.75	4.16	4.13	4.14	4.15	4.02	4.32	4.41	4.27	4.35
7. Inconveniences to domestic activities	4.96	4.67	4.78	3.84	4.05	3.97	4.06	4	4.26	4.29	4.24	4.28
8. Disruption and safety issues associated with construction.	4.92	4.84	4.87	3.87	4.13	4.03	4.38	4.17	4.38	4.39	4.38	4.39
9. Congestion of traffic routes during construction phase	5	4.84	4.90	3.96	4.06	4.02	3.94	4	4.30	4.3	4.3	4.34
10. Disruption of ferry boats' schedule due to construction.	4.96	4.79	4.85	3.94	4.08	4.03	4.03	3.76	4.25	4.31	4.21	4.29
11. Conduct of public consultation with the affected community	4.92	4.84	4.87	4.2	4.23	4.22	4.56	4	4.43	4.56	4.36	4.46
12. Equal representation of men and women during public consultation	5	4.72	4.82	4.3	4.32	4.31	4.53	4.02	4.45	4.61	4.35	4.47
Total	4.91	4.72	4.79	3.99	4.08	4.05	4.19	4.06	4.31	4.36	4.28	4.33

Table 17. Mean Levels of Concern of Respondents to Social Issues

Legend: 4.50 – 5 Very High Concern; 3.50-4.49 High Concern; 2.50 -3.49 Moderate Concern; 1.50 -2.49 Low Concern; 0.5 -1.49 Very Low Concern

The respondents have high economic concern with a mean range from 3.92 to 4.51. Their highest concern is on the non-prioritization of local residents, both male and female, in job hiring in case they are qualified with a mean of 4.51; and fare hikes with a mean of 4.44. They are also highly concerned with the loss of of livelihood with a mean of 4.32. Losing a job or means of livelihood is an issue for those who will be affected, hence compensation package that will be provided should include restoration of livelihood or provision of income generating projects. According to Wilmot (2012) "one of the reasons project-affected people have been having a difficult time creating livelihoods from the rehabilitation and resettlement package is the disconnection between their original lifestyles and livelihoods, and the compensation provided.

Moreover, it can also be noted that the respondents have high concern on the loss of their livelihood, for example, the street vendors and owners of small retailing stores with a mean of 4.34. Possible influx of big businesses in IGaCos when the bridge will be operational is a big challenge to those who own small business with a mean of 4.09.

In terms of gender disaggregated data, result revealed that females have higher economic concern with an overall mean 4.27 compared to males with a mean of 4.19. Females usually devote time budgeting the family's income on food, education, health, among others. This partly explains why they have higher economic concern compared to males.

ECONOMIC		Caliclic			Hizon			Limao		Total		
CONCERNS	м	F	x	м	F	x	М	F	x	М	F	x
1. Loss of means of livelihood e.g. side walk vendors, small retailing stores	4.88	4.56	4.68	3.97	4.23	4.13	4.32	4.05	4.32	4.39	4.28	4.34
2. Not prioritizing local residents, both male and female, in job hiring in case they are qualified	4.92	4.84	4.87	4.06	4.36	4.25	4.38	4.39	4.50	4.45	4.53	4.51
3. Fare hikes	4.92	4.74	4.81	4.07	4.23	4.17	4.41	4.27	4.43	4.47	4.41	4.44
4. Loss of jobs for those working with ferry boats	4.13	4.47	4.34	3.59	3.89	3.78	3.35	3.61	3.88	3.69	3.99	3.92
5. Influx of big businesses thus affecting local small business owners	4.33	4.44	4.40	3.69	3.97	3.87	3.85	4.05	4.08	3.96	4.15	4.09
Total	4.64	4.61	4.62	3.88	4.14	4.04	4.06	4.07	4.24	4.19	4.27	4.26

Table 18. Mean Levels of Concern of Respondents to Economic Issues

Legend: 4.50 – 5 Very High Concern; 3.50-4.49 High Concern; 2.50 -3.49 Moderate Concern;

1.50 -2.49 Low Concern; 0.5 -1.49 Very Low Concern

In general, it appeared that there are more respondents (19) in Barangay Hizon who have business near the construction site compared to Barangay Limao with only 2. No respondent from Barangay Caliclic have business near the construction site. Out of the total respondents, only 6.5% of the males and 9.6% females have business close or within the project construction site.

During the conduct of socio-economic survey for 'project-affected persons,' there will be a need to identify their specific businesses to determine compensation packages. For example, if a business is a retailing store, transfer and re-establishing the business can be considered as part of the compensation package. It must also be noted that the transfer areas for businesses should be in strategic locations. Re-establishing a business in a new location is a challenge for the business owners because they will have to cater to new customers.

Table 19. Respondents	s with Business	Close or Within	the Identified	Construction Site
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Business within or close to		YES			NO		Total			
the identified construction site	Male	Female	ST	Male	Female	ST	Male	Female	Total	
Caliclic	0	0	0	21	36	57	21	36	57	
Hizon	4	15	19	54	92	146	58	107	165	
Limao	3	2	5	25	33	58	28	35	63	
No of Respondents	7	17	24	100	161	261	107	178	285	
%	6.5	9.6	8.4	93.5	90.4	91.6	100.0	100.0	100.0	

In **Table 20**, it can be gleaned that most of the males (89.4%) and females (74.7%) are willing to work for the project if there are opportunities for them. This implies that the female respondents are as interested as the males to work for the project.

By barangays, there are 39 respondents (91%) in Barangay Caliclic who are willing to work for the project if there are opportunities, while 4 respondents (9%) are not interested. Also, 132 of the respondents of Barangay Hizon (80%) are interested with the opportunities that the project can offer, whereas 34 respondents (20%) are not willing at all. Barangay Limao's 34 respondents (72%) are willing to work in the said project area and 13 respondents (28%) are not willing.

Work Opportunities	YES			NO			Total		
	Male	Female	ST	Male	Female	ST	Male	Female	Total
Caliclic	8	31	39	0	4	4	8	35	43
Hizon	49	83	132	6	28	34	55	111	166
Limao	27	7	34	4	9	13	31	16	47
No of Respondents	84	121	205	10	41	51	94	162	256
%	89.4	74.7	80.1	10.6	25.3	19.9	100.0	100.0	100.0

Table 20. Willingness to Work for the Project

Survey results show that the respondents have high to very high environmental concerns during the construction phase of the project with a mean range from 4.30 to 4.51. Their top three highest environmental concerns are: air pollution due to dust and gas emission during construction with a mean of 4.51 or very high concern; solid waste due to construction with a mean of 4.49 or high concern; and, absence of Environmental Compliance Certificate as well as contamination of ground and sea water, both with a mean of 4.47 or high concern. Further, the respondents are also concerned about uncontrolled noise during construction, contamination of ground and sea water, change of landscape in the place, among others. In general, the respondents have high environmental concerns during construction with a mean of 4.43. The respondents do not actually need to worry about ECC because the project cannot proceed without complying with this government requirement. During the public consultation and IEC, it was made clear that before the project implementation, an ECC will still be secured first.

The respondents' concern on uncontrolled noise pollution implies that they are not only concerned about the environment, but also about their health. Therefore, the project implementers must ensure that noise mitigating measures e.g. noise barriers are included during the planning stage of the project. According to Rojas of the Barcelona Institute of Health as cited by Roberts (2018), noise produces stimulus to the central nervous system and this stimulus releases some hormones. This increases the risk of hypertension and hypertension has been related to many other cardiovascular and cerebrovascular diseases like infraction (heart attacks) and stroke. Moreover, Rojas added that "while pregnant women and young children are particularly vulnerable to this urban pollutant such as noise, the problem affects everybody, regardless of life stages.

Combining the result, it can be concluded that females have higher environmental concern with a mean of 4.47 compared to males with a mean of 4.35. Generally, the respondents have high environmental concern during construction with an overall mean of 4.43.

In terms of Barangays, it appeared that the respondents in Barangay Caliclic have the highest obtained mean of 4.90 which suggests that they have very high environmental concerns during construction, compared to Barangay Limao and Hizon with a mean of 4.43 and 4.06, respectively.

CONCERNS	Caliclic			Hizon			Limao			Total		
CONCERNS	М	F	x	М	F	X	М	F	X	М	F	X
1. Change of landscape in the place	4.96	4.95	4.95	3.9	3.85	3.87	4.26	4.44	4.40	4.37	4.41	4.39
2. Reduction of vegetative cover	5	4.95	4.97	3.77	3.86	3.83	3.79	4.17	4.28	4.19	4.33	4.30

Table 21. Mean Levels of Concern of Respondents to Environmental Issues During Construction

 Contamination of ground and sea water 	4.96	4.88	4.91	3.99	4.22	4.14	4.29	4.34	4.45	4.41	4.48	4.47
4. Uncontrolled noise during construction	5	4.6	4.75	4.07	4.2	4.15	4.12	4.56	4.43	4.4	4.45	4.43
5. Cutting of trees for bridge construction	5	4.93	4.96	3.83	4.17	4.04	3.74	4.24	4.35	4.19	4.45	4.39
6. Destruction of marine habitats (e.g. Mangrove, coral reef)	4.92	4.88	4.89	3.9	4.31	4.16	4.15	4.29	4.43	4.32	4.49	4.45
7. Air pollution due to dust & gas emissions during construction	4.92	4.95	4.94	4.01	4.2	4.13	4.32	4.54	4.51	4.42	4.56	4.51
8. Solid waste due to construction	4.92	4.95	4.94	3.96	4.19	4.11	4.29	4.51	4.49	4.39	4.55	4.49
9. Absence of Environmental Compliance Certificate	4.83	4.72	4.76	4.09	4.17	4.14	4.38	4.66	4.49	4.43	4.52	4.47
Total	4.95	4.87	4.90	3.95	4.13	4.06	4.15	4.42	4.43	4.35	4.47	4.43

Legend: 4.50 – 5 Very High Concern; 3.50-4.49 High Concern; 2.50 -3.49 Moderate Concern; 1.50 -2.49 Low Concern; 0.5 -1.49 Very Low Concern

Shown in **Table 22** are the environmental concerns during project operation. Results revealed that they have high to very high environmental concern ranging from 4.47 to 4.52. Their top concern is on the increase of solid waste due to the influx of tourists, both local and foreign, once the bridge is operational with a mean of 4.52 or very high concern. It can be assumed that once the travel time going to and from IGaCoS and vice-versa is shortened and traffic congestion are addressed, the number of tourists will eventually increase.

The respondents have also high concern about the weak enforcement of environmental laws which may result to serious environmental concern like that of Boracay with a mean of 4.49 and shortage of water supply in the area with a mean of 4.47. This shows that even if the respondents know that economic development will take place in the area, they are also concerned about the environment. This poses a challenge on both the local government units and the concerned government agencies to come up with plans and programs to avoid environmental problems in the future.

Based on gender disaggregated data, it can be concluded that females have very high environmental concern during the bridge operationalization with a mean of 4.53 compared to the males whose concern is only high with a mean of 4.41.

Based on the result per Barangay, it appeared that Barangay Caliclic got the highest mean of 4.93 which means that the respondents have very high environmental concern during bridge operation. On the other hand, Barangays Limao and Hizon got a mean of 4.49 and 4.14, respectively implying that they have high environmental concern during the bridge operation.

Table 22. Mean Level o	of Concern of Respon	dents to Environmenta	I Issues During Bridg	ge Operation

CONCERNS	Caliclic				Hizon			₋imao		Total		
CONCERNS	М	F	X	М	F	x	М	F	X	М	F	x
1. Increased Solid waste due to influx of tourists once the bridge is operational (local and foreign)	4.92	4.95	4.94	4.01	4.27	4.17	4.26	4.51	4.51	4.4	4.58	4.52

2. Shortage of water supply for domestic use due to influx of tourists	4.92	4.86	4.88	4.07	4.19	4.15	4.24	4.46	4.47	4.41	4.5	4.47
3. Weak enforcement of environmental laws (Island might have same problems as with Boracay)	4.92	5	4.97	4.07	4.14	4.11	4.24	4.41	4.48	4.41	4.52	4.49
Total	4.92	4.94	4.93	4.05	4.2	4.14	4.25	4.46	4.49	4.41	4.53	4.49

Legend: 4.50 – 5 Very High Concern; 3.50-4.49 High Concern; 2.50 -3.49 Moderate Concern; 1.50 -2.49 Low Concern; 0.5 -1.49 Very Low Concern

Political concerns refer to the set of activities associated with the governance of an area or project. Survey result revealed that the respondents have high political concern with an overall mean of 4.35. They have high concern that Local Government Units (LGUs) should constantly monitor progress of the project and proper coordination among agencies governing the project, both with a mean of 4.38. They have also high concern on barangay officials' participation and involvement in meetings and project planning with a mean of 4.30. The participation of barangay officials in meetings will help assure the residents knowing that they have representatives in the project development. Usually, Barangay Officials are the source of information on project implementation in their respective area. Their ideas and suggestions matter to their constituents.

Based on the gender disaggregated data, it can be concluded that male and female respondents have high political concern about the project. However, they vary in terms of the mean obtained which is 4.27 for males and 4.43 for females.

In terms of Barangay data, it can be gleaned that Barangay Limao got the highest mean of 4.37; followed by Barangays Caliclic and Hizon, both with a mean of 4.31. Interpreting the mean obtained for all Barangays imply that the respondents have high political concerns.

CONCERNS	Caliclic				Hizon			Limao		Total		
CONCERNS	М	F	x	М	F	X	М	F	x	М	F	x
1. LGU should constantly monitor progress of the project	4.17	4.53	4.40	4.29	4.29	4.29	4.53	4.46	4.39	4.33	4.43	4.38
2. Barangays officials' participation and involvement in meetings and project planning	4.17	4.33	4.27	4.21	4.25	4.24	4.44	4.44	4.31	4.27	4.34	4.30
3. Proper coordination among agencies governing the project	3.96	4.42	4.25	4.1	4.6	4.42	4.53	4.51	4.40	4.2	4.51	4.38
Total	4.1	4.43	4.31	4.2	4.38	4.31	4.5	4.47	4.37	4.27	4.43	4.35

Table 23. Mean Level of Concern of Respondents to Political Issues

Legend: 4.50 – 5 Very High Concern; 3.50-4.49 High Concern; 2.50 -3.49 Moderate Concern; 1.50 -2.49 Low Concern; 0.5 -1.49 Very Low Concern

The respondents were asked about how they perceived the importance of the different concerns about the project. Result shows that the respondents perceived the environment to be their highest concern with a mean of 4.46; followed by the political, social and economic concerns with a mean ranging from of 4.35 to 4.26

Per data according to Barangays, it can be concluded that Barangay Caliclic perceived that environmental concern is of very high importance with a mean of 4.92. On the other hand, Barangay Hizon perceived political concern as the most important with a mean of 4.31 and Barangay Limao also perceived the environment as their most important concern with a mean of 4.34.

On gender disaggregated data, it shows that both males and females perceived all the concerns highly important.

CONCERNS		Caliclic			Hizon			Limao		Total		
CONCLINIS	М	F	X	М	F	x	М	F	x	М	F	x
Environment	4.94	4.91	4.92	4	4.17	4.10	4.2	4.44	4.46	4.38	4.5	4.46
Political	4.1	4.43	4.31	4.2	4.38	4.31	4.5	4.47	4.37	4.27	4.43	4.35
Social	4.91	4.72	4.79	3.99	4.08	4.05	4.19	4.06	4.31	4.36	4.28	4.33
Economic	4.64	4.61	4.62	3.88	4.14	4.04	4.06	4.07	4.24	4.19	4.27	4.26
Total	4.65	4.67	4.66	4.02	4.19	4.13	4.24	4.26	4.34	4.30	4.37	4.35

Table 24. Degree of Importance of Concerns

Shown in **Tables 25** are the responses on the agreements and disagreements of the respondents on the statements provided. The result clearly shows that the respondents are already knowledgeable about the benefits they can get out of the project. There are 93.3% of the respondents who agreed on the development of complete construction signages containing work schedules and rules to avoid untoward accident; 92.7% agreed that the project should prioritize hiring of the locals, both women and men; Moreover, 90.1% of the respondents also agreed that they do not oppose the construction of the bridge and 83.4% said they are willing to sell their properties, if the price is right.

A high percentage of the respondents agreed that the bridge should be near the key locations of Davao City and IGaCos. The statements that most of them agreed on also include items that they would want the project implementers to consider during the project implementation.

When disaggregated by sex, there are 14.8% males who disagreed with the cutting of trees even though this is subject to approval of concerned agencies, 12.5% who are not willing to sell their property, and 5.5% opposes the construction of the bridge. This implies that not all male respondents are willing to sell their properties and that there are respondents, very few though, who are opposed to the construction of the bridge.

For females, there are 12.0% who are not willing to sell their properties, 11.1% disagreed with the cutting of trees even though this is subject to approval of concerned agencies and 6.0% opposes the idea that the establishment of the bridge will provide employment to the local community. 6.0% also opposes the construction of the bridge.

Overall, for both males and females, the top 3 highest disagreements are on cutting of trees with 12.5%; selling of property with 12.2%; and the construction of the bridge with 5.8%.

	TOTAL									Over-All total		
Statements		Ма	ale			Fen	nale		^	D	ND	
	Α	D	NR	то	Α	D	NR	тр	A	U	INIX	TR
	%	%	%	IK	%	%	%	IK	%	%	%	
1. The establishment of the bridge will provide employment to the local community	92.2	3.9	3.9	128	91.2	6.0	2.8	216	91.6	5.2	3.2	344
2. The project should prioritize hiring of the locals,	93.8	2.3	3.9	128	92.1	3.7	4.2	216	92.7	3.2	4.1	344

 Table 25. Agreement and Disagreement on Certain Statements about the Project

both women and												
2 The bridge												
3. The bridge												
will cut traver time	02.0	2.4	2.0	100	00.4	2.2	4.6	216	02.4	2.2		244
	93.0	3.1	3.9	120	92.1	3.2	4.0	210	92.4	3.Z	4.4	344
tourists to and												
from the Island												
4. The bridge is												
a convenient												
transport route	92.2	3.9	3.9	128	91.7	3.7	4.6	216	91.9	3.8	4.4	344
going to and from												
the Island												
Cutting of												
trees must be												
approved by	81.3	14.8	3.9	128	84.3	11.1	4.6	216	83.1	12.5	4.4	344
concerned												
agencies												
6. I am willing to												
sell my property												
like land and	83.6	12.5	3.9	128	83.3	12.0	4.6	216	83.4	12.2	4.4	344
house if the price				-		-	_	-				
is right												
7. I do not												
oppose to the												
construction of the	90.6	5.5	3.9	128	89.8	6.0	4.2	216	90.1	5.8	4.1	344
bridge												
8 Endorsement												
from the local												
officials is verv	93.0	3.1	3.9	128	92.1	3.2	4.6	216	92.4	3.2	4.4	344
important												
0 The bridge												
should be near the												
Should be hear the	02.2	2.0	2.0	100	01.0	4.0	4.6	216	01.6	4.4		244
Rey locations of	92.Z	3.9	3.9	120	91.2	4.Z	4.0	210	91.0	4.1	4.4	344
Davao City and												
IGACOS												
10. Development												
or complete												
construction												
signages												
containing work	94.5	1.6	3.9	128	92.6	3.2	4.2	216	93.3	2.6	4.1	344
schedules and												
rules to avoid												
untoward												
accident.												
11. The bridge												
should be												
connected to the	92.2	30	30	128	02.1	37	12	216	92.2	3 0	<u>4</u> 1	344
major roads such	52.Z	5.9	5.9	120	32.1	5.7	4.2	210	JL.L	5.0	4.1	544
as coastal and												
bypass roads.												

A=Agree; D=Disagree; NR=No Response; TR=Total Respondents

See attached detailed result.

At the end of the perception survey, respondents were asked to rate from 1 to 5 their level of acceptance of the project. 1 means very low acceptance, 2 means low acceptance, 3 means moderate acceptance, 4 means high acceptance, and 5 means very high acceptance. The researchers then computed for the mean level of acceptance.

Results of the survey revealed that respondents generally accept the project with a mean of 4.37. When analyzed per barangay, it shows that respondents of Barangay Caliclic rated their acceptance as very high with a mean of 4.68. Those from Barangay Limao, on the other hand, highly accepts the project (mean of 4.49). The level of acceptance of respondents from Barangay Hizon is the lowest with a mean of 3.95.
When disaggregated by sex, it can be noted that both male and female respondents highly accept the project with a mean of 4.41 and 4.33 respectively.

Table 26. Acceptance of the Samal-Davao Connector Project

Personance	A]	
Barangays	Male	Female	x
Caliclic	4.63	4.72	4.68
Hizon	4.13	3.77	3.95
Limao	4.47	4.51	4.49
Total	4.41	4.33	4.37

Legend: 4.50 – 5 Very High Acceptance; 3.50-4.49 High Acceptance; 2.50 -3.49 Moderate Acceptance; 1.50 - 2.49 Low Acceptance; 0.5 -1.49 Very Low Acceptance

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Appendix 8. Orientation of Barangay Health Workers for the Perception Survey

Project	:	Samal Island – Davao City Connector Project
Activity	:	Orientation of Barangay Health Workers for the Perception Survey
Date and Time	:	May 17, 2019



Orientation of Barangay Health Workers at Barangay Limao, Samal



Orientation of Barangay Health Workers at Barangay Vicente Hizon, Sr.



Orientation of Barangay Health Workers at Barangay Caliclic

Appendix 9. IEC Attendance Sheet

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39. Jocelyn Palma Gil	PAC	
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Samal Island - Davao City Connector (SIDC) Information, Education and Communication Campaign Brgy. Hizon, Davao City May 21, 2019/ 8:00 AM

Attendance

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1.	DENNIS CABITERA
2.	MAPES M NUERA
3.	JOY FINGMEDACIM
4.	Analyn Papia
5.	MaryANAG SAYAWARI
6.	Jacmin Gloch
7.	KGD. EUPHNOED C. UY
8.	1260. GELBERT R. PAULIN
9.	TRIMA APREMETADD
10.	EWIRA A. INFANTE
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Information, Education and Communication Campaign Samal Island –Davao City Connector Brgy. Vicente Hizon, Davao del Norte May 24, 2019

Attendance

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13. Pepito Vantorillo	Purok 2	09303991108 -	-
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25. Leonita Bollorata	Purok Bay 29	09307451598	
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27. Joelito B. Swon	Purok Baybay	09483163131	- Sale
28. Mercy Entin	Pursk Bay Gay	0945000643	h.K.
29. Michelle Fernandez	Purok Baybay	6997-1547090	- not
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0. 2	Name	Mutithly	Address PI-A LIMHO TGHUS	Contact no. DGSD796073	Signature
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2.	Name NOAN CHO ACE-DILLO	Address	Contact no.	Signature Pormpe Orlow
3.	Shela Tangian	Liman Purok-2	19092633774	the
L.	AGUSTIN TE Romo	LIMAO PI-B	09192165650	AC
i.	Johna Acedillo	Purox 2 Cirnos		147
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I.	PEREGOS AUTOR	TE PUROL 2- LIMANO		X
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Appendix 10. Communication Letters

GALERIO ENVIRONMEN	TAL CONSULTANCY
Business address: P2 86 L28 Mt. Everest St. Wellspring Contact no. Globa: 09177102570 Sun cell: 0922490726 email add: gacenvi consultancyt@omail.com	Village, Catalunan Pequeño, Davao City 99 Tel. no. (082) 321-2699
May 31, 2019	
and the second	
ANNE D. DOWIMPINE	
Punong Barangay, Barangay Caliclic, Samal Island	
Davao del Norte	
Sir:	
The Department of Public Works and Highways (DPWH) to implement the Samal Island – Davao City (SIDC) conr	of the Republic of the Philippines intends nector which is approximately 2.8 km.
The Samal Island – Davao City Connector (SIDC) project the city of Davao (Barangay Vicente Hizon Sr.) IGAC Caliclic). This project offers economic development to opportunities and reduce the economic cost of transport will be reduce traffic congestion and faster travel time ac provide an easier access for tourist to visit their desired of	t plans to build an access road between COS (Barangay Limao) and (Barangay o both cities as this will increase job ation. With an additional roadway, there ross the two cities. Furthermore, this will destinations in Samal Island.
As part of the requirement of acquiring the Envir Environmental Impact Assessment Study is essential t issues and concerns regarding the said project.	ronmental Compliance Certificate, an to address any possible environmental
In connection with this, we would like to seek permission	to conduct the following activities:
 Social acceptability survey IEC and FGD (to be scheduled) 	
The IEC and FGD will be conducted among the resident key leaders. The data that will be gathered in the IEC at the data we gathered through the social acceptability barangay.	s in barangay together with the selected nd FGD will be used to further reinforce survey that will be conducted in your
We look forward for your presence during the conduct of	the above mentioned activities.
Hoping for your kind and favorable action.	
Sincerely yours,	
harri	
Jecar L Dela Cerna	Recound tag:
Variation Lolect Coordinator	RUNIELYA C. POUSCAS
	PB -0915-6001-0112
	0584-902



May 8, 2019

Project Goordinator

pectived - for C. pontronder

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GALERIO ENVIRONMENTAL CONSULTANCY

Business address: P2 B6 L28 Mt. Everest St. Wellspring Village, Catalunan Pequeno, Davao City Contact no. Globe: 09177102570 Sun cell: 09224907269 Tel. no. (082) 321-2599 email add: geo@galericenvi.com

Here TROY BATADA Punong Barangay, Barangay Limao, IGaCOS, Davao del Norte

Dear Sir/Ma'am:

The Department of Public Works and Highways (DPWH) of the Republic of the Philippines intends to implement the Samal Island – Davao City (SIDC) connector which is approximately 2.8 km.

The Samal Island – Davao City Connector (SIDC) project plans to build an access road between the city of Davao (Barangay Vicente Hizon Sr.) and IGaCOS (Barangay Limao). This project offers economic development to both cities as this will increase job opportunities and reduce the economic cost of transportation. With an additional roadway, there will be reduced traffic congestion and faster travel time across the two cities. Furthermore, this will provide an easier access for tourists to visit their desired destinations in Samal Island.

As part of the requirement of acquiring the Environmental Compliance Certificate, an Environmental Impact Statement Study is essential to address any possible environmental issues and concerns regarding the said project.

In connection with this, we would like to seek permission to conduct the following activities :

- 1. Social acceptability survey on May 15, 2019 onwards.
- 2. IEC and FGD on May 21, 2019 (Tuesday), 1:00 PM.

The IEC and FGD will be conducted among the residents in your barangay together with the selected key leaders. The data that will be gathered in the IEC and FGD will be used to further reinforce the data we gathered through the social acceptability survey that will be conducted in your barangay.

We look forward for your presence during the conduct of the above mentioned activities.

Hoping for your kind and favorable action.

Sincerely your REON C. SUELTO ect Coordinator Pr

MART ANN TOIN CHERA 57. SECRETARY - LIMAO

Appendix 11. Perception survey questionnaire

SOCIAL ACCEPTABILITY

SAMAL ISLAND-DAVAO CITY CONNECTOR (SIDC)

SURVEY QUESTIONNAIRE

Tinahod na katawhan,

L

Ang tumong ug tuyo niining "survey" ug mga pangutana mao ang pagkolekta sa mga impormasyon kabahin sa inyong panghuna-huna og kabalaka mahitungod sa pagahimuong Davao-Samal Bridge. Kini usab mao ang pamaagi para masukod ang pagdawat sa mga tao sa inyong lugar niining maong proyekto kabahin sa kabalaka sa palibut/ katawhan, politika, economiya ug kinaiyahan. Ang matinud-anon ninyong tubag ug paghukom gikinahanglan aron matagaan ug pagtagad sa panahon sa pagplano sa proyekto hangtod sa implementasyon og operasyon niini.

Pangalan s	a Na	ag- Interbyu:	Petsa:	Oras:
I.	De	mograpika		
	1.	Pangalan:		
	2.	Edad: 18-25 years old	46-55 years	old
		26- 35 years old	56-65 years	old
		36-45 years old	66 above	
	3.	Pinuy-anan:		
	4.	Kinatawhan:		
		Lalaki	Babae	
	5.	Trabaho:		
		Private	Government	
	6.	Lugar sa gitrabahuan:		
	7.	Nahuman sa Pag skwela		
		Elementarya	Graduwar sa hayiskol	
		Graduwar sa elementarya	Kolehiyo	
		Hayiskol	Graduwar sa kolehiyo	
	8.	Pag-panag-iya sa Panimalay:		

Panag-iya (tag-iya sa balay ug yuta,naay kaugalingung titulo)

	Panag-iya (Unde	r CADT)	
	Nangarkila (Balay	/ ug yuta)	
	Walay Titulo		
9. Materya	ales nga gigamit al	ang sa bongbong sa b	alay
	Light materials (K	awayan, plywood, kał	noy ug uban pa)
	Katunga hollow bl etc	ocks/ katunga light ma	aterials (Kawayan, plywood, kahoy,
	Makeshift/ Ginami	t nga materiales	
	Simentado		
	Uban pa,		
10. Klase sa	a atop		
	Galvanized iron/si	n/aluminum ang atop	
	Dahon sa NIPA, L	ubi, Sagbut / cogon	
	Makeshift/karton/	Ginamit nga maaterial	les
11. Kapila k	a magbyahe patal	ook og pabalik sa SAM	IAL?
	_Kada adlaw		
	_ 4 – 5 ka beses s	a isa ka semana	
	_ 2 – 3 ka bese sa	is aka semana	
	_ 1 sa isa ka sem	ana	
	_ 1 sa is aka bula	n	
	_ wala gyud		
Pantalantaw sa Proyekto	O		
1. Naa bakay id	eya mahitungod sa	a Davao-Samal Bridge	?
	Oo	Wala	
Kung "OO", uns	say imong gibati pa	agka dungog niini?	
Excited	d;	_Naguol;	Nagpasalamat;
2. Pampublikon mupartisipa?	ig konsultasyon ka	y isa sa mga kinahan(glan sa proyekto, gusto ba ka
	Оо		
	Dili		
	Wala pa ka desisy	von	
Kung "C)O", unsay gusto n	imo na pagahisgutan?	?
disen	yo sa proyekto og	asa kini itukod	
mga a	apektado na mga l	komunidad	

_____ endorso gikan sa local na pang gamhanan

_____ mga kinahanglan iandam nga requirement para sa gobyerno

_____ mga resulta og epekto sa proyekto sa palibot niini

_____ Opurtunidad sa pagpanarbaho

Kung "WALA", ngano?

_____ Tungod sa trabaho.

_____ Daghan trabahuon sa balay.

_____ Uban pa.

II . Kabalaka ug kalabutan (Social Concerns) sa katawhan

Palihug tubag. Ang 5 mao ang labing taas ug 1 ang pinaka ubos. Markahi ug ($\sqrt{}$) ang imung tubag.

Kabalaka o Kalabutan	5	4	3	2	1
1. Pagbalhin o pag bungkag sa balay sa posibleng maagian sa maong proyekto					
2. Pag bayad alang sa pag balhin sa ubos nga presyo					
 Pag ka daot sa mga propyedad sama sa kural/ pader nga walay bayad. 					
4. Pagkalayo sa pamilya o higala kung posibling e balhin ang pinuy anan.					
5. Kalayo sa skwelahan o trabahoan kung posbling ebalhin					
6. Hisgutanan kabahin sa mga dalan					
7. Perwisyo o kahasul kabahin sa pag usab sa rota sa mga kadalanan.					
8. Pagkabungkag/pagkadaot ug siguridad sa palibut panahon sa konstraksyon					
 Paghuot o Pagdasok sa mga sakyanan inig mag sugud na ang konstraksyon 					
10. Pagka- bungkag o pag usab- usab sa skedyul sa byahe sa ferry boats inig mag sugud na ang konstraksyon					
11. Pagpahigayon ug konsultasyon sa publiko mahitungud sa maong proyekto					
12. Pantay na representasyon sa ihap sa lalaki og babae na muapil sa konsultasyon.					

III . Kabalaka ug kalabutan (Economic Concerns) sa Panginabuhian

Palihug tubag. Ang 5 mao ang labing taas ug 1 ang pinaka ubos. Markahi ug ($\sqrt{}$) ang imung tubag.

Kabalaka o Kalabutan	5	4	3	2	1
1. Posibling pagka wala sa panginabuhian					
2. Ang dili pag hatag ug prayoridad sa mga lokal nga residente kung adunay oportunidad sa pag panarbaho.					
3. Ang pag mahal sa pamasahe e kompara sa pampasaherong bangka					
4. Ang pagkawala sa mga trabaho sa mga tao nga nag trabaho sa mga ferry boats					

5	5.	Pagsulod sa dagkong negosyo duol sa lugar na maka			
		apekto sa mga gagmayng negosyante			
6	ò.	Uban pa, palihog ibutang			

Aduna ka bay negosyo duol o sa lugar mismo sa gi planohang tulay?

Naa Wala			
Kung "Naa" , Unsa kini?			
Andam ka bang ebalhin ang imuhang negosyo?	Oo	🔲 Dili	
Kung naay opurtunidad sa pag panarbaho sa umaabut nga panahon, gusto ka bang manarbaho?	Oo	Dili	

IV.a Kabalaka ug kalabutan (Environmental Concerns) sa Kinaiyahan – Panahon sa Pagtukod

Palihug tubag. Ang 5 mao ang labing taas ug 1 ang pinaka ubos. Markahi ug ($\sqrt{}$) ang imung tubag.

Kabalaka o kalabutan	5	4	3	2	1
1. Pagka usab sa talan-awun sa lugar					
2. Pagka gamay sa kalasangan					
3. Ang pag kontamina sa kadagatan ug sa ground water					
4. Kabanha sa palibut inig mag sugud na ang konstraksyo	n				
5. Pagputol sa mga kahoy alang sa proyekto					
 Pagka guba/ pagka bungkag sa atung kadagata susama sa Magrove, coral reef ug uban pa 	n				
 Polusyon sa kahanginan tungud sa abug ug sa binug nga gas kung magsugud na ang konstraksyon 	а				
8. Ang mga basura panahon sa Konstraksyon					
 Pagsugod ug buhat sa proyekto bisan wala pa an Environmental Compliance Certificate (ECC) gikan s DENR-EMB 	g a				

IV.b Kabalaka ug kalabutan (Environmental Concerns) sa Kinaiyahan – Panahon sa Paggamit sa Tulay

Kabalaka o kalabutan	5	4	3	2	1
1. Pagdaghan sa mga basura gikan sa mga pasahero/turista sa panahon nga mapahimuslan na ang tulay					
2. Pagka kulang sa suplay sa tubig tungod sa pag dagsa sa mga tao/turista sa lugar					
3. Dili strikto sa pagtuman sa mga balaod mahitungod sa kinaiyahan (mga problema sama sa Boracay)					

V. Kabalaka ug kalabutan (Political Concerns) sa politika

Palihug tubag. Ang 5 mao ang labing taas ug 1 ang pinaka ubos. Markahi ug ($\sqrt{}$) ang imung tubag.

Kabalaka o kal	abutan	5	4	3	2	1
 Makanonayung pag mon gamhanan 	tor sa lokal nga pang					
 Endorso gikan sa Baranga uban pa 	y, Syudad , Probensya ug					
 Saktong koordinasyon sa mg maong proyekto 	a ahensyang nagdumala sa					

VI. Pag hukom sa kabug-aton sa importansya sa mga kabalaka o kalabutan

Palihug tubag. Ang 5 mao ang labing taas ug 1 ang pinaka ubos. Markahi ug ($\sqrt{}$) ang imung tubag.

Kabalaka	5	4	3	2	1
Kinaiyahan					
Sosyal					
Economiya					
Politika					

VII. Base sa imuhang pag-hukom, Markahi ug (\checkmark) kung ikaw uyun (AGREE) o dili uyun (DISAGREE) sa mga musunud nga sintimyento .

Kabalaka o kalabutan	Uyon	Dili Uyon
1. Ang pag tukud ug Tulay makahatag ug trabaho sa local nga komunidad.		
2. Ang pag una sa lokal nga residente kung naay oportunidad sa pagpanarbaho		
3. Makatipid sa oras sa pag byahe tabok sa Davao ug IGACOS		
4. Ang tulay paspas ug hamugaway agian		
5. Ang pagpa-mutol ug kahoy gina kusidera basta aprobado sa pang gamhanan		
6. Andam ko mu baligya sa akua propredad basta sa tama nga presyo		
7. Dili ko babag sa pag tukod sa maong proyekto		
8. Importante ang pag endorso sa lokal nga opisyales sa maong proyekto		
9. Ang pagatukurun nga tulay dapat duol sa mga dalan sa Davao City and IGACOS		
10. Importante ang pagpahimutang ug mga karatola batok sa mga aksidente ug uban pang kakulian.		
11. Ang etukod nga tulay dapat mag konekta sa mga dagkong dalan sama sa bypass ug coastal road		

VIII. Sa imung panghuna-huna, unsa ang makababag sa imuha arun sa pagdawat sa maong proyekto?

Markahi ug ($\sqrt{}$) kung ikaw uyun (AGREE) o dili uyun (DISAGREE) sa mga musunod nga sentimento.

Sentimento	Uyon	Dili Uyon
1. Pagpahawa o pagpa balhin sa mga maigo bisan pa ug nay bayad		
2. Wala gi- endorse gikan sa lokal nga opisyales		

3.	Walay kasiguraduhan sa pag una sa lokal nga residente kung adunay trabaho	
4.	Wala pagsunod sa mga gikinahanglan sa gobyerno (e.g ECC)	
5.	Wala nagpahigayun ug publikong konsultasyon	
6.	Dako kaayu nga pag guba sa atuang kadagatan	

IX.Sa pagkakaron, unsa kataas imuhang pagdawat sa proyekto?

Palihug tubag. Ang 5 mao ang labing taas ug 1 ang pinaka ubos. Markahi ug ($\sqrt{}$) ang imung tubag.

Project	5	4	3	2	1
1. Davao – Samal Bridge					

Daghang Salamat!